PRESIDENT'S REPORT

Greetings to all for November and December!

Web News

Check out the AWM website at http://www.awm-math.org — there are a lot of wonderful new features, including pictures! (Sorry the address was incorrect last time.) In particular, recent additions to the site include: an online version of the *Careers that Count* brochure profiling 15 women mathematicians, an AWM calendar to track deadlines and events, announcements for AWM programs such as the AWM Atlanta Workshop and the Olga Taussky Todd Celebration, pictures from our 1998 workshops in Toronto and Baltimore, and site search capability. The resource sections are constantly updated, and new items are highlighted for quick identification. Suggestions for additions to the site are encouraged; please send them to awm-webmaster@awm-math.org for Web Editor, Dr. Tamara G. Kolda of Oak Ridge National Laboratory, and Webmaster Barbara Ling, of Lingstar.

Membership Reminder

Don't forget to renew your membership for 1998–99 and to encourage others to join. You should have received a renewal form in the mail by now; use that if possible. If you don't have the form or if it's a new membership, you can download membership forms from the web, or use or photocopy the order form on page 46.

AWM Events at San Antonio

At the San Antonio Joint Meetings we will have our usual varied and full program [see the inside back cover for the schedule]. The topic of the panel discussion Wednesday will be "The Education of Women in Mathematics: An International Perspective"; panelists educated in different systems (from several countries) will discuss the effect of various features of their educational systems on the

IN THIS ISSUE

AWM

ASSOCIATION FOR WOMEN IN MATHEMATICS

participation of women in mathematics. Again there will be an AWM-MER joint session; see the Education Column on page 16 for more information. Please come to the party Wednesday night!

The AWM Noether lecture will be given by Krystyna Kuperberg of Auburn University on "Aperiodic Dynamical Systems." In conjunction with her lecture, Krystyna is organizing a joint special AMS/AWM session on dynamical systems. Plan to attend the Workshop on Saturday; it showcases talented new women mathematicians, both graduate students and those with recent doctorates.

The 2001 Olympiad

A committee has been formed to plan the International Mathematics Olympiad competition to be held in the U.S. in 2001 and to plan related events promoting mathematics. AWM was initially reluctant to join due to the lack of participation by women in Olympiads, but has reconsidered in light of recent improvements and our desire to be involved in the activities promoting mathematics. President-Elect Jean Taylor attended the inaugural meeting of the committee on behalf of AWM; see her preliminary report on page 18.

Update: Science Funding

The U.S. bill (S.2217) to double the budget for science in a decade has been stalled following the release of an extensive House report on U.S. Science Policy "Unlocking Our Future, Toward a New National Science Policy." The report, which is expected to have far-reaching effects on science policy in the future, may be read at the web site http://www.house.gov/science/science_policy_report.htm. [For more information see page 17.] Probably S.2217 won't pass until the next Congress at the rate it's moving now. (It had 30 cosigners in the Senate as of September 28, but needs 40 to go forward.) Thanks to Monica Foulkes and Sam Rankin of the AMS Washington office for this information.

Fall Semester

President-Elect Jean Taylor and I have just finished an article for the AMS *Notices* on "AWM in the 1990's." Watch for it in the January issue.

It's good to be back in Nebraska again, where I'm trying to get readjusted and reorganized after my leave. The Department of Mathematics and Statistics is pleased about winning a special presidential award for mentoring women in our graduate program. [For more info, see page 13.] Teaching mathematics for elementary and middle school teachers after a hiatus, I see that the students now include more men than before. Also that the students still need TLC. Maybe we all do!

Hope your year ends well and hope to see you in San Antonio next year!

Sincerely,

Sylvia

Sylvia Wiegand
September 26, 1998
Lincoln, Nebraska

REPORT ON THE BERLIN ICM

The International Congress of Mathematicians (ICM) held August 18–23 in Berlin included many wonderful activities, and all went smoothly due to the impressive organization of the event. Organizer Martin Groetschel said, "We're not professionals like the AMS, so we work harder." Martin took great care with each small detail of the part of the program involving women in mathematics.

The events highlighting women, cooperatively organized by the AWM, European Women in Mathematics (EWM) and other groups of women in mathematics, were marvelous. They included a panel discussion featuring women with varied perspectives from many different countries, a film on women in mathematics in several countries, a special Emmy Noether lecture given by Cathleen Morawetz, and a congenial lunch gathering of about fifty people.

The ICM98 Opening Ceremony was a gala event featured on German national TV (and rerun for several days afterwards). Chamber music was interspersed with general mathematics talks such as "Trends in the Profession of Mathematics" by David Mumford and "Reflections on the Future of Mathematics" by Avner Friedman.

In conjunction with the Congress, there were mathematics-related exhibits: Springer memorabilia and history, "Mathematics and Ceramics", and "Terror and Exile" (which documented the

Sylvia Wiegand

AWM DEADLINES

AWM Workshop (SIAM Meeting, Atlanta,
5/99): January 4, 1999

Sonia Kovalevsky Days: January 20, 1999

Olga Taussky Todd Celebration: February
18, 1999

Minisymposium at ICIAM: February
28, 1999

AWM CALENDAR

San Antonio Joint Meetings, January 13-16,
1999:
panel, business meeting, Noether
dinner, party: Wednesday, January 13
Noether Lecture, Krystyna Kuperberg,
Auburn University, "Aperiodic Dynamical
Systems," Thursday, January 14, 9 A.M.
AWM Workshop, Saturday, January 16
Schafer Prize presentation: business
meeting, Wednesday, and Joint Prize
Session, Thursday
Hay Award presentation: Joint Prize Session,
Thursday

AWM Workshop, SIAM meetings, Atlanta,
May 14-15, 1999

AWM-EWM-SIAM Minisymposium at
ICIAM 99 July 5-9, 1999, Edinburgh

Olga Taussky Todd Celebration, July 16-18,
1999, Mathematical Sciences Research
Institute, Berkeley

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FOR WOMEN IN
MATHEMATICS

persecution and expulsion of Jewish mathematicians from Berlin between 1933 and 1945). A special ICM stamp was issued in commemoration of the Congress, and we had the opportunity to buy a stamped and dated souvenir of this event.

Andrew Wiles' talk "Twenty Years of Number Theory" concerned finding rational points on elliptic curves; it was a captivating inspiring lecture even if you had to watch it in another room on a movie screen — every seat and every space in the aisles of the main auditorium were taken. 1998 AWM Noether Lecturer Dusa McDuff's beautiful Plenary Lecture at the Congress included marvelous pictures of symplectic folding.

Progress Report: How Many Women Speakers?

Always AWM gives a "Progress Report" on the ICM. The number of women speakers there is an indication of how women have advanced in mathematics and how well their achievements are recognized. This time, Dusa was the one woman among twenty-one Plenary Lecturers. But Cathleen's lecture, in a plenary slot, was given to an overflowing crowd who received it enthusiastically. There were eleven other invited addresses by women out of a total of 165. For comparison, before the 1990's, Emmy Noether in 1932 had been the only female Plenary Lecturer at any ICM. Then in 1990 (Kyoto) Karen Uhlenbeck became the second woman Plenary Lecturer; in 1994 (Zurich) there were two, Ingrid Daubechies and Marina Ratner [this *Newsletter*, Mary–June 1994, p. 2]. In 1994 eight women delivered Invited Addresses at the ICM out of a total of 152, and AWM and EWM jointly sponsored an Emmy Noether Lecture given by Olga Ladyzhenskaya.

The ICM Panel on Women

Bhama Srinivasan (chair; Chicago, U.S.), Bettye Anne Case (Tallahassee, U.S.), and Christine Bessenrodt (Magdeburg, Germany) were the organizing committee for the panel discussion "Events and policies: Effects on women in mathematics" sponsored by AWM, EWM and the Committee on Women and Mathematics of the European Mathematical Society. The panelists were: Inna Yemelyanova of Novgorod State University in Russia, Minping Qian from China, Dusa McDuff of the U.S., Mary Glazman from Mexico, Ljudmila Bordag of Germany, and Claire Baribaud of Switzerland. Christine Besserodt moderated, and Bhama Srinivasan and Bettye Anne Case also presided. The text of the panelists' remarks and photos will appear in the January–February issue of the newsletter.

There were about 170 people in the audience, about half of whom, surprisingly, were men (or maybe not so surprisingly because most of the participants in the Congress were men). Most men who spoke and the men I recognized in the audience were supportive of women, particularly Bernhard Neumann, who was one of the founding members of AWM and whose late wife Hanna Neumann was also a well-known mathematician.

Yemelyanova gave some statistics about faculty in the sciences at her university (ranked fifth in Russia): Among the full professors, there were 90 men and two women (2.22%), and among all the instructors with Ph.D.'s, 311 men and 71 women (22.93%). But of those who were labeled "Chiefs" among the Ph.D. instructors, 84 were men and only six were women (7.14%). Of those instructors without degrees, 72 are men, 65 women. She thought that women do not have an equal chance. She was especially concerned about the plight of school teachers in mathematics, of whom 85–90% are women — she said 67.7% of these teachers are on the brink of poverty. Yemelyanova also told me later that her salary and salaries generally are very low; her trip to the ICM cost her about five months' salary. Yemelyanova mentioned a Russian colleague she wished had come to Berlin to join the discussion; this other woman organized a Russian association for women in mathematics five years ago. Their association has held six conferences for Russian women in mathematics.

Qian spoke about an unfortunate change in China in the past 10 to 15 years. Previously men and women had an equal chance to study mathematics in the cities, although in the country, that wasn't true. But now it is more difficult for women. She has seen cases where the only reason a woman couldn't get a job was because she was a woman. Employers asked first whether the candidate was a woman, and if so, said "we have too many women."

McDuff's conclusion about the situation in the U.S. was that it "needs work, but isn't bad." She mentioned that the right-wing is trying to defeat gains for women, but said that there are many positive signs; for example, sexual harassment charges have been successful. The U.S. needs to improve achievement and interest in mathematics and science for both boys and girls — the TIMMS study shows that 12th grade mathematics achievement in the U.S. is dismal. At Stony Brook, there is a WISE (Women in Science and Engineering) group which holds special workshops for women.

Glazman says the economic crisis in Mexico has affected women in mathematics — salaries for professors aren't enough or even half enough. Many have left their jobs. The investments that universities made are being destroyed. In general women are recognized in Mexico to be good administrators; they are often chairs of departments, a woman is president of the Mexican Mathematical Society, and women speakers are more popular and better understood because they try harder to be understood. But in mathematics departments women are rare at the high levels.

Bordag was born and earned her Ph.D. in Russia, but when she married a German physicist he couldn't get a position in Russia, so they moved to Germany. But at Leipzig after they came, the staff was reduced from 10,000 to 2000. Faculty were told they could take a temporary job or leave. She had a temporary position for six years, then many more lost jobs. When the positions were cut, women were more often affected; the present ratio of women to men is much lower than before.

Baribaud, a 1996 Ph.D., is already in her third position (first a postdoc, then at Lausanne, now at Zurich). She says that in Switzerland fifty percent of the baccalaureate degrees go to women, thirty percent of the master's degrees and only ten percent of the Ph.D.'s. Most women mathematicians do applied mathematics because it is easier to get jobs. Often women get jobs at banks. There aren't many academic jobs in Switzerland. In the academic system there, new Ph.D.'s are 25 to 35 years old, and people aren't promoted to professor until at least age 40. And salaries are very low before that. Women usually stop before promotion to professor is possible. She is also familiar with the situation in France; it is better there, not because of any affirmative action but because there are more positions.

Members of the audience made interesting comments. (Unfortunately their names weren't always easy to hear.) Neumann remarked that in the whole history of the Royal Society of London, there have been only two women members: Mary Cartwright who recently died at age 97 and Dusa McDuff. Before the 1930's there were at least 12 creative women active in the AMS, including Anna Pell Wheeler. After that there was a big gap in the participation of women. Now again they are active. Why is that?

Srinivasan asked about childcare in the various countries; the panelists mainly said that it's not a problem for them and that husbands do some of the childcare and housework. Bordag mentioned that after the unification of Germany, less daycare is provided than in the former East Germany. (That was one of the good parts of communism.) A man in the audience asked: "How can women be mathematicians and also take care of their children and kitchens?" Cathleen Morawetz answered, "It's quite easy; I have four children and six grandchildren, and I have devoted a lot of time to them. It's

possible to do this and have a nice career." She later admitted that it might not be so easy, but it was an effective response!

A woman from Barcelona pointed out that we need to change the values of our societies. Something is wrong if we are fixed in outdated historical traditions and customs, such as for childcare. Lots of women and men have children. It's not a question of how women fit in this society but of making another kind of society. It is worth the effort to do so.

A man from India, a mathematician, whose late wife was a teacher and whose three children and their children are teachers, said it is disturbing that the position of women is not good in all countries. In the global social order, women work on average two-thirds of their days, men only one-third. But women get 25 percent less pay. In the U.S. there has been no woman president or even vice president.

EWM Film

After the panel discussion we viewed a fascinating film produced by EWM, giving a profile of four women mathematicians from France,

Germany, Britain and Spain. It was interesting to see how varied their situations were in the different countries. One speaker mentioned that in countries where permanent positions are given later in life, it is harder for women to advance in mathematics. The women in Germany and England had more problems, and the women from France and Spain had fewer, with the situation described for Spain sounding the most inclusive of women.

Cathleen Morawetz' lecture

Morawetz, introduced by her former student Irene Gamba of Texas, began by saying "In my heart I know this honor for women would have been impossible forty years ago. And I hope that thirty years from now it won't be necessary." She spoke briefly about Emmy Noether, "the queen of the mathematical sciences," who was a non-religious Jewish refugee from Nazi Germany and died at age 54 — she didn't live "to receive the accolades she deserved, nor to know of the terrors of Jews, of Stalin, nor of the appalling destruction of Europe."

Morawetz talked about conservation laws for the time dependent wave equation obtainable from
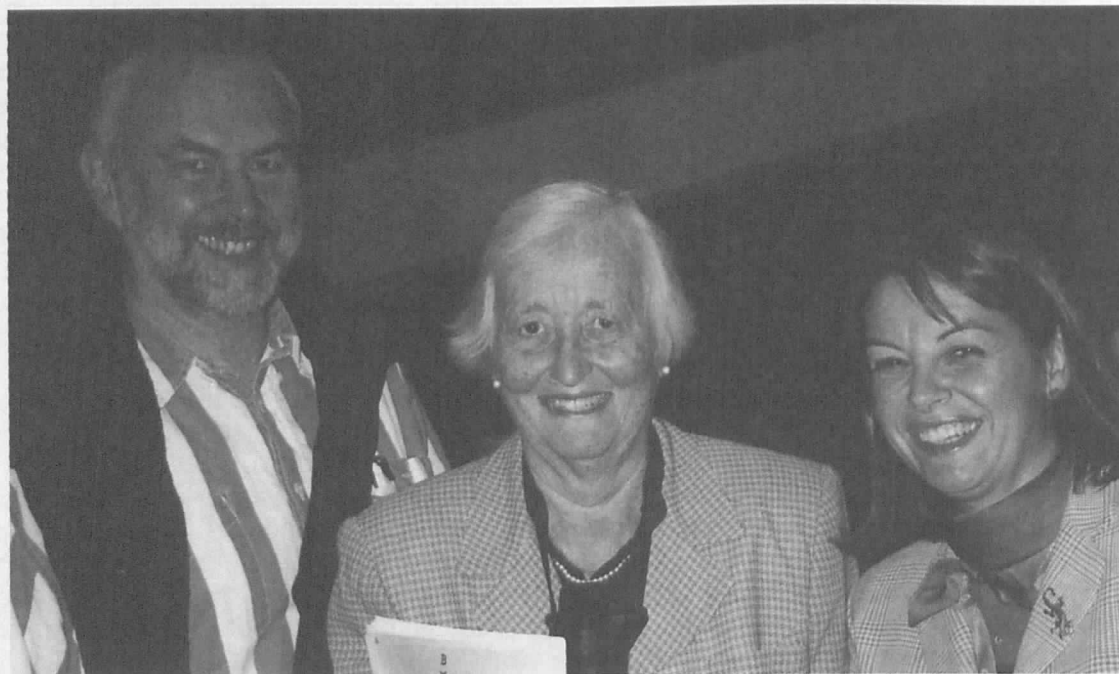
Martin Groetschel, Cathleen Morawetz, and Irene Gamba at the ICM

some work Noether had done. Noether had not liked it much — "it was too messy!" — but it has generated many applications. Then she switched gears and discussed black holes, describing how they are created by the death of a star and giving related equations.

The following paragraphs are from the program brochure.

Emmy Noether Lecture: Born 1882 in Erlangen, Bavaria, Germany, Emmy Noether persisted in the face of multiple obstacles to become a renowned algebraist. At Göttingen 1915–1933 she taught (Hilbert sometimes had to list her courses under his name), wrote on a remarkable range of topics (e.g., general relativity), edited, and contributed to the published work of others. Before her untimely 1935 death at Bryn Mawr, Pennsylvania, United States, she had directed many students and collaborated with colleagues on both sides of the Atlantic. For more information on Noether see also: http://www-history. mcs. st-andrews. ac. uk/ history/ Mathematicians/ Noether_Emmy.html.

Abstract of lecture: The time dependent wave equation has many conservation laws obtainable by using Emmy Noether's theorem for equations coming from Lagrangians. From this nucleus we survey some estimates that can be found for equations close and not so close to the wave equation and show what these estimates are good for (time decay for exterior problems and nonlinear Klein-Gordon, for the reduced wave equation and for the Tricomi equation). On a slightly different note, some weakly quasi and other nonlinear perturbations of the time wave equation have simple formal asymptotic solutions. These formal solutions probably represent real solutions but that requires some new estimates.

Cathleen Synge Morawetz: Born in Toronto of Irish parents, she graduated from the University of Toronto in 1945 and went on to receive her master's degree at the Massachusetts Institute of Technology. She earned her Ph.D. at New York University, with a thesis on the stability of a spherical implosion. She is Professor Emerita at the Courant Institute of Mathematical Sciences at NYU, where she served as director from 1984 to 1988. In 1981, she delivered the Gibbs Lecture of the American Mathematical Society and in 1982 presented an Invited Address at a meeting of the Society for Industrial

Bernhard Neumann, Bhama Srinivasan, and Bettye Anne Case at the ICM

and Applied Mathematics. In 1983, she presented the AWM annual Noether Lecture at the (U.S.) Joint Mathematics Meetings. She is a member of the National Academy of Sciences and was named Outstanding Woman Scientist for 1993 by the Association for Women in Science. She was the second woman president of the AMS, serving from 1995 to 1997.

Morawetz's earliest published works were on the stability of steady viscous flows. In the fifties, she turned to the mathematics of transonic flow and showed that specially designed shockless airfoils develop shocks if they are altered even by a small amount. The discovery opened the problem of developing a theory for transonic flow with shocks. Much of her research has focused on the wave equation. The classical problem of whether light should be treated as waves or as streams of particles can be answered, "either will do," if it can be shown that high frequency waves are, asymptotically, streams of weightless particles moving along rays. With D. Ludwig, Morawetz showed that this is true for a medium with constant light speed outside a reflecting star-shaped object. She used related methods with Walter Strauss to study the behavior of a semilinear wave equation. Throughout her career, Morawetz has turned to developments in computations working with A. Bayliss, G. Kriegsman, and

SONIA KOVALEVSKY HIGH SCHOOL MATHEMATICS DAYS

Through a grant from the National Security Agency (NSA) and Coppin State University, the Association for Women in Mathematics has funds available 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.

We anticipate awarding approximately seven to nine grants of up to $3,500 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.

Decisions on funding will be made in mid-February. The high school days are to be held in Spring 1999 and Fall 1999. Reports on the high school days are to be made to AWM within four to six weeks of completion. In addition, all receipts (originals or copies) for reimbursement must be submitted to AWM 30 days after the institution's event or no later than December 1, 1999, 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 Project Advisory Committee, Association for Women in Mathematics, 4114 Computer & Space Sciences Building, University of Maryland, College Park, MD 20742-2461; email: awm@math.umd.edu; phone: 301-405-7892. Applications via email or fax will not be accepted. Applications must be received by **January 20, 1999**.

T. Wolfe. In her Noether Lecture, she showed a film generated by computer of some unexpected nonlinear laser effects. Today, her interests are divided between working in fluid dynamics, mainly the mathematics of transonic flow, and on the propagation of waves.

Morawetz's father was the mathematician J.L. Synge, and her mother also studied mathematics for a time. Both her parents were supportive of her interest in mathematics and science, and it was a woman mathematician, Cecilia Krieger, who had been a family friend for many years who later encouraged Morawetz to pursue a Ph.D. in mathematics. A mother of four, Morawetz has been able to balance her energies between her research and her family. She was honored by the National Organization for Women for successfully combining career and family; today her main nonmathematical interests are her six grandchildren — and even there she likes to do things which keep them interested in science and mathematics.

AMS ELECTION

These statements were received after the September–October issue went to press.

Henri Moscovici, Ohio State University

I believe that the American Mathematical Society needs leaders who can successfully combine a strong commitment to research with the political and social ability to gain appreciation for high-quality mathematics from society by and large. Such an appreciation will not be achieved, however, by reducing mathematics to various utilitarian applications, but rather by emphasizing its intellectual merits in itself as well as its indispensability to other scientific fields. Mathematics will thrive only in a society that can respect both its usefulness to other disciplines and its intellectual autonomy.

Roger Howe, Yale University

During the careers of today's senior mathematicians, the American mathematics research community has grown manyfold in size, with a corresponding increase in diversity. The uses of mathematics, supported by huge increases in computational capacity, have likewise expanded dramatically. Many more students are enrolling in more advanced mathematics courses than a few decades ago, but the new uses of mathematics have created competition with education for mathematically competent personnel. The institutional structure of the AMS has not kept pace with these changes. The AMS needs to develop new institutional mechanisms that will allow it to deal with these changes, and in particular, to effectively and efficiently represent the interests of the mathematics research community in education, politics and other areas which will affect mathematical research.

AWARDS AND HONORS

CONGRATULATIONS to everyone listed below for their meritorious achievements.

The National Academy of Sciences announced the election of INGRID DAUBECHIES, Princeton University, as a new member.

GLENDA LAPPAN has been selected to be a University Distinguished Professor at Michigan State University. This is a lifetime title with some research funds attached.

Sloan Fellows for 1998 include PANAGIOTA DASKALOPOULOS, University of California, Irvine, mathematics; DANIELA RUS, Dartmouth College, computer science; SUSAN TOLMAN, University of Illinois at Urbana-Champaign, mathematics; SARITA V. ADVE, Rice University, computer science; and WIESLAWA NIZIOL, University of Utah, mathematics.

DUSA McDUFF of the State University of New York at Stony Brook received one of three 1997 Outstanding Woman Scientist Awards presented by the Metropolitan New York Chapter of the Association for Women in Science.

The Navy has commissioned the USS Hopper, named in honor of the late Rear Admiral GRACE MURRAY HOPPER. For more information on the ship and Hopper's career, see www.navsea.navy.mil/hopper.

JUDITH V. GRABINER, Pitzer College, received one of three Lester R. Ford Awards presented at the Summer MathFest in Toronto for articles of expository excellence published in the *American Mathematical Monthly*. She received this prestigious award in recognition of her article "Was Newton's Calculus a Dead End? The Continental Influence of Maclaurin's *Treatise of Fluxions*" (*Monthly*, May 1997). As noted in the citation:

> Newtonian calculus declined into sterility in Britain (so the story goes), while followers of Leibniz flourished on the Continent. In this enjoyable and important paper, Grabiner demonstrates that Maclaurin's *Treatise of Fluxions* actually represents an important link between the traditions.

Also at the MathFest, AIMEE JOHNSON of Swarthmore College and KATHLEEN MADDEN of Drew University received one of two George Pólya Awards for articles of expository excellent published in *The College Mathematics Journal*. They received this prestigious award for their article, "Putting the Pieces Together: Understanding Robinson's Nonperiodic Tilings" (*Journal*, May 1997). As noted in the citation:

> In 1961 Hao Wang made the reasonable conjecture that any set of tiles that tiles the plane can be used to tile it periodically. In 1996 his student, Robert Berger, found a more-than-20,000-tile counterexample. In 1971 Raphael Robinson spectacularly reduced the number of tiles to seven. As the title suggests, this piece is an eminently understandable exposition of an otherwise paradoxical idea, easily intelligible to the general reader: a tiling that intuition tells us must be periodic, yet which is in fact not so.

NSF Faculty Early Career Development (CAREER) grants have been awarded to: KRISTIN BENNETT, Rensselaer Polytechnic Institute, Optimization methods for higher-order learning machines; HELEN DOERR, Syracuse University, Student modelers — a study of technology-enhanced modeling activities; and KATE OKIKIOLU, University of California, San Diego, Determinants of elliptic and Toeplitz operators with applications to geometry.

OKIKIOLU has also received a Presidential Early Career Award for Scientists and Engineers for her work in geometric analysis, particularly the determinant of the Laplacian under smooth perturbations. Another recipient of this award is LORI ANN FREITAG DACHIN of the mathematics and computer science division at Argonne National Laboratory; her work is in the area of visualization of data sets and real-time simulations and analyses.

RITA COLWELL has been confirmed by the Senate to replace Neal Lane as Director of the National Science Foundation (NSF).

The Tensor Foundation awards matching grants of up to $5000 for high school, college and university programs to increase the participation of women in mathematics and science. This year's grants, administered by the MAA, were received by: PUSHPA AGASHE and BARBARA HATSFIELD, University of Rio Grande/Rio Grande Community College; KATHY M. COUSINS-COOPER, North Carolina A&T State University; ROBERT DWORKOSKI, Viewpoint School; NADINA M. DURAN, Texas A&M University, Corpus Christi; KIRSTEN FLEMING, Central Michigan University; TRACY GOODSON-ESPY, University of North Alabama; YVONNE GREENLEAF and A. DARIEN LAUTEN, Rivier College; EDNA HOLBROOK, Jackson State University; SUNIL KARNAWAT, Turtle Mountain Community College; HARVEY KEYNES, University of Minnesota; KARA NANCE, University of Alaska Fairbanks; JUDITH PALAGALLO, The University of Akron; ALICE PIERCE, DeKalb College; LAURA B. SMITH, North Carolina Central University; and PATRICIA WILKINSON and LAWRENCE SHER, Borough of Manhattan Community College. The institutions include six state universities, two historically Black universities, one private university, one Hispanic-serving institution, three two-year colleges (including a tribal college), and one high school. The projects focus primarily on pre-college students.

1998–99 NSF Graduate Fellows include (name, undergraduate institution in parentheses, anticipated graduate institution): KARIANE CALTA (Williams College), Harvard University; AMY ELLEN MAINVILLE COHN (Harvard University), Massachusetts Institute of Technology; TAMAR FRIEDMANN (Princeton University), Princeton University; JESSICA ANN SHEPHERD (University of Utah), Princeton University; and LEAH JEANNINE WELTY (University of Chicago), Washington University. NSF Minority Graduate Fellows include: MONICA THERESA GREENWOOD (St. Bonaventure University), University of Maryland, College Park; SHARON ANN

LOZANO (University of Texas, Austin), University of Texas, Austin; and NIKKI LATRINA WILLIAMS (Spelman College), Rice University.

SUN-YUNG ALICE CHANG, University of California, Los Angeles, has received a Guggenheim Fellowship for her work on the Paneitz operator.

The Mass Media Science and Engineering Fellowship program of the American Association for the Advancement of Science (AAAS) places graduate students in summer internships with major media organizations. SARA ROBINSON, University of California, Berkeley, recipient of the SIAM-AAAS Fellowship, interned at the *Dallas Morning News*.

MARGRET HJALMARSON, Mount Holyoke College and KATHY PAUR, MIT, were two of the five students who received monetary awards from the Council on Undergraduate Research (CUPM) and the MAA for their posters presented at the Joint Meetings in Baltimore.

1998 winners of MAA Section Awards for Distinguished Teaching include JOAN P. HUTCHINSON, Macalester College, North Central Section; KAREN THRASH, University of Southern Mississippi, Louisiana/Mississippi Section; VIRGINIA LEE, Brookdale Community College, New Jersey Section; and VIRGINIA LYN STALLINGS, American University, MD-DC-VA Section.

MINISYMPOSIUM FOR WOMEN POSTDOCTORAL MATHEMATICIANS

ICIAM 99, Edinburgh, Scotland, July 5–9, 1999

supported by the National Science Foundation (NSF), the Office of
Naval Research (ONR), the Association for Women in Mathematics (AWM)
and European Women in Mathematics (EWM)

The AWM, EWM and the Society for Industrial and Applied Mathematics (SIAM) are seeking four speakers for a minisymposium for women postdoctoral researchers at the Fourth International Congress on Industrial and Applied Mathematics (ICIAM 99), July 5–9, 1999, Edinburgh, Scotland. AWM, EWM, and SIAM are joint sponsors of the symposium. The speakers will be chosen from women mathematicians working in the U.S., in Europe and throughout the world. Each speaker selected will present a 30-minute talk on her research in applied mathematics.

All applicants (doctoral degree awarded no earlier than July, 1989) should provide a curriculum vitae, a concise description of research (one to three pages) and a letter of recommendation. Funds for travel support for up to two U.S. speakers will be awarded through an NSF/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 U.S. Limited funding for European speakers may be available from EWM.

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

AWM/EWM/SIAM Minisymposium at ICIAM 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

APPLICATION DEADLINE: Applications must be received by **February 28, 1999.**

ATTENTION APPLIED MATHEMATICIANS!

AWM WORKSHOP FOR WOMEN GRADUATE STUDENTS AND POSTDOCTORAL MATHEMATICIANS

supported by the Office of Naval Research, the National Science Foundation,
and the Association for Women in Mathematics

Over the past ten years, the Association for Women in Mathematics has held a series of workshops for women graduate students and recent Ph.D.'s (referred to as "postdocs" below) in conjunction with major mathematics meetings.

WHEN: An AWM Workshop will be held in conjunction with the 1999 SIAM Annual Meeting (May 12–15, 1999) and the sixth SIAM Conference on Optimization (May 10–12, 1999) at the Radisson Atlanta Hotel, Atlanta, Georgia. This Workshop is *tentatively* planned to be held on Friday, May 14 and Saturday, May 15 with an introductory group discussion and dinner on Thursday evening, May 13.

WORKSHOP: The workshop will consist of a poster session by graduate students, two to four minisymposia, and a dinner with a keynote speaker. The graduate student poster sessions include all areas of research in applied mathematics. Each minisymposium will have a definite focus. The first minisymposium will be informational, directed at starting a career. The remaining minisymposia will be selected from the research areas of mathematical biology, control, optimization, modeling, and PDE's and applications.

Selected graduate student participants will present their research in a poster session. Selected postdocs (those within five years of their Ph.D.) will speak in an AWM research minisymposium. AWM will offer funding for travel and two days subsistence for up to twenty participants. Departments are urged to help graduate students and postdocs obtain some supplementary institutional support to attend the Workshop and the associated meeting. All mathematicians (female and male) are invited to attend the entire program.

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.

APPLICATIONS: To be eligible for funding, *graduate students* must have begun work on a thesis problem. Applications should include a cover letter, a summary of the work (one to two pages), a title for the proposed poster, a curriculum vitae, and a supporting letter of recommendation from a faculty member or research mathematician. Applications from *postdocs* should include a cover letter, a title and abstract (75 words or less) of the talk to be given if accepted, a summary of the work (one to two pages), a curriculum vitae, and (if desired) a letter of recommendation. The word "postdoc" refers to any mathematician who has received her Ph.D. within the last five years, whether or not she currently holds a postdoctoral or other academic position. All funded participants are invited and strongly encouraged to attend the full two-day AWM program. All non-U.S. citizen applicants must have a current U.S. address.

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

APPLICATION DEADLINE: Applications must be received by **January 4, 1999**.

PRESIDENTIAL AWARD EARNED BY NEBRASKA

The Department of Mathematics and Statistics at the University of Nebraska – Lincoln was awarded a 1998 Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring in recognition of its success with women graduate students.

Department Chair Jim Lewis and Assistant Professor Judy Walker traveled to Washington, DC to accept the award on behalf of the department and to participate with the other awardees in a two-day symposium entitled Mentoring for the 21st Century. Featured speakers at the symposium included such inspirational individuals as Richard Tapia (Professor of Mathematics at Rice University and member of the National Science Board), Oliver McGee (Senior Policy Analyst at the Office of Science and Technology Policy), Roosevelt Calbert (Director of Human Resource Development at NSF), and Julian Earls (Deputy Chief of Operations at the NASA Lewis Research Center).

The actual award ceremony was held in the Roosevelt Room of the White House immediately following a photo session with President Clinton in the Oval Office. We were all quite excited to visit the White House and thrilled that President Clinton was able to attend. Seemingly the ceremony fit well between his meeting with the senior Senate Democrats and his meeting with the Cabinet! Going to the Oval Office was a real thrill, and it was wonderful to see President Clinton "come alive" while giving his speech at the ceremony. It is crystal clear that SEM and mentoring are two issues that this President truly cares about. President Clinton left before the award presentations, which were done by Neil Lane (Director of the Office of Science and Technology Policy and Assistant to the President for Science and Technology), Rita Colwell (Director of NSF), Joseph Bordogna (Acting Deputy Director of NSF) and Luther Williams (Assistant Director of Education and Human Resources at NSF). The two-day experience, and especially the trip to the White House, was something which none of the awardees will ever forget.

A total of ten individuals and eight institutions were awarded the Presidential Award for Excellence in Science, Mathematics, and Engineering

Judy Walker, University of Nebraska, Lincoln

Mentoring this year. Although a few of the institutions were coalitions which involved mathematics, our department was the only awardee whose sole focus was mathematics. We believe that there are other institutions and individuals in mathematics who deserve this award, and if you know of such an institution or individual, we encourage you to submit a nomination. The call for nominations for the 1999 awards has not been made yet, but the 1998 call for nominations is available on the web at http://www.nsf.gov/pubs/1998/nsf9874/nsf9874.htm.

Our Department's Story

The UNL Department of Mathematics and Statistics is very proud of its success with women graduate students and believes that this success stems from the following simple philosophy: If you create a positive, supportive atmosphere in which qualified people are expected to succeed, they will. In particular, we believe that the competitive and often cold environment which is far too common in graduate mathematics programs is especially detrimental to women students. The creation of our more supportive environment has obviously affected our male graduate students as well, and this effect has been enormously positive. In fact, while only 23 men (and no women) were awarded Ph.D.'s in the 1980's, 33 men have joined 14 women in earning their Ph.D.'s during the 1990's thus far.

The creation of this atmosphere was achieved through many channels. In particular, since about 1989, our department has made a special effort to recruit women graduate students. When this recruiting started, only about 28% of the students in our graduate program were women (and none were reaching the Ph.D.), but throughout the past six years, the percentage of women graduate students has fluctuated between 42% and 52%, with an average of about 45%. Having this many women in our program relieves them, as one current graduate student put it, of "the pressure of having to represent my entire gender as an isolated female in a sea of male mathematicians." The commitment to having a "critical mass" of women began to pay off in 1994, and since that date 35% of the Ph.D.'s awarded by our department have gone to women.

Another example of a step taken by the department to establish a positive atmosphere for graduate

students is the creation of a variety of cash awards, given annually to recognize the best first year student, the best qualifying exam, the best graduate student teacher, etc. In addition, a fund drive among faculty established a fund which is used to award supplementary fellowships to our top graduate students. These awards and fellowships had the effect of changing the focus of graduate school from paying attention to how hard graduate student classes or exams were to recognizing that students regularly achieve at a high level. To date, 44% of these awards and fellowships have gone to women graduate students, roughly the same as their percentage within the graduate student population in the 1990's. This helps to reinforce the belief that when given the opportunity and proper support, women graduate students achieve just as frequently as their male counterparts.

In addition to having AWM President Sylvia Wiegand as a full professor in our department, we have two women postdocs and three women on tenure-track lines, thus giving us six women in a 38-member faculty. In an effort to help women graduate students get to know women mathematicians and statisticians on a one-to-one basis, it has become tradition that when we have a female visitor, the department sponsors a lunch for the visitor and the female graduate students and faculty. This gives an opportunity for community-building within the department and also gives our graduate students a chance to talk with distinguished women mathematicians from outside our department.

We also want to affirm that male faculty can be good mentors for women graduate students and that one of the reasons for our success is that so many men succeed in being good, supportive mentors for women graduate students. In fact, many of the men in the department have joined with Sylvia Wiegand in leading the effort to create the atmosphere which has given us the success of which we are so proud.

As another example, it has become a departmental priority to maintain ties with our students after they graduate. In particular, many of our women Ph.D.'s become the only woman in a mathematics department when they take jobs after graduation, and we make a special effort to maintain ties with these former students. For example, two 1997 Ph.D.'s came back to Lincoln during the summer of 1998 to teach in All Girls/All Math, our summer math camp for high school girls. Further, in an

At the ceremony

effort to help our graduates develop and maintain their research careers, the department has made a commitment to provide recent graduates an opportunity to return to Lincoln for a targeted period of time during which they will concentrate on their research. The department is willing to provide funds for travel, lodging and meals for recent graduates during these summertime stays.

In addition to the special activities mentioned above, we do other things for all our graduate students which may seem small or obvious, but which have a huge impact. We provide monetary support for them to travel to conferences, we encourage them to participate in seminars, we give them quality teaching assignments, and we involve them in departmental decisions such as hiring and curriculum issues. In short, while protecting their need for time to learn and do mathematics, we treat our graduate students as "junior faculty members," giving them both the respect and the support they need to achieve.

SUMMER PROGRAM

Carleton and St. Olaf Colleges will, pending funding renewal, continue their NSF/NSA-funded intensive summer program (June 27 to July 25, 1999) designed to encourage talented undergraduate women to pursue advanced degrees in the mathematical sciences. The students will take two courses taught by women mathematicians who are excellent teachers and active professionals. There will also be opportunities for recreational problem solving, discussions about graduate school and careers in mathematics, and twice-weekly colloquia.

Please encourage your talented first- and second-year female mathematics students to apply. Applications are due **February 28, 1999**. For information or application materials, email Deanna Haunsperger at dhaunspe@carleton.edu, write to Summer Math Program, Math Department, Carleton College, Northfield, MN 55057, or visit the program's home page at: http://www.mathcs.carleton.edu/smp.

THE OLGA TAUSSKY TODD CELEBRATION OF CAREERS IN MATHEMATICS FOR WOMEN

The Celebration is scheduled for July 16–18, 1999, at the Mathematical Sciences Research Institute (MSRI) in Berkeley, California. The National Security Agency will provide base support (subject to appropriation availability); the Mathematical Sciences Research Institute, other agencies, and the Association for Women in Mathematics will also provide support.

Featured lectures will showcase the research of outstanding women in mathematics. Talks and discussions by established mathematicians with careers in government, business, industry and academia will focus on contemporary issues of concern to young women. The primary goals of the celebration are to assist, encourage, and inspire the graduate student and recent Ph.D. participants, to provide a forum for networking between mathematicians at different career stages, and to promote the achievements of women in mathematics. Senior investigators will provide role models and offer mentoring for the beginning women mathematicians. The graduate student and recent Ph.D.'s who participate will find in the legacy of Olga Taussky a realistic model and worthy goals for their lives.

TRAVEL FUNDS are expected to be available for women graduate students and recent Ph.D.'s (not yet tenured) in the mathematical sciences to participate in the Celebration. The application deadline is **February 18, 1999**. Application procedures and eligibility requirements will be announced in the January–February AWM *Newsletter* and will be released at that time to the AMS *Notices* and the AWM and MSRI websites (www.awm-math.org; www.msri.org). Applicants will be directed to include five copies each of a cover letter, an outline of their research, a curriculum vita, and letter(s) of recommendation (for graduate students from their advisors). All non-U.S. citizen applicants must have a current U.S. address. Those funded will present their work in a poster or talk and will receive reimbursement for travel cost (up to $600) and 2.5 days subsistence at $150 per diem for meals and lodging.

EDUCATION COLUMN

MER/AWM Joint Session at the Joint Meetings

After the rousing success of last year's talks by Pam Cook and Dick Phillips at the Baltimore Joint Meetings, the obvious thing to do was to schedule a follow-up for San Antonio. What was less obvious was which of a number of fascinating possible topics to settle on. Eventually we chose to focus on issues and impediments facing women in participating in mathematics, and strategies for overcoming the difficulties, with an emphasis (but not an exclusive one) on minority women. We then proceeded to have extraordinarily good luck with our speaker invitations, and the result is a slate of four speakers, all speaking in the early morning or early afternoon of Wednesday, January 13.

First Chuu-Lian Terng and Sylvia Bozeman will talk about programs they are involved in. Chuu-Lian works with Karen Uhlenbeck on the IAS-Park City Women's program. This is an NSF-funded summer program designed to help women build up enough confidence to take a successful part in a PCMI institute, and thence to take on leadership roles among mathematicians. Sylvia works with Rhonda Hughes on a program entitled EDGE, otherwise known as Enhancing Diversity in Graduate Education. As the name implies, it is specifically directed to graduate studies, in this case studies at either Bryn Mawr or Spelman. The program involves both academic preparation and acculturation for graduate studies and incorporates exposure to mathematical fields, careers, and mentors for women.

Then Jere Confrey, who has done a great deal of research on the issues in question, will give us her perspective on them.

Our last speaker will be Carolyn Mahoney, whose title and abstract are far too good to be paraphrased:

Title: Why the Caged Bird Sings: Some Challenges and Opportunities in the Life of a Mathematician.

Abstract: This talk will present some experiences and anecdotes related to the issues/impediments faced as one moves through a career in mathematics. In particular, this talk will discuss: preparation and access; planned and unplanned opportunities; isolation and participation; role models, mentors, mentoring and networking; keeping a forward focus; and giving back.

Put these four together and you have every prospect of a really delightful session. We hope to see a lot of you there!

NCTM Standards

In mid-century, in response to Sputnik, the United States poured a lot of effort into educating kids in math and science. In the mid-1980's it became clear that this effort had not worked very well. Reports such as the National Commission on Excellence in Education's *A Nation at Risk* (1983) declared that in fact much U.S. education was quite unwell. In response there were calls for national standards in various disciplines.

In mathematics these standards were developed by the National Council of Teachers of Mathematics and appeared in three volumes: *Curriculum and Evaluation Standards* in 1989, *Professional Standards* in 1991, and *Assessment Standards* in 1995.

The reception of the NCTM *Standards*, in particular how they have been interpreted in various quarters, is quite interesting. A short summary is that they have been quite influential and equally controversial. Even from the beginning, long before anyone realized how influential and controversial the *Standards* would be, NCTM knew they would need periodic revision: technology used in the classroom changes; there is always new research into how children learn; and what the zeitgeist thinks kids should learn is never quite constant.

So they are being revised. It is an enormous effort, involving a team of over 25 writers (I am one of them), support staff, a special team to use web capabilities, an oversight committee, and identified resource people.

Now the revised *Standards* are in draft form, released in October 1998 for comments. The NCTM is very serious about soliciting comments. Nearly every mathematical society (including the AWM) has appointed a committee (known as an ARG, for Associated Resource Group) to provide input as the revision develops and to comment on the October draft. Comments from individuals are also greatly appreciated. You can obtain the draft and comment form by submitting the web request

Ginger Warfield, University of Washington, Seattle

Judy Roitman, University of Kansas

form found at www.nctm.org/standards2000, or by calling toll free 888-220-7952. If you are an NCTM member you can also email your name, address, and membership number to standards2000-draft@nctm.org. Or you can view the electronic version (an augmented version of the print volume) at www.nctm.org/standards2000.

The writing team will start looking at comments in the spring of 1999; the final version will appear in the year 2000.

PROJECT NExT SESSION

Project NExT and the Young Mathematician's Network invite submissions of abstracts for a poster session to be held on Friday, January 15, 1999 from 8:00 to 10:00 A.M. at the Joint Mathematics Meetings in San Antonio. The room location is to be announced. The poster size will be 48" by 36"; it is best to have the posters 36" high. Materials for posting pages on the posters will be available onsite. We expect to accept forty posters from different areas within the mathematical sciences. The emphasis may be in areas of pure or applied research, or in the realm of mathematics pedagogy.

Our poster sessions at the San Diego and Baltimore Meetings the last two years were a great success. There were numerous visitors to the session each year, including prospective employers. This session provides an excellent way to showcase one's work in a relaxed, informal environment.

If you are interested in participating, submit copies of your abstract to: Professor Ken Ross, Department of Mathematics, University of Oregon, Eugene, OR 97403; phone: 541-346-4721; fax: 541-346-0987 (labelled clearly for Ken Ross); email: ross@math.uoregon.edu *and* Professor Kevin Charlwood, Department of Math & Statistics, Morgan Hall, Washburn University, Topeka, KS 66621; phone: 785-231-1010, x 1499; fax: 785-231-1089 (labelled clearly for Kevin Charlwood); email: zzcharlw@washburn.edu.

The deadline for final consideration is **December 11, 1998**. Preference will be given to those who are three or fewer years beyond their Ph.D.; please include with your submission when and where you received your Ph.D., or indicate when you expect to receive it.

SCIENCE POLICY UPDATE

House Science Committee Releases Comprehensive Policy Study

The House Committee on Science last week released a report to Congress, "Unlocking Our Future: Toward a New National Science Policy," that updates the rationale for federal support for science and provides a framework for strengthening the science and technology enterprise. The first of its many recommendations calls on Congress to make "stable and substantial federal funding for fundamental scientific research a high priority." The report was commissioned last year by the Speaker of the House, Newt Gingrich (R-GA), and Science Committee Chair James Sensenbrenner (R-WI) asked Vice Chair Vern Ehlers (R-MI) to undertake the development of a "new, sensible, coherent long-range science and technology policy" to replace the outdated 1945 policy framework, "Science: The Endless Frontier." The new report concludes that despite its Cold-War roots, the U.S. research system remains strong and only "fine-tuning and rejuvenation" are warranted, not a major overhaul.

The report's recommendations focus on improving three key areas: science, including understanding-driven research, targeted basic research, and mission-directed research; the environment in which private-sector technology-based industries operate; and education from kindergarten to research universities. The report also stresses the need for science to strengthen its relationship with the American people and expand its role in helping society make good decisions.

For more information: The report can be found on the web at http://www.house.gov/science/science_policy_report.htm, as can a link to a form that can be used to submit comments.

The House report can be contrasted with the approach to science policy being pursued in the Senate — the Gramm-Lieberman bill (S. 1305) to double federal support for science in ten years. The legislation was recently rewritten by Senator Bill Frist (R-TN) and approved by the Senate Commerce Committee. The new bill, the Federal Research Investment Act (S. 2217), would extend the doubling period to 12 years and includes a

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variety of policy pronouncements similar to those in the new House report. Counterpart legislation in the House (H.R. 3660, H.R. 4515) has been ignored by the Science Committee while it focuses on the science policy study.

Appropriations Conference Approves 7.1 Percent Increase for NSF

The VA-HUD Appropriations conference committee completed its work yesterday, agreeing to legislation that would fund the National Science Foundation at $3.67 billion, about $243 million or 7.1 percent above the FY 1998 level. Funding for Research and Related Activities would be set at $2.77 billion, up from $2.55 billion last year, an increase of nearly nine percent. The troubling set-asides included in the report accompanying the Senate version of the bill apparently have been replaced with language calling on the NSF to study how to improve the participation of institutions that do not normally fall among the top 100 universities receiving federal funds. Support for Education and Human Resources would grow to $663 million from last year's $633 million. In a worthy gesture, the conferees agreed to name the NSF's Alliances for Minority Participation program after the House VA-HUD appropriations subcommittee's ranking Democrat, Louis Stokes (D-OH), who is retiring after 30 years in Congress. Mr. Stokes has been a steady supporter of the NSF and was recently honored by the Coalition for National Science Funding.

IMO 2001 USA, INC.

In September, the AWM Executive Committee (EC) decided at last to join IMO 2001 USA, Inc., the group that is planning for the International Mathematical Olympiad which will be held in the U.S. in 2001. The EC had been very divided about joining because of the historically small numbers of women on the national teams. In particular, the U.S. had never had a woman on its team. However, this year for the first time there was a woman, Melanie

Wood, on the U.S. team, and the balance of opinion on the EC swung toward joining. In a future message, I will give some of the thoughts of the EC on the IMO and some of its ideas on what we might do about that low participation of women.

Meanwhile, I attended the September 27 meeting of the Board of Directors of IMO 2001 USA. A total of 20 mathematical organizations are now members. IMO 2001 USA was incorporated in spring 1997.

Among the actions taken at this meeting were: 1) a prioritized list of where to hold the IMO was made, based on site visits by a committee and willingness of the potential hosts to commit to the number of rooms needed (having it based in Washington, DC was the first choice), 2) a budget for the next three years was adopted (for the first time), 3) a logo and a brochure were decided upon, 4) a tentative schedule was approved for the IMO, including what is done on what days, and 5) the next meeting was arranged to be on February 21, 1999.

There was a report from the Outreach Committee on its plans to make use of the presence of the IMO in the U.S. for publicity and encouragement for mathematics. I believe that this should be one of the primary foci of the activities of the AWM within the IMO 2001 organization.

I'll keep you posted.

MATH AWARENESS MONTH

In April 1999, the Joint Policy Board for Mathematics (JPBM) will inaugurate Mathematics Awareness Month as the successor of Mathematics Awareness Week. The annual celebration now has a national sponsor, Texas Instruments, which will underwrite the cost of materials production. The theme for MAM 1999 is Mathematics and Biology, and the theme poster will be called "Vital Rhythms: Mathematics in the Heart." More information and pictures will soon be posted to the Mathematics Awareness Month website, http://forum.swarthmore.edu/maw.

Jean E. Taylor, Rutgers University

WCNOC SUPPORTS ESU'S FOURTH SKHSD

Emporia State University (ESU) Division of Mathematics and Computer Science hosted its fourth Sonia Kovalevsky Mathematics Day on March 12, 1998. Fifty-two students and sixteen teachers from southeast Kansas participated in this event. The first two ESU Sonia Kovalevsky Day celebrations were funded by AWM and NSA. As with the third year's conference, Wolf Creek Nuclear Operating Corporation generously agreed to continue their financial support of this program.

The day began with registration and a continental breakfast. Marvin Harrell and Betsy Yanik, program organizers, welcomed the participants to the day's events. Lendley Black, Dean of Liberal Arts and Sciences, welcomed the attendees to the university and congratulated the young women on their success in high school mathematics. Following the Dean's welcoming, Stacy Walker, an ESU theater student, portrayed Sonia Kovalevsky and gave a synopsis of Kovalevsky's personal life and mathematical accomplishments.

Marvin Harrell and Betsy Yanik, Emporia State University

Separate activities, as well as some joint activities, were planned for the young women and their teachers. Each young woman selected two of three hands-on workshops. The workshops were "Number of Molecules in the Universe," "Soap Bubbles and Minimization," and "Math Magic," conducted by Maxine Pennington of Allied Signal, Monica Meissen of Bethel College, and Connie Schrock of ESU, respectively. Jean Morrow of ESU conducted the teacher workshops entitled "Internet Resources for Mathematics Teachers" and "Mathematics Students and the Internet." Students and teachers jointly attended a career discussion session and participated in the workshop "Problem Solving in Fair Division." Career speakers included Diane Lyon of Wolf Creek, Martha Novak of Symbios, Bonnie Johnson of Wichita State University, and Susan Vopat of ESU. Each speaker described her job, discussed how mathematics is used in her daily work, and shared personal experiences about life as a professional woman. Jackie Hoisington of Allied Signal presented the invited address at the luncheon. She led a lively discussion on the impact of
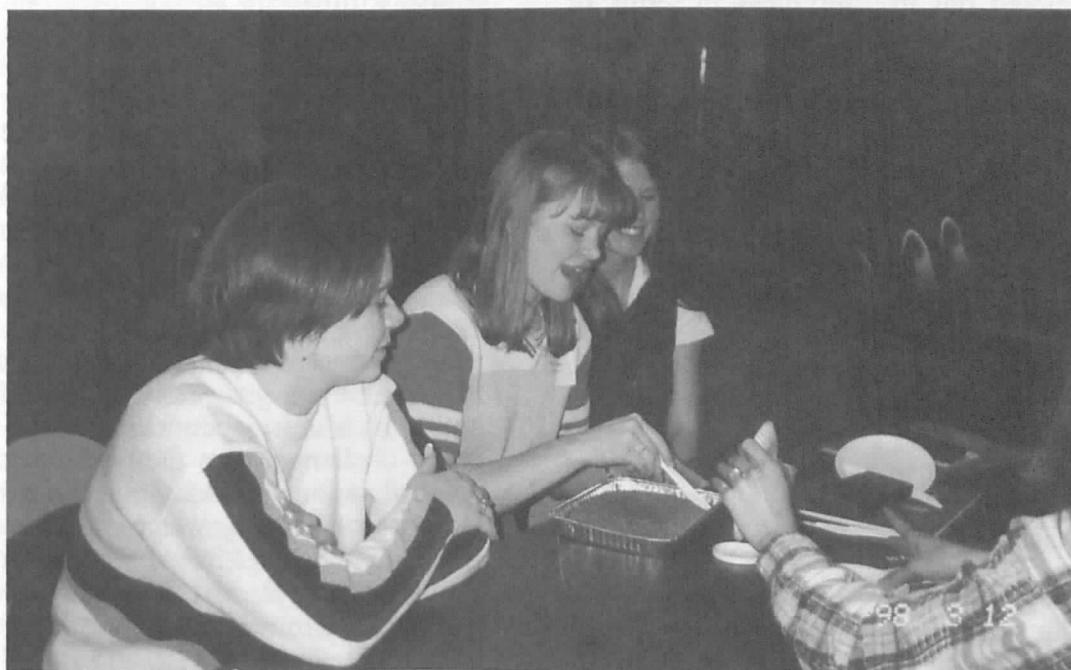
Working on a "delicious" fair division problem, ESU SK Mathematics Day

ESU SK Mathematics Day participants getting "all tied up" with mathematics

engineering accomplishments on our daily lives. During her presentation, she engaged students by having them construct Möbius strips. Upon students having investigated the properties of this shape, Ms. Hoisington pointed out its usefulness in terms of applications, such as extending the life span of a conveyor belt. At the end of the day a social was held at which refreshments were served and participation certificates were awarded.

Both the young women and their teachers expressed their enthusiasm about the conference. These results were gratifying and plans are underway for next year's conference. Pending funding, the tentative date for the 1999 ESU Sonia Kovalevsky Day is February 18.

CONFERENCES

"Black Women in the Academy II: Service and Leadership Conference" will be held June 24–27, 1999 at the Omni Shoreham Hotel, Washington, DC. The past century has witnessed fantastic changes for women in the academy and for black women especially. It has been a century of struggle, but the struggle has given rise to new and challenging opportunities. The removal of many of the barriers has resulted from the leadership of women in many different arenas. Most of these women have provided such leadership through their scholarship and dedicated service to their institutions, communities and nation. As we approach the end of one century and begin another, we find that our communities and our nations need our service and leadership even more than before, for the changes have engendered conflict. Often there is confusion about where black women are in the global community, as we witness continued inequality in the distribution of income and wealth and declining job stability for all women. Constricted opportunities for women and girls early in life affects the distribution of health, income and wealth later in life. It is our challenge from the platform of the academy locally, nationally and globally to influence in the twenty-first century a new generation of women leaders and a new kind of service for our communities that ensure their survival and growth.

For more information: Howard University/Black Women in the Academy, PO Box 1023, Washington, DC 20059; phone: 202-805-4556; fax: 202-806-9236; email: Blackwomen@howard.edu.

An international conference, "Science and Technology for Development," will be held March 22–26, 1999 in Havana, Cuba. The mathematics symposium will include a workshop on combinatorics, geometry, coding theory and related areas and another on numerical analysis and differential equations. For further information, contact Mrs. Carmen Seara Alvarez at cimaf@cidet.icmf.inf.cu.

Several of the MAA sessions to be held at the Joint Meetings in January concern women and minorities. They are: Outreach Programs for Women and Girls in Mathematics, Exemplary Women in Mathematical Careers, Solving the Two-Body Problem, and SUMMA Special Presentation (on intervention programs from minority precollege students).

CAREER AND BABY?

Women faculty members with young children at the University of California at Davis share their experiences in a new booklet, *Academic Careers and Babies: Having an Academic Career and a Baby at UCD*.

The booklet, which could be a model for similar publications elsewhere, arose after a faculty member who tried to find out what happened when women used the university's childbearing leave policy discovered there was no "normal" arrangement. The detailed accounts of nineteen women's determined efforts to rationally manage unpredictable events are candid, poignant, and sometimes humorous.

Chapters such as "Tenure Clock," "Twins!" "Normal?" "Adoption" and "Single Parents" describe the difficulties faced by the women and offer recommendations for improvement. A summary of the university's policy related to childbearing and parenting also is included.

Several themes emerge from the stories: the wide discretionary power of department chairs to decide the length and nature of a woman's leave time; the variability among the women in their expectations and requests; the discrepancy between what they asked for and what their departments were willing or able to accommodate; the inconsistencies in the way childbearing leave policy was interpreted; and the particular vulnerability of untenured women.

To obtain a copy of the 30-page booklet, send $2 to the Women's Resources and Research Center, University of California at Davis, Davis, CA 95616. It is also available on line at http://www.ucdavis.edu/babybook.

About Women on Campus, *Volume 7, Number 4*

FORD MINORITY FELLOWSHIPS

Approximately 25 Ford Foundation Postdoctoral Fellowships for Minorities will be awarded in 1999. Applicants must have completed a Ph.D. or Sc.D. degree no earlier than January 4, 1992 and no later than March 3, 1999 and are expected to be engaged in or planning a career in teaching and research at the college or university level. The application deadline is **January 4, 1999**. For further information, contact: Fellowship Office, National Research Council, 2101 Constitution Avenue, Washington, DC 20418; phone: 202-334-2872; fax: 202-334-3419; email: infofell@nas.edu; web: http://fellowships.nas.edu.

BRIEF NOTES

WomenCONNECT.com is an online community for business and professional women offering everything from news and original feature stories updated daily to message boards and chat sessions. Nonpartisan women-related political news is available in Politics Daily, a news briefing on "women to watch" in politics, elected officials, candidates, and those with behind-the-scenes influence, as well as top issues and political trends affecting women.

In the September 8, 1998 issue of *AWM-Net*, Dianne O'Leary highlights an interview with Virginia Valian, author of the book *Why So Slow? The Advancement of Women* (M.I.T. Press) printed in the August 25, 1998 issue of the *New York Times*.

From the interview:

One computer simulation showed what happens in an organization with eight levels of hierarchy, when it is staffed initially with equal numbers of males and females, but the men are given a tiny advantage in the promotion process — a mere 1 percent. The programmers continued the simulation until there had been a complete staff turnover at their fictitious organization. At the end, the top level was 65 percent male, 35 percent female.

Any single instance of bias is likely to be tiny, and someone might say, you're making a mountain out of a molehill. But mountains are molehills piled one on top of the other.

Much earlier in the year, Dianne reported the following:

The 19 December 1997 issue of Science contains a short report on a meeting sponsored by the American Historical Association on the use of part time faculty by universities. Part timers "rose from 22% of the total in 1970 to 40% in 1993." English and the Health Sciences lead, with about 45%, followed by Computer Science at about 39% and Math/Stat and History at about 30% (reading from the graph on page 2063). A statement from the conference can be found at http://chnm.gmu.edu/aha.

Of particular interest to AWM: "Part-time and adjunct positions are disproportionately occupied by women, who hold 39 percent of all faculty positions and 33 percent of full-time positions, but 47 percent of part-time positions. Accordingly, although only 35 percent of male faculty hold part-time appointments, 49 percent of female faculty do."

NIGMS and NIMH have published a program announcement entitled, "Quantitative Approaches to the Analysis of Complex Biological Systems," which solicits new applications in this emerging arena. The research goal now is to combine mathematical and computational tools with neurophysiological, neuroanatomical, or neurochemical techniques in order to analyze and model such complex data. The full text of the program announcement is available at http://www.nih.gov/grants/guide/pa-files/PA-98-077.html.

A letter from Robert Eisenstein at NSF is important for anyone planning to submit a proposal to the Division of Mathematical Sciences (DMS) this year. You can find the letter (NSF 98-232) at http://www.nsf.gov/home/mps/start.htm. *All proposals* submitted to DMS will require some level of submission via FastLane, with the Probability Program requiring complete submission via FastLane.

At http://www.womenvote.org, you can see how your representatives in Congress have voted.

The ISI Committee on Women in Statistics (CWS) has a web site at http://sun.cwru.edu/isi. CWS will participate in the scientific program at the 52nd Session of the ISI (August 10–18, 1999, Helsinki) with an Invited Papers meeting on "The Role of Women in Statistics in the New Millenium," organized by committee member Denise Lievesley (denise@essex.ac.uk).

The DiversityWeb Bulletin Board may be found at www.inform.umd.edu/diversityweb.

A monograph entitled "Science and Technology Innovation" was added to the web site http://www.dtic.mil/dtic/kostoff/index.html in June 1998. This thirty page document describes two novel complementary approaches for systematically enhancing the process of innovation and discovery. One approach is workshop-based and the other is literature-based. Both approaches have the common feature of exploring knowledge from very disparate technical disciplines and technologies, and transferring insights and understanding from one or more disparate technical areas to other technical areas. While either approach can be performed independently to enable innovation and discovery, it is highly recommended that the approaches be combined into a single process. This integrated approach utilizes the strengths of each component technique to provide a synergy which can lead more efficiently to innovation than the sum of the two approaches performed separately. It has the potential to be a major breakthrough for the systematic promotion of innovation and discovery.

Women in Engineering Programs & Advocates Network (WEPAN) has published *A Curriculum for Training Mentors and Mentees in Science and Engineering*. Developed at the University of Washington, the curriculum includes a guide for administrators; a core curriculum; a bibliography of resources; an evaluation module; handbooks for students, faculty and professional scientists and engineers; a video of scenarios depicting mentoring

relationships; and a facilitated video guide for group discussion. For ordering information, contact: WEPAN Member Services, 1284 CIVL Building, Room G293, West Lafayette, IN 47907; phone: 765-494-5387; fax: 765-494-9152; email wiep@ecn. purdue.edu.

The August 28, 1998 issue of *Journal: Linear Algebra and Its Applications* is a special issue honoring Olga Taussky Todd. It includes biographical articles, reminiscences, and accounts of her mathematics.

An interesting article by K.C. Cole appeared in the *Los Angeles Times*, July 14, 1998. Entitled "Math Whizzes Want Respect in Equation," it shows us as "behind-the-scenes workers for Hollywood, shuttle launches and crime scenes."

What's New, an electronic newsletter by Robert L. Park, is opinionated and entertaining. Each issue ends with:

> THE AMERICAN PHYSICAL SOCIETY (Note: Opinions are the author's and are not necessarily shared by the APS, but they should be.)

Some sample items from 1998 follow.

Education: Are Research Universities Cheating Undergraduates?

"Untrained teaching assistants groping their way ... tenured drones who deliver set lectures from yellowed notes," anybody we know? A report released by the Carnegie Foundation for the Advancement of Education bluntly accused the nation's 125 research universities of false advertising. Students may graduate without ever seeing the renowned professors listed in recruiting materials or tasting genuine research, and "without knowing how to think logically, write clearly, or speak coherently." A commission chaired by Shirley Kenny, the tough and inspiring president of SUNY at Stony Brook, scolded the schools and called for creation of "a culture of inquirers," structured around research and problem solving.

Climate: Satellite Data Says It's Either Warming or Cooling.

Data from NOAA weather satellites analyzed by Group A seemed to indicate that over a twenty-year period there has been a slight cooling rather than the slight warming inferred from surface measurements. Then Group B pointed out that the analysis failed to account for atmospheric drag, which would put the satellite trajectory 15km closer to Earth. That turned cooling into a slight warming. Group A accepts Group B's correction, with many thanks, but finds that orbital precession of the satellites and calibration drift in the radiometer may offset the atmospheric drag effect. Group B appreciates this latest refinement, but ...

Science Literacy: Not Sure about the Heliocentric Model?

Well, you're not alone. According to the 1998 Science and Engineering Indicators, released this week by NSF, 27% of adults surveyed believe the sun goes around the earth, and more than half believe atoms are smaller than electrons. The WN staff tried to contact Copernicus and Rutherford for comment, but James Van Praagh was not available — he may have been on the UFO panel. The good news is that, although we still have Ptolemaics, understanding of basic scientific concepts is higher among Americans than it is in other industrialized nations. Interest in science and belief in its promise is also higher among Americans: 79% of those surveyed agreed that scientific research is necessary and should be funded by the Government, even if it brings no immediate benefits.

Life Science: NRC Panel Calls for Curtailing Ph.D. Production

The number of doctorate recipients exceeds the number of research positions available, according to a report released this week. Production of Ph.D.'s in the life sciences has risen 42% since 1987.

New Study Confirms Global Warming ... Maybe

A recent study in *Nature* reports satellite data shows evidence of troposphere warming. According to NASA's James Hansen, this makes it "very difficult to deny the reality of global warming." Not surprisingly, troposphere coolists disagree. John Christy questions the study's findings, claiming "the troposphere has a means of expelling heat that hasn't been taken into account." A third group contends the argument is moot. Satellite data only covers two decades — too short a period, according to some, to detect meaningful climatic trends.

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AWM GIFT MEMBERSHIPS: If you would like to give a gift membership to a friend or colleague, please fill out the membership form on PAGE 46 with the pertinent information and indicate that it is a gift membership. AWM will send a notice to the individual informing of their membership and that it is a gift from you.

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BROWN UNIVERSITY - DEPARTMENT OF MATHEMATICS - J.D. Tamarkin Assistant Professorship - One or more three-year non-tenured non-renewable appointments, beginning July 1, 1999. Teaching load: two courses per semester (6 hours per week). Candidates are required to have received a Ph.D. degree by the start of this appointment, and they may have up to two years of academic and/or postdoctoral research experience by then. Applicants should have strong research potential and a commitment to teaching. Field of research should be consonant with the current research interests of the department. For full consideration, a curriculum vitae, a completed application form, and three letters of recommendation must be received by December 1, 1998. Requests for application forms and all other inquiries should be addressed to: **Tamarkin Search Committee, Department of Mathematics, Brown University, Providence, RI 02912**. Application forms are also available from our website: http://www.math.brown.edu/tamarkin.shtml, and standard *AMS application forms* are accepted. Email inquiries can be addressed to tamsearch@math.brown.edu. Please do not request application forms by email. Brown University is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and minorities.

CALIFORNIA POLYTECHNIC STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Mathematics Education - Tenure-track, Assistant Professor (preferred) beginning Fall 1999. Salary commensurate with qualifications and experience. Responsibilities include teaching methods courses for prospective K-12 teachers, supervising student teachers and senior projects, and teaching mathematics courses. Doctorate in mathematics education with the equivalent of a master's degree in mathematics, or a doctorate in mathematics with significant experience in teacher education, is required. Pre-college teaching experience and a background in educational technology and assessment are strongly desired. Submit Cal Poly application, resume, professional goals, three letters of reference, and transcripts to: **Chair, Mathematics Department, Cal Poly, San Luis Obispo, CA 93407**, FAX: **805-756-6537 (Refer to recruitment code 93009 on all correspondence.)** Closing date: December 18, 1998. Cal Poly is strongly committed to achieving excellence through cultural diversity. The university actively encourages applications and nominations of women, persons of color, applicants with disabilities, and members of other underrepresented groups. AA/EEO.

CASE WESTERN RESERVE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Faculty Positions in Mathematics - The Department of Mathematics anticipates making appointments at the tenure-track and visiting levels beginning August, 1999. Case Western Reserve University is a private research university, with, in addition to a school of arts and sciences, schools of medicine, business, engineering, and other areas which interact with the Department. Current research interests of the Department include both core and applied mathematics in area of algebra, analysis, differential equations/dynamical systems, geometry, probability, numerical and computational mathematics, imaging reconstruction and analysis, theoretical computer science, and certain areas of modeling. The Department also seeks to expand its undergraduate majors program. Candidates in all fields of mathematics will be considered, with particular interest in those fields that fit in well with the current state of mathematics at CWRU; we are also interested in candidates who demonstrate an ability to apply mathematics to problems arising from other disciplines. Required: Ph.D. in mathematics; exceptional promise, with accomplishments commensurate with experience in research and teaching. A complete application should contain *AMS cover sheet*, letter of application (including email address and fax number), curriculum vitae, and relevant (p)reprints. Candidates should also have three letters of recommendation sent. Mail all materials to: **James Alexander, Chair, Department of Mathematics, Case Western Reserve University, Cleveland, OH 44106-7058**. No email or fax applications will be accepted. Screening and processing applications will begin December 15, 1998; however applications will be accepted until positions are filled. CWRU is an Affirmative Action/Equal Opportunity employer.

COLGATE UNIVERSITY - DEPARTMENT OF MATHEMATICS - The Mathematics Department of Colgate University is accepting applications for two tenure-track assistant professorships beginning August 1999. A Ph.D. is required. We invite applications representing all areas of mathematics; for one of these positions, preference will be given to specialists in analysis, statistics or applied mathematics. Colgate University is a highly selective liberal arts college with 2,700 students. Faculty members normally teach five courses per year and are expected to maintain an active program of original research. They are also encouraged to participate in all-university programs. Applicants should send vita, an unofficial graduate transcript and three letters of recommendation by December 1, 1998, to: **The Search Committee, Department of Mathematics, Colgate University, 13 Oak Drive, Hamilton, NY 13346-1398**. Colgate is an equal opportunity, affirmative action employer. Applications from women and minorities are encouraged.

COLLEGE OF CHARLESTON - DEPARTMENT OF MATHEMATICS - At least three tenure-track positions at the Assistant Professor level available Fall 1999. Qualifications: Ph.D. in one of the mathematical sciences, commitment to undergraduate and graduate teaching, and potential for continuing research. Preference for one position will be given to applicants experienced in mathematics education who demonstrate the potential for securing external grants. Teaching: 9 hours per week normal load for those engaged in research. Salary is competitive. Send resume and have three letters of recommendation sent to: **Deanna Caveny, Chair, Math Department, College of Charleston, Charleston, SC 29424-0001**. Additional information available by visiting http://math.cofc.edu or emailing cavenyd@cofc.edu. The process of evaluating applications will begin on January 18, 1999, but applications will be considered until the positions are filled. AA/EOE.

THE COLLEGE OF WILLIAM AND MARY - DEPARTMENT OF MATHEMATICS - Tenure track Assistant or Associate professorship, beginning August 1999. Research must include substantial interest in the mathematical biosciences. Demonstrated excellence in scholarship and teaching, and a Ph.D. in a mathematical science are required. Incumbent will work with Biology Department to design a mathematics curriculum supporting undergraduate biology, and serve as liaison between the Mathematics (www.math.wm.edu) and Biology (www.wm.edu/biology/BioHome.html) departments. Submit application letter, *AMS Standard Cover Sheet*, C.V., research description, and three or more recommendation letters (at least one concerning teaching) to: **Search Committee, Mathematics Department, P.O. Box 8795, William and Mary, Williamsburg, VA 23187-8795**. Review begins December 18, 1998 and continues until appointment is made. Department members will be available at the January joint mathematics meetings. The College is an AA/EO employer. Members of underrepresented groups (including people of color, people with disabilities, Vietnam veterans, and women) are encouraged to apply.

COLUMBIA UNIVERSITY - DEPARTMENT OF MATHEMATICS - Applications are invited for Ritt Assistant Professorships beginning July 1, 1999. Application deadline: January 11, 1999. Position for new Ph.D.s regardless of age. One-year appointment, normally renewable for three more years. Teaching load, two courses per semester. Send vitae, (p)reprints and three letters of recommendation. At least one letter should address teaching experience. Preference given to candidates with research interests similar to those in the department. Please submit "*AMS Application Cover Sheet*" with application. First consideration given to applicants whose folders are complete by January 11, 1999. Send applications to: **HIRING COMMITTEE, Department of Mathematics, MC 4406, 2990 Broadway, Columbia University, New York, NY 10027**. Columbia is an equal opportunity/affirmative action employer and is especially interested in receiving applications from qualified women and minorities.

COLUMBIA UNIVERSITY [for position at BARNARD COLLEGE, COLUMBIA UNIVERSITY see advertisement listed under BARNARD]

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CONNECTICUT COLLEGE - DEPARTMENT OF MATHEMATICS - Connecticut College invites applications for a tenure-track assistant professor position in the Mathematics Department starting August 1999. Requirements include a Ph.D. in Mathematics, teaching experience, and a strong commitment to quality teaching and research. We are seeking an individual whose area of specialization will strengthen our course offerings in one or more of the following areas: analysis, complex analysis, topology, and/or geometry. Responsibilities include contributing to the research environment in the department, and helping to foster a stimulating atmosphere for both undergraduate mathematics majors and other students who take mathematics courses at the College. The ability to participate in collaborative research with undergraduates is highly desirable. Connecticut College is a small, private, highly selective college with a strong commitment to the liberal arts tradition. Interdisciplinary teaching and research are encouraged. The teaching load is 5 courses per year. More information about this position and the College may be obtained at our web page http://camel.conncoll.edu/ccacad/Math/job.html. Applicants should send a letter of application, curriculum vitae, statements on teaching and research, and 3-5 letters of reference to: **Professor Kathleen A. McKeon, Connecticut College Box 5561, New London, CT 06320.** Telephone: (860) 439-2012; Fax: (860) 439-2700; Email: math-dept@conncoll.edu. Review of applications will begin November 30, 1998 and continue until the position is filled. Connecticut College is an Affirmative Action/Equal Opportunity employer and is actively seeking to further diversify its faculty and staff.

CORNELL UNIVERSITY - DEPARTMENT OF MATHEMATICS - Applications are invited for one or more possible tenure-track/tenured positions to begin July 1, 1999. Those with research interests in the areas of probability and statistics are especially encouraged to apply. Teaching load will be three one-semester courses per year. Applications are also invited for a possible H. C. Wang Assistant Professorship for a non-renewable, three-year term. Send C.V., current research abstract and three recommendation letters by December 15, 1998, to: **Recruiting Committee, Department of Mathematics, White Hall, Cornell University, Ithaca, NY 14853-7901.** One application is sufficient for all of the above. Direct inquiries to recruit@math.cornell.edu or consult http://math.cornell.edu/. Candidates must possess a Ph.D. and have proven excellence in teaching and research. AA/EOE.

DARTMOUTH COLLEGE - DEPARTMENT OF MATHEMATICS - John Wesley Young Research Instructorship - 2-yrs., new or recent Ph.D.'s whose research overlaps department member's. Teach 4 ten-week courses spread over 2 or 3 quarters. $40,000 for nine months; $8,889 summer research stipend. Send application letter, resume, research/thesis description, graduate transcript, and 3 (prefer 4) references (1 discussing teaching) to: **Betty Harrington, Department of Mathematics, Dartmouth College, 6188 Bradley Hall, Hanover, NH 03755-3551.** Files complete January 15, 1999 considered first. Dartmouth is committed to affirmative action and strongly encouraged minorities and women to apply.

DARTMOUTH COLLEGE - DEPARTMENT OF MATHEMATICS - Tenure-track Assistant Professor opening anticipated in the field of combinatorics, initial appointment in 1999-2000 academic year. In exceptional cases, appointment to a higher level is possible. Teaching four 10-week courses over 2 or 3 terms. Send letter of application, vita, research interests, four letters of recommendation, at least one on teaching, to: **Betty Harrington, Department of Mathematics, Dartmouth College, 6188 Bradley Hall, Hanover, NH 03755-3551.** Applications complete by January 15, 1999 considered first. Women and minorities are encouraged to apply.

DAVIDSON COLLEGE - DEPARTMENT OF MATHEMATICS - Applications are invited for a regular appointment in the Mathematics Department, with an initial two-year appointment at the Assistant Professor level to begin August 1, 1999. 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. Some computer science background is desirable. A completed application consists of a statement of professional aspirations and goals, resume, (unofficial) 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: **Professor Stephen Davis, Chair, Department of Mathematics, P.O. Box 1719, Davidson College, Davidson, NC 28036-1719.** (Email: stdavis@davidson.edu; see also the "Information for Applicants for Faculty Position" link at http://www.davidson.edu/academic/math/math.html.) Applications received by November 23, 1998, will receive first 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.

DICKINSON COLLEGE - DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE - The Department invites applications for an anticipated tenure-track position in Mathematics at the Assistant Professor level starting August 1999. Applicants should have a Ph.D. in Mathematics and a strong commitment to liberal arts education. Excellence in undergraduate teaching and strong research potential are expected. Dickinson is a private, highly selective, liberal arts college with 1800 students located in south-central Pennsylvania. The Department has eight full-time members. We offer major and minor programs in both mathematics and computer science. Starting in Fall 1999, the department will move into a new state-of-the-art building equipped with classrooms and computer laboratories designed for active and collaborative learning. Please send a cover letter, C.V., and separate statements on teaching philosophy and research interests to: **Professor Barry Tesman, Department of Mathematics and Computer Science, Dickinson College, Carlisle, PA 17013.** Also, arrange for three letters of recommendation and copies of graduate transcripts to be sent to the same address. Review of completed applications will begin on December 15, 1998. Please indicate whether you will be attending the Joint Meetings in San Antonio, where we will be conducting preliminary interviews. Inquiries may be made to tesman@dickinson.edu. Further information is available from http://www.dickinson.edu/department/mathcs. Dickinson is an Affirmative Action/Equal Opportunity Employer. Women and minorities are especially encourage to apply.

DUKE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Assistant or Associate Professorship in Mathematics at Duke University 1999 - Applications and nominations are invited for a tenure track position as assistant professor or associate professor (possibly with tenure) in **probability**; there may also be a position in geometry/number theory. Salary is open; the position is to start September 1, 1999. Duke University is an affirmative action/equal opportunity employer. Applicants please send (a) a vita; (b) a description of current and past research (1-3 pages); (c) a plan for future research. The *AMS Standard Cover Sheet* should be completed electronically from the address below. Applications should be filed by December 15, 1998 early application is advisable. The applicant should have at least three letters of recommendation, including one which evaluates teaching, sent directly to Duke by mid-January. All correspondence, including references, EXCEPT *AMS Cover Sheets*, should be addressed to: **Faculty Search Committee, Department of Mathematics, Box 90321, Duke University, Durham, NC 27708-0321.** *AMS Cover Sheets* should be completed at <http://www.phds.org/> http://www.phds.org, Email inquiries: appts@math.duke.edu.

DUKE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Assistant Professorship in Mathematics at Duke University 1999 - Applications and nominations are invited for a tenure track position as assistant professor in **geometry/number theory**. Salary is open; the position is to start September 1, 1999. Duke University is an affirmative action/equal opportunity employer. Applicants please send (a) a vita; (b) a description of current and past research (1-3 pages); (c) a plan for future research. The *AMS Standard Cover Sheet* should be completed electronically from the address below. Applications should be filed by December 15, 1998 early application is advisable. The applicant should have at least three letters of recommendation, including one which evaluates teaching, sent directly to Duke by mid-January. All correspondence, including references, EXCEPT *AMS Cover Sheets*, should be addressed to: **Faculty Search Committee, Department of Mathematics, Box 90321, Duke University, Durham, NC 27708-0321.** *AMS Cover Sheets* should be completed at <http://www.phds.org/> http://www.phds.org. Email inquiries: appts@math.duke.edu

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DUKE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Assistant Research Professorship of Mathematics at Duke University 1999 - Applications are invited for two positions as **Assistant Research Professor of Mathematics**. Candidates should have completed a doctorate as of September 1, 1999 and show definite promise in research and teaching. The teaching load will be two courses during one semester and one course during the other, so that the appointee will have additional time for research. Duke University is an affirmative action/equal opportunity employer. The appointments are for one year and will be renewable for two additional years. The salary will be $39,000 covering work in the regular two-semester year. Applicants please send (a) a vita; (b) a description of current and past research (1-3 pages); (c) a plan for future research. The *AMS Standard Cover Sheet* should be completed electronically from the address below. Each applicant is requested to include in their materials the name(s) of one or more members of the faculty of the Department of Mathematics at Duke working in their general area of research. Applications should be filed by December 20, 1998 early application is advisable. The applicant should have at least three letters of recommendation, including one which evaluates teaching, sent directly to Duke by mid-January. All correspondence, including references, EXCEPT *AMS Cover Sheets*, should be addressed to: **Appointments Committee, Department of Mathematics, Box 90320, Duke University, Durham, NC 27708-0320.** *AMS Cover Sheets* should be completed at http://www.phds.org/> http://www.phds.org/, email inquiries: appts@math.duke.edu.

DUKE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Lecturer in Mathematics at Duke University 1999 - Applications are invited for one position as **Lecturing Fellow**. Candidates should have completed a doctorate as of September 1, 1999, have excellent teaching credentials and have a strong interest in curriculum development. The teaching load will be six hours per week per semester. In addition, Lecturing Fellows are expected to participate in the Department's ongoing revision of laboratory calculus and to continue their own research program in Mathematics. Duke University is an affirmative action/equal opportunity employer. The appointments is for two years and is not renewable. The 9-month salary will be $36,000 covering work in the regular two-semester year. Applicants please send (a) a vita; (b) a teaching statement and a description of any experience in curriculum development; (c) a description of current and past research (1-3 pages); and (d) a plan for future research. The *AMS Standard Cover Sheet* should be completed electronically from the address below. Each applicant is requested to include in their materials the name(s) of one or more members of the faculty of the Department of Mathematics at Duke working in their general area of research. Applications should include at least three letters of recommendation, including two which evaluate teaching, sent directly to Duke by mid-January. All correspondence, including references, EXCEPT *AMS Cover Sheets*, should be addressed to: **Lecturer Committee, Department of Mathematics, Box 90320, Duke University, Durham, NC 27708-0320.** *AMS Cover Sheets* should be completed at <http://www.phds.org/> http://www.phds.org/, Email inquiries: appts@math.duke.edu.

EMORY UNIVERSITY - DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE - The Department of Mathematics and Computer Science, Emory University, invites applications for an anticipated tenure track Assistant Professorship or a tenured appointment at the rank of Associate Professor or Professor, effective 1999-2000. Applicants must have a research program in numerical analysis/computational science and hold a Ph.D. in Mathematics, Computer Science, or a closely related field. The department offers several undergraduate programs within Emory College, a Ph.D. in Mathematics and an MS in Computer Science and applicants are expected to have strong records, or promise, as undergraduate and graduate teachers. Emory University has embarked on an ambitious building program for the sciences and mathematics, and we expect substantial growth in departmental and interdepartmental education and research programs. Key to our development is creation of a computational science research group. Successful applicants will combine strength in one of the fundamental areas of numerical analysis, applied mathematics or high performance computing together with demonstrated expertise in application areas. Life science applications are of particular interest given Emory's emphasis on life and medical science research. We expect this appointment to be the first of several devoted to these research areas. Applicants must provide C.V.'s, with at least three recommends' names, and have recommendation letters sent to: **Professor Dwight Duffus, Screening Committee, Department of Mathematics and Computer Science, Emory University, Atlanta GA 30322.** Screening of applications will begin on 15 January 1999. Emory University is an Affirmative Action/Equal Opportunity Employer.

FAIRFIELD UNIVERSITY - DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE - Assistant Professor - Fairfield University's Department of Mathematics and Computer Science invites applications for a tenure-track assistant professorship starting in September 1999. A doctorate in mathematics with a strong background in statistics, or a doctorate in statistics with a strong background in mathematics, is required. We are looking for a person who can help us develop and teach courses in statistics at both the undergraduate and Master's level. Strong evidence of research potential, demonstrated success in classroom instruction and a solid commitment to teaching are essential. Fairfield University is a comprehensive, Jesuit university with about 3,000 undergraduates and a strong emphasis on liberal arts education. There are 14 full-time faculty members in the department. The teaching load is three courses/nine credits per semester. Fairfield offers a very competitive compensation package. The picturesque campus overlooks Long Island Sound in southwestern Connecticut about 50 miles from New York City. Fairfield is an Affirmative Action/Equal Opportunity Employer. Send a letter of application, a curriculum vitae, and three letters of recommendation, which comment on the applicant's experience and promise a teacher and scholar to: **Chris Bernhardt, Mathematics and Computer Science Department, Fairfield University, Fairfield, CT 06430-5195**, 203-254-4000 ext. 2516, cbernhardt@fair1.fairfield.edu. Full consideration will be given to o complete applications received by January 18, 1999.

GEORGE MASON UNIVERSITY - DEPARTMENT OF MATHEMATICAL SCIENCES - The department expects to fill one tenure-track position, preferably at the assistant professor level in the Fall of 1999. Successful candidates must demonstrate the potential to make significant contributions to both the B.S. and M.S. programs in either Computational and Applied Mathematics or Actuarial Mathematics. Faculty teach at both the undergraduate and graduate levels, maintain active research programs, and pursue external funding opportunities. Faculty may also teach and supervise Ph.D. students in the interdisciplinary Institute for Computational Sciences and Informatics. Preference will be given to candidates whose research is compatible with current George Mason research. Arrange for a vita, statements of teaching and research interests and at least three letters of reference to be sent to: **T. Kiley, Chair of Search Committee, Department of Mathematical Sciences, George Mason University, MS 3F2, 4400 University Drive, Fairfax VA 22030-4444.** (Email: tkiley@gmu.edu) To ensure consideration apply before December 31, 1998; late applications will be accepted until the position is filled. George Mason is an AA/EEO employer. Women and minorities are encouraged to apply.

GETTYSBURG COLLEGE - DEPARTMENT OF MATHEMATICS - Gettysburg College invites applications for a **tenure-track assistant professor position in mathematics** beginning August 1999. A Ph.D. in mathematics, promise of excellence in teaching, and a commitment to continued scholarship are essential. Applicants are expected to have a strong interest in undergraduate teaching and a desire to involve undergraduate students in their research program. Gettysburg College is a highly selective liberal arts college located within 90 minutes of the Baltimore-Washington area. Established in 1832, the College has a rich history and is situated on a 220-acre campus with an enrollment of 2,200 students. Send letter of application, curriculum vitae, and statements of teaching philosophy and scholarship goals in liberal-arts environment to: **Mathematics Search Committee, Department of Mathematics and Computer Science, Gettysburg College, Gettysburg, PA 17325.** Do not send additional information, including letters of recommendation, with you application. The College also invites applications for **two one-year sabbatical replacement positions in mathematics.** Please indicate in your letter the position(s) for which you wish to be considered. Applications received by January 15, 1999 will receive full consideration; applications received after this deadline may be considered until the positions are filled. The College seeks to promote diversity in its community through its affirmative action/equal opportunity programs; included in an attractive benefits package is a Partner Assistance Program.

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HENDRIX COLLEGE - DEPARTMENT OF MATHEMATICS - Faculty Position in Mathematics - Hendrix College invites applications for a tenure-track position in mathematics at the assistant professor level beginning fall 1999. Applicants must have a Ph.D. in Mathematics by the start date and be committed to teaching undergraduate mathematics in the context of a liberal arts college. Applicants who may increase the department's strengths in applied mathematics are especially welcome but all areas of interest will be considered. Responsibilities include teaching courses at all levels of the curriculum, directing undergraduate research, and sustaining professional growth. Applications should include a curriculum vitae, transcripts, three letters of recommendation (at least one addressing teaching effectiveness), and a letter of application addressing the applicant's teaching interests and scholarship goals in a liberal arts environment. Evaluation of applicants will begin on January 4, 1999 and will continue until the position is filled. Mail applications to: **David C. Sutherland, Chair, Department of Mathematics and Computer Science, 1600 Washington Avenue, Conway, Arkansas 72032.** Hendrix, a private, residential, baccalaureate liberal arts college related to the United Methodist Church, has a coeducational enrollment of 1,000 students. The Department, with five full-time faculty, has a vigorous undergraduate research program and offers a major in mathematics and a combined major in computer science and mathematics. Hendrix is situated in Conway, Arkansas, a city of 40,000 thirty miles from Little Rock at the foothills of the Ozark Mountains. An equal opportunity employer, the College seeks to increase the diversity within its faculty, staff, and student body. Women and members of minority groups are specifically encouraged to apply.

HOOD COLLEGE - DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE - Hood College hopes to make one or more tenure-track appointments in the Department of Mathematics and Computer Science. We prefer applicants with a doctorate in computer science or a related field, but will carefully consider those with an appropriate master's degree and substantial professional experiences in applied computing. Areas or particular interest include computer architecture, programming languages, parallel and distributed computing, software engineering, object-oriented programming, data communications and networking, and human-computer interaction. Please send curriculum vitae and at least three letters of recommendation to: **John Boon, Chairperson, Department of Mathematics and Computer Science, Hood College, 401 Rosemont Avenue, Frederick, MD 21701.**

ILLINOIS STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Assistant Professor, Mathematics Education - The Mathematics Department welcomes applications for two full-time, tenure track positions in Mathematics Education beginning August 1999. Applicants should have a Ph.D. or Ed.D. in Mathematics Education or comparable degree by August 1999. Candidates should have the ability to teach a wide range of Mathematics Education courses, including both content and methods courses; an active research program in Mathematics Education compatible with research interests in the Department; a strong commitment to teacher education and to quality teaching; and, preferably, at least 3 years of K-12 teaching experience. See our web page at www.math.ilstu.edu for more information. To apply: Send vita, official transcripts, and three letters of recommendation by January 15, 1999 to: **Dr. Lotus Hershberger, ISU, Campus Box 4520, Normal, IL 61790-4520,** e-mail: search@math.ilstu.edu. Illinois State University is an Affirmative Action/Equal Opportunity employer encouraging diversity.

IOWA STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS - The department seeks applicants, pending funding, for two tenure track positions to begin in the fall of 1999. The positions are expected to be at the assistant professor level, but exceptional applicants for a higher rank may be considered. An excellent record in research and teaching is required, and experience beyond the Ph.D. is desirable. One position is targeted at control theory and practice. We are interested in a mathematician who can interact with current faculty in the department as well as with the numerous faculty in other departments interested in control problems. The second position is targeted at areas of applied mathematics that are complementary to the existing strengths in the department. These include partial differential equations, numerical analysis, control theory, computational and mathematical biology, stochastic analysis, and discrete mathematics applied to computer science and other problems. An applicant must indicate which position(s) they are applying for and submit a vita and a brief statement describing their research accomplishments and plans. They must also arrange for the submission of their graduate transcripts and four letters of recommendation, one of which must address the applicant's teaching ability and experience. All application materials should be sent to: **Max Gunzburger, Department of Mathematics, Iowa State University, Ames IA 50011-2064.** Applicants whose completed applications are received by February 15, 1999 are assured of receiving full consideration. Iowa State University strongly encourages women and members of underrepresented groups to apply.

JOHNS HOPKINS UNIVERSITY - DEPARTMENT OF MATHEMATICS - The Department of Mathematics invites applications for an Assistant Professor in the general areas of algebra, analysis, geometry, number theory and topology. Applications should be sent to: **Appointments Committee, Department of Mathematics, Johns Hopkins University, 404 Krieger Hall, Baltimore, MD 21218-2689** and should include a complete curriculum vitae, at least four letters of recommendation (including a letter concerning teaching) and a description of current and planned research. Applications received by December 1, 1998 will be given priority. (Applications in probability, statistics, operations research, and numerical methods will not be considered; applicants in these areas should contact the Department of Mathematical Sciences in the School of Engineering.) The Johns Hopkins University is an Affirmative Action/Equal Opportunity Employer. Minority and women candidates are encouraged to apply.

KANSAS STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Subject to budgetary approval, applications are invited for tenure-track and visiting positions commencing August 8, 1999; rank and salary commensurate with qualifications. The Department seeks candidates whose research interests mesh well with current faculty. Preference will be given to specialists in Differential Equations and Algebra. 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, at least three letters of reference evaluating research, and at least one reference letter concerning the applicants teaching should be sent to: **Louis Pigno, Department of Mathematics, Cardwell Hall 138, Kansas State University, Manhattan, KS 66506.** Offers may begin by December 7, 1998, but applications for positions will be reviewed until February 1, 1999, or until positions are closed. AA/EOE.

LEBANON VALLEY COLLEGE OF PENNSYLVANIA - DEPARTMENT OF MATHEMATICAL SCIENCES - Lebanon Valley College of Pennsylvania invites applications for a tenure-track, assistant professor position for fall 1999. Ph.D. required. Quality teaching (12 hours/semester) and professional activity required. Background in actuarial science or willingness to develop such expertise also required. Send cover letter addressing your suitability for teaching in a small liberal arts college and your interest in actuarial education, resume, and at least three current letters of reference. Send to: **Bryan Hearsey, Chair, Department of Mathematical Sciences, Lebanon Valley College, Annville, PA 17003.** To ensure consideration apply by December 15, 1998. LVC will be interviewing in San Antonio. LVC is an EOE. Women and minorities are encouraged to apply.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY - DEPARTMENT OF MATHEMATICS - Applied Mathematics - Applications are invited for a limited number of positions in applied mathematics starting fall 1999. Available positions include instructorships, lectureships, assistant professorships, and possibly higher levels. Appointments will be made mainly on the basis of demonstrated research accomplishment and potential. Complete applications must be received by January 8, 1999. 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, Massachusetts Institute of Technology, Cambridge, MA 02139-4307.** M.I.T. is an Equal Opportunity, Affirmative Action Employer.

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MASSACHUSETTS INSTITUTE OF TECHNOLOGY - DEPARTMENT OF MATHEMATICS - The Department of Mathematics may make a few appointments at the lecturer and at the assistant professor or higher levels in **pure mathematics** for the year 1999 - 2000. The teaching load will be six hours per week in one semester and three hours per week in the other, or other combinations totaling nine hours. Open to mathematicians with doctorates who show definite promise in research. Applications should be completed by January 15, 1999. Applicants please arrange to have sent (a) a vita; (b) three letters of reference; (c) a description of your most recent research; and (d) the research that you plan for the next few years 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.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY - DEPARTMENT OF MATHEMATICS - C.L.E. Moore Instructorships in Mathematics - Open to mathematicians with doctorates who show definite promise in research. Teaching loads are six hours per week during one semester, and three hours per week during the other. Applications should be completed by January 1, 1999. Please arrange to have sent (a) a vita; (b) three letters of reference; (c) a description of the research in your thesis; and (d) the research which you plan for 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.

MICHIGAN STATE UNIVERSITY - DEPARTMENT OF STATISTICS AND PROBABILITY - The Department of Statistics and Probability at Michigan State University has a tenure track Assistant Professorship available beginning August 16, 1999. The candidates should have a Ph.D. in the field of statistics and/or probability and a strong research and teaching potential. Please have a curriculum vitae and three reference letters sent to: **Search Committee, Department of Statistics & Probability, A415 Wells Hall, Michigan State University, East Lansing, MI 48824-1027.** Selection process will begin December 15, 1998 and continue until the position is filled. MSU is an Affirmative Action/Equal Opportunity Institution. Minorities and women are strongly encouraged to apply. http://stt.msu.edu

MICHIGAN STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Postdoctoral Positions - Pending funding, several two-year positions will be available beginning Fall 1999, for new or recent Ph.D. 's. Applicants specializing in all mathematical research areas that match the current research areas of the Department will be considered. The teaching load is four semester courses per year and participation in the research activities of the department is expected. An applicant should send a vita as well as a brief statement of research interests, and arrange for at least four letters of recommendation to be sent, one of which must specifically comment on the applicant's ability to teach. Application via email is strongly encouraged. To receive an electronic application and information, send an email to: jobs@math.msu.edu with the message "send application-info". Application materials can also be mailed to: **The Hiring Committee, Department of Mathematics, Michigan State University, East Lansing, MI 48824-1027.** Application should be made as soon as possible since candidate screening will begin in November. Completed applications received by November 30, 1998 are assured of consideration. Women and minorities are strongly encouraged to apply. MSU is an Affirmative Action/Equal Opportunity Institution.

MICHIGAN STATE UNIVERSITY- DEPARTMENT OF MATHEMATICS - Tenure-Track Positions - The Department is seeking applicants for tenure track positions to begin in Fall 1999, pending approval. The positions are expected to be at the Assistant Professor level, but exceptional applicants for a higher rank may be considered. Excellence in research and teaching is essential, and two or more years beyond the Ph.D. is expected. While applicants from all mathematical research areas will be considered, preference will be given to those areas that align best with the current research areas of the Department. An applicant must submit a vita as well as a brief statement of research interests, and arrange for at least four letters of recommendation to be sent, one of which must specifically address the applicant's ability to teach. Application via email is strongly encouraged. To receive an electronic application and information, send an email to: jobs@math.msu.edu with the message "send application-info". Application materials can also be addressed to: **The Hiring Committee, Department of Mathematics, Michigan State University, East Lansing, MI 48824-1027.** Application should be made as soon as possible since candidate screening will begin in early November. Completed applications received by November 23, 1998 are assured of consideration. Women and minorities are strongly encouraged to apply. MSU is an Affirmative Action/Equal Opportunity Institution.

MICHIGAN STATE UNIVERSITY- DEPARTMENT OF MATHEMATICS - Tenure-Track Positions in Mathematics Education - The Department is seeking applicants with primary research interests in Mathematics Education for tenure track positions to begin in Fall 1999, pending approval. These positions may be at any rank (Assistant Professor, Associate Professor, or Professor), depending on the qualifications of the successful applicants. Applicants are expected to document either substantial research accomplishment or, in the case of relatively new doctorates, compelling evidence of the potential for doing excellent research. Experience in a variety of Mathematics Education activities is strongly preferred. An excellent teaching record is essential. An applicant is expected to have a doctorate in Mathematics Education, with academic training in Mathematics that includes the equivalent of a strong Masters degree in Mathematics. An applicant must submit a vita as well as a brief statement of research interests, and arrange for at least four letters of recommendation to be sent, one of which must specifically address the applicant's ability to teach. Application via email is strongly encouraged. To receive an electronic application and information, send an email to: jobs@math.msu.edu with the message "send application-info". Application materials can also be addressed to: **The Hiring Committee, Department of Mathematics, Michigan State University, East Lansing, MI 48824-1027.** Application should be made as soon as possible since candidate screening will begin in early November. Completed applications received by November 23, 1998 are assured of consideration. Women and minorities are strongly encouraged to apply. MSU is an Affirmative Action/Equal Opportunity Institution.

MICHIGAN STATE UNIVERSITY- DEPARTMENT OF MATHEMATICS - Tenure-Track Positions in Applied Mathematics - The Department is seeking applicants with research accomplishments in Applied Mathematics for a tenure track position to begin in Fall 1999, pending approval. This position may be at any academic rank (Assistant Professor, Associate Professor, or Professor) depending on the qualifications of a successful applicant. While the research areas of Scientific Computation, Applied Combinatorics, Coding Theory, Applied and Numerical PDE, Optimization Theory, Applied Dynamics, Algorithm Theory, and Materials Science are preferred, other areas within what is understood to be applied Mathematics will be considered. Applicants should have a history of excellence in research in Applied Mathematics, preferably including some work in collaboration with engineering, the physical sciences, the biological sciences, or the biomedical sciences. A history of excellent teaching is required. A joint appointment with another unit, such as Engineering, might be arranged for the applicant for whom such a situation would be desirable. An applicant must submit a vita as well as a brief statement of research interests, and arrange for at least four letters of recommendation to be sent, one of which must specifically address the applicant's ability to teach. Application via email is strongly encouraged. To receive an electronic application and information, send an email to: jobs@math.msu.edu with the message "send application-info". Application materials can also be addressed to: **The Hiring Committee, Department of Mathematics, Michigan State University, East Lansing, MI 48824-1027.** Application should be made as soon as possible since candidate screening will begin in early November. Completed applications received by November 23, 1998 are assured of consideration. Women and minorities are strongly encouraged to apply. MSU is an Affirmative Action/Equal Opportunity Institution.

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[←] Applicants should demonstrate strong potential for success in both teaching and research. A complete application consists of an introductory letter, the *American Mathematical Society's Application Cover Sheet* (limited to one page), a curriculum vitae, and three letters of recommendation. The AMS form must clearly identify the candidate's research area and interest in tenure-track or visiting positions. The letters of recommendation should document abilities in both teaching and research. For tenure-track positions, the applicant's letter, vita and AMS form must be received by December 18, 1998. Letters of recommendation received by January 2, 1999 will be used in the screening process. Application materials should be sent to: **Hiring Committee, Department of Mathematical Sciences, New Mexico State University, Las Cruces, NM 88003.** NMSU is an Equal Opportunity/Affirmative Action Employer.

NORTH CAROLINA STATE UNIVERSITY - CENTER FOR RESEARCH IN SCIENTIFIC COMPUTATION - Post-Doctoral Research Appointments - The Center for Research in Scientific Computation at North Carolina State University expects to make a number of post-doctoral appointments beginning in the spring or summer, 1999 (availability of the positions is contingent upon funding). The appointments, which are typically of at least 2 years duration, will be in the area of applied mathematics and scientific computation. The research interests of the Center include mathematical modeling, analysis and control of partial differential equations, numerical optimization, computational fluids and flow control, numerical methods for transport in porous media, stochastic partial differential equations, high-performance computation and biomathematics The successful applicant will become a member of the Center for Research in Scientific Computation (CRSC), which facilitates interaction between the faculty in the Mathematics Department and other departments, research institutions, and industries. The CRSC and the Mathematics Department have a jointly sponsored Industrial Applied Mathematics Program (IAMP) which is a formal university/industrial research project program. This program provides substantive non-academic research-related experiences for graduate student, postdoctoral, and faculty participants while contributing to the research efforts of industrial participants. These experiences, involving year-long participation in an industrial, government lab or agency or other nonacademic research project, facilitate the development of participants' ability to communicate and interact with scientists who are not traditional mathematicians but who have an interest in quantitative aspects of science and engineering. The program currently has more than 20 graduate students, 5 postdocs, 13 faculty, and 12 industry/government lab group participants with activities on 18 projects. Applicants should send a vita and brief description of research interests and have three letters of recommendation sent to: **Professor K. Ito, Center for Research in Scientific Computation/Dept. of Mathematics, Box 8205, N.C. State University, Raleigh, NC 27695-8205.** Applications will be considered at any time after December 15, 1998, as funding becomes available. NCSU in an AA/EOE. In its commitment to diversity and equity, NCSU seeks applications from women, minorities, and the disabled.

NORTH CAROLINA STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS - The Department of Mathematics at North Carolina State University expects to make additional tenure-track faculty appointments in applied mathematics. Strong preference will be given to candidates who clearly demonstrate the ability and potential to contribute to the Industrial Applied Mathematics Program described below. The appointment will be at the rank of Assistant Professor or above, and will start on or after July 1, 1999. The applicant must have substantial experience beyond the Ph.D. (i.e., tangible records of significant research contributions and outstanding teaching), as well as evidence of strong interests in interdisciplinary research. The Department has an outstanding group of applied mathematicians in the areas of control and optimization, numerical analysis, ordinary and partial differential equations, and probability and stochastic processes, and the successful applicant will be expected to interact with members of this applied mathematics group. The successful applicant will become a member of the Center for Research in Scientific Computation (CRSC), which facilitates interaction between the faculty in the Mathematics Department and other departments, research institutions, and industries. The CRSC and the Mathematics Department have a jointly sponsored Industrial Applied Mathematics Program (IAMP) which is a formal university/industrial research project program. This program provides substantive non-academic research-related experiences for graduate student, postdoctoral, and faculty participants while contributing to the research efforts of industrial participants. These experiences, involving year-long participation in an industrial, government lab or agency or other nonacademic research project, facilitate the development of participants' ability to communicate and interact with scientists who are not traditional mathematicians but who have an interest in quantitative aspects of science and engineering. The program currently has more than 20 graduate students, 5 postdocs, 13 faculty, and 12 industry/government lab group participants with activities on 18 projects. Applicants should send a vita and have three letters of recommendation sent to: **Applied Math Search Committee, Professor H.T. Banks, Center for Research in Scientific Computation, Box 8205, N.C. State University, Raleigh, NC 27695-8205.** Phone: (919) 515-5289. Email: rlschnel@unity.ncsu.edu. On January 1, 1999, selection will begin and continue until the positions are filled. N.C. State University is an equal opportunity/affirmative action employer. In its commitment to diversity and equity, NCSU seeks applications from women, minorities, and the disabled.

NORTHERN ARIZONA STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS AND STATISTICS - The Department of Mathematics and Statistics invites applications for two tenure-track positions in mathematics education beginning Fall 1999. Ranks and salaries are open depending on qualifications. Minimum requirements for both positions are a doctorate in mathematics education or mathematics, substantial evidence of high quality teaching, a record of scholarly productivity appropriate to rank, and the potential to contribute to the departmental mathematics education program at the undergraduate and graduate levels. Preference will be given to candidates with a demonstrated interest and experience teaching mathematics in grades 7-12. The department of 25 faculty includes 2 specialists in mathematics education. The Northern Arizona University community is composed of faculty, staff, and students from a wide range of cultural backgrounds. Applicants should have the experience and commitment necessary to work with such a diverse population. Send a letter of application, transcripts, vita, statement of teaching philosophy, and three letters of reference to: **Mathematics Education Screening Committee, Northern Arizona University, Box 5717, Flagstaff, AZ 86011.** Review of applications begins November 15, 1998 and will continue until the positions are filled. NAU is an Equal Opportunity/Affirmative Action Institution. Minorities, Persons with Disabilities, Veterans, and Women are encouraged to apply.

PURDUE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Several tenure-track or two-year research assistant professorships beginning August 1999. Ph.D. by August 1999, exceptional research promise, and excellence in teaching required. Possible positions at the Associate Professor/Professor level beginning August 1999. Ph.D. and excellent research and teaching credentials required. Applicants should have research interests in common with Purdue faculty. Preference will be given to completed applications received by December 15, 1998. Send curriculum vitae and arrange to have three letters of recommendations (at least one letter should discuss teaching) sent to: **Carl Cowen, Head, Department of Mathematics, Purdue University, West Lafayette, IN 47907-1395.** Affirmative Action/Equal Opportunity Employer.

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 1, 1998, 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 15, 1999. Candidates must demonstrate potential excellence in 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 AAO/EEO employer and educator. Send applications to: **Mary Ellen Bock, Head, Department of Statistics, Purdue University, 1399 Mathematical Sciences Building, West Lafayette, IN 47907-1399, USA.**

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[←] confidence, from the referees. Further information on the department and the university can be found on the WWW site http://www.math.sfu.ca/mast_home.html. The position is subject to final budgetary approval. Simon Fraser University is committed to the principle of equity in employment and offers equal employment opportunities to all qualified applicants. In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents of Canada.

SIMON FRASER UNIVERSITY - DEPARTMENT OF MATHEMATICS AND STATISTICS - Faculty Appointment in Applied and Computational Mathematics - The Department of Mathematics and Statistics of Simon Fraser University invites applications for a tenure-track position in Applied and Computational Mathematics at the Assistant Professor level starting either September 1, 1999 or September 1, 2000. We are searching for an individual with outstanding background and exceptional promise who will establish a vigorous independent research program and who will have commitment to undergraduate and graduate teaching. We are particularly interested in an individual with expertise in industrial applications and modelling who will complement current strengths in mechanics (fluids and solids) and scientific computing. The department webpage can be accessed via http://www.sfu.ca. In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents of Canada. If a suitable candidate amongst this group cannot be found, other applications will be considered. Simon Fraser University is an equal opportunity employer and encourages applications from women and minorities. Applicants should send their curriculum vitae, publication list, a short statement of teaching and research interests and the names of at least three references to: **Professor J. L. Berggren, Chair, Department of Mathematics and Statistics, Simon Fraser University, Burnaby, British Columbia V5A 1S6 Canada.** Deadline: January 31, 1999. The position is subject to final budgetary approval.

SIMON FRASER UNIVERSITY - DEPARTMENT OF MATHEMATICS AND STATISTICS - NSERC University Faculty Award - The Department of Mathematics and Statistics of Simon Fraser University invites applications for nomination for the NSERC University Faculty Award 1999-2000 competition. Candidates are required to hold a Ph.D. degree in any area of STATISTICS or PURE or APPLIED MATHEMATICS at the time of appointment and be able to demonstrate strong potential in research. A strong commitment to teaching is essential. The department web page can be accessed via http://www.sfu.ca. A tenure-track appointment will accompany the award, effective on the start date of the award. Candidates must be women and must be Canadian citizens or permanent residents of Canada. The position, which is subject to final budgetary approval, will begin on a date mutually agreed upon from September 1, 1999. Interested applicants should, before November 30, 1998, submit an up-to-date curriculum vitae and descriptive statements on research plans and teaching activities to: **Dr. J. L. Berggren, Chair, University Faculty Award Search Committee, Department of Mathematics and Statistics, Simon Fraser University, Burnaby, British Columbia V5A 1S6 Canada.** Email: berggren@sfu.ca. Please arrange for three letters of reference to be sent, in confidence, from the referees. Further information on the award can be obtained from the department or directly from NSERC. (Also see the NSERC web site http://www.nserc.ca/programs/sf/UFA_e.htm). Simon Fraser University is committed to the principle of equity in employment.

SOUTHERN CONNECTICUT STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Two tenure track positions at the Assistant Professor rank, one in discrete mathematics, the other in applied mathematics, beginning 8/23/99 to teach undergraduate/graduate courses in mathematics and participate in department/university activities. Teaching load: 12 hours/semester. Salary range: $39,677 to $54,352. Qualifications: doctorate in mathematics with a specialty in discrete mathematics or applied mathematics, evidence of quality teaching, potential for scholarly growth. For the discrete mathematics position, preference will be given to applicants with interest in the applications of discrete mathematics. For the applied mathematics position, preference will be given to applicants with interest in mathematical modeling and in developing student/faculty relationships with business and industry. Send letter of application, vita, transcripts (unofficial OK), statement of teaching philosophy, three letters of reference to: **Dr. Leo Kuczynski, Mathematics Department, Southern Connecticut State University, 501 Crescent St., New Haven, CT 06515.** One letter of reference should address teaching. Applicants should state in their letter of application the position for which they are applying. Full consideration given to applications received by January 1, 1999. SCSU is an AA/EOE. Minorities and women encouraged to apply.

SOUTHERN ILLINOIS UNIVERSITY, CARBONDALE - DEPARTMENT OF MATHEMATICS - Differential Equations Positions - Tenure-track position in differential equations at the assistant professor level available beginning August 16, 1999. Applicants must have an active research program involving differential equations which is interdisciplinary in nature. Preference will be given to applicants doing research in differential equations and mathematical biology. Ph.D. in mathematics required at time of appointment. Candidates must show evidence of, or strong potential for, excellence in both research and teaching. Postdoctoral experience preferred. Send letter of application, C.V., and three letters of recommendation to: **Differential Equations Position, Department of Mathematics, Southern Illinois University, Carbondale, IL 62901-4408.** Closing date is December 1, 1998, or until position is filled. SIUC is an equal opportunity/affirmative action employer. Women and minorities are particularly encouraged to apply.

SOUTHERN ILLINOIS UNIVERSITY, CARBONDALE - DEPARTMENT OF MATHEMATICS - Statistics Position - Tenure-track position in statistics at the assistant professor level available beginning August 16, 1999. Ph.D. in statistics, or mathematics with a concentration in statistics, required at time of appointment. Candidates must have a strong background in mathematical statistics and show evidence of, or potential for, excellence in both research and teaching. Knowledge of applications of statistics and experience in statistical computing are highly desirable. Send letter of application, C.V., and three letters of recommendation to: **Statistics Position, Department of Mathematics, Southern Illinois University, Carbondale, IL 62901-4408.** Closing date is December 4, 1998, or until position is filled. SIUC is an equal opportunity/affirmative action employer. Women and minorities are particularly encouraged to apply.

SOUTHERN METHODIST UNIVERSITY - DEPARTMENT OF MATHEMATICS - Applications are invited for two tenure-track assistant professor positions to begin in the Fall semester of 1999. Applicants must provide evidence of outstanding potential for research in applied mathematics and a strong commitment to teaching at all levels. The Department of Mathematics has an active doctoral program in applied mathematics, specializing in physical applied mathematics, numerical mathematics and scientific computation. Research interests include fluid mechanics, nonlinear dynamics and the computational aspects of ordinary and partial differential equations. For one position, preference will be given to candidates whose research has an applied component related to industrial applications and/or to other sciences or engineering. The second position is open to any applied mathematician whose research is closely related to the current interests in the department. To apply, send a letter or, application with a curriculum vita, a list of publications, a research statement and a teaching statement to: **The Faculty Search Committee, Department of Mathematics, Southern Methodist University, P.O. Box 750156, Dallas, Texas 75275-0156.** Applicants must also arrange for three letters of recommendation to be forwarded to the Faculty Search Committee. The committee will begin its review of the applications on or about January 5, 1999. To ensure full consideration for the positions, the application must be postmarked on or before January 5, 1999. SMU is an Equal opportunity/Affirmative Action/Title IX Employer. Visit The Department's WWW site at http://www.smu.edu/~math, and contact the Search Committee by sending email to: mathsearch@mail.smu.edu [Telephone: (214) 768-2506; Fax: (214) 768-2355].

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SUNY COLLEGE AT CORTLAND - DEPARTMENT OF MATHEMATICS - Chair - The State University of New York College at Cortland is seeking a Mathematics Department Chair to start in the 1999-2000 academic year. Teaching responsibilities consist of two courses per semester and student advisement. Administrative responsibilities include preparing teaching schedules (including summer sessions), providing leadership in curriculum development, representing the department in various campus forums, overseeing departmental student advisement, overseeing recruitment and hiring of new faculty, evaluating departmental personnel, and dealing with student concerns. Appointment will be at the Associate Professor or Professor level, commensurate with experience. The position carries tenure and the salary is competitive. Qualifications include a doctoral degree in one of the mathematical sciences, a minimum of five years teaching experience at one institution, enthusiasm for mathematics education reform, and some administrative experience. Although specialists in all areas of mathematics are invited to apply, applications from those with an interests in teacher preparation will be particularly welcome. Applicants should furnish a cover letter, vita, graduate transcript, a statement of teaching and administrative philosophy, and three letters of reference. At least one letter should specifically address teaching ability. Applications should be sent to: **Search Committee, Mathematics Department, SUNY College at Cortland, Cortland, NY 13045.** The deadline for applications is January 10, 1999. We hope to conduct interviews at the San Antonio meetings in January. SUNY Cortland is an AA/EEO Employer and does not discriminate in employment or the provision of services on the basis of disability.

SWARTHMORE COLLEGE - DEPARTMENT OF MATHEMATICS AND STATISTICS - Mathematics and Statistics anticipates one, possibly two, tenure track positions at the assistant professor level beginning fall 1999. Both positions are pending administrative approval. In exceptional circumstances, applications at the associate professor level may be considered. The positions are open to applicants in all fields of mathematics. Candidates should possess a commitment to undergraduate education and promise in research. A Ph.D. in mathematics by the starting date is also expected. The annual teaching load is three courses in one semester and two courses in the other. Please send a resume, research summary, teaching statement, and three letters of recommendation to: **Mathematics Search Committee, Department of Mathematics and Statistics, Swarthmore College, 500 College Avenue, Swarthmore, PA 19081.** All applications should be sent in paper form. No e-mail or fax applications will be considered. Email inquiries can be sent to msdept@swarthmore.edu. All applications received by January 15, 1999 will receive full consideration. Swarthmore College is an Equal Opportunity employer. Women and minority candidates are encouraged to apply.

TEXAS TECH UNIVERSITY - DEPARTMENT OF MATHEMATICS AND STATISTICS - Applications are invited for one or two tenure-track assistant professor positions beginning fall 1999. Highest priority will be given to candidates in statistics/bio-statistics. Subject to availability of resources, consideration will also be given to candidates in numerical analysis or bio-mathematics. Applicants must possess a Ph.D. Strong promise in research and teaching is required. Please end a resume 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 on December 15, 1998, and will continue until the positions are filled. Additional information is available at http://www.math.ttu.edu/employ.html. Texas Tech is an AA/EO employer.

TOWSON UNIVERSITY - DEPARTMENT OF MATHEMATICS - Entry-level tenure-track assistant professor, applied mathematics/operations research, starting Fall 1999. Ph.D. is required. Faculty are expected to be productive scholars and excellent teachers. Commitment to innovative instruction is essential. Teaching assignment is nine contact hours per semester. The salary is commensurate with that of an entry-level position. The Mathematics Department (www.towson.edu/math/) offers bachelors' programs in various concentrations, and masters' programs in applied and industrial mathematics, and mathematics education. Submit cover letter, vita, transcripts, and arrange three letters of recommendation to be sent directly, addressing both teaching and research by February 1, 1999 to: **Dr. Ohoe Kim, Chair, Search Committee, Mathematics Department, Towson University, 8000 York Road, Towson, MD 21252-0001.** Fax: 410-830-4149, Email: okim@towson.edu. Note: Applications or materials sent by Email will not be considered. Towson University is an equal opportunity/affirmative action employer and has a strong institutional commitment to diversity. Women, minorities, persons with disabilities, and veterans are encouraged to apply.

TRINITY COLLEGE, HARTFORD - DEPARTMENT OF MATHEMATICS - The Department of Mathematics at Trinity College solicits applications for a non-renewable three-year position to begin in August 1999. We are seeking to hire a person with experience in applied mathematics. Teaching load is 5 courses per year ("3/2"). A Ph.D. in mathematics is required, along with evidence of superior teaching performance. Please send letter of application, c.v., and three letters of reference (at least one of which speaks to teaching) to: **Search Committee, Department of Mathematics, Trinity College, Hartford, CT 06106.** Be sure to include email contact information. There is no closing date for applications; however, the Department will begin reading applications in early December, and applications received by December 1, 1998 will receive full consideration. Trinity College is an Equal Opportunity/Affirmative Action employer. Women and minorities are encouraged to apply. Applicants with disabilities should request, in writing, any needed accommodation in order to participate more fully in the application process.

TRINITY COLLEGE, HARTFORD - MATHEMATICS CENTER - Lecturer in the Math Center - Full-time, contract position beginning late August 1999. Initial one-year contract with possible multi-year continuing appointment. Five courses per year teaching load. Responsibilities include teaching small sections of quantitative reasoning courses, conducting appropriate research, developing courses and course materials, working with faculty at the college to provide quantitative support for their classes, running workshops and initiating and participating in Math Center programs. The Center is especially interested in finding an individual who can work with the new Math and Science Resource High School adjacent to the Trinity Campus. Ph.D. preferred, Master's degree in Mathematics and college teaching experience required. Previous work with high school teachers valuable. Please send a vita, letter of application, and three letters of recommendation on teaching and professional activities to: **Debra Sombric, Secretary, Mathematics Center, Trinity College, Hartford, CT 06106.** Evaluation of applications will begin December 1, 1998 and continue until the position is filled. Applicants who will be at the January math meetings should so note. Trinity College is an EO/AA employer. Women and minority candidates are particularly encouraged to apply.

TUFTS UNIVERSITY - DEPARTMENT OF MATHEMATICS - Applicants are invited for an Assistant Professorship to begin September 1, 1999. Initial one-year contract, renewable to a maximum of three years. Ph.D., promise of strong research and evidence of strong teaching ability required. Research interests preferred: **Algebraic geometry.** The teaching load will be two courses per semester. Applicants should send a curriculum vitae and have three letters of recommendation sent to: **Montserrat Teixidor, Search Committee Chair, Department of Mathematics, Tufts University, Medford, MA 02155.** Review of applications will begin January 20, 1999 and continue until the position is filled. Tufts University is an Affirmative Action/Equal Opportunity employer. We are committed to increasing the diversity of our faculty. Members of underrepresented groups are strongly encouraged to apply.

TUFTS UNIVERSITY - DEPARTMENT OF MATHEMATICS - Applications are invited for a tenure-track Assistant Professorship to begin September 1, 1999. Ph.D., promise of outstanding research and evidence of excellent teaching ability required. Research interests preferred: **Group theory**, especially geometric aspects of finite and/or infinite groups. Applicants should send a curriculum vitae and have three letters of recommendation sent to: **Richard Weiss, Search Committee Chair, Department of Mathematics, Tufts University, Medford, MA 02155.** Review of applications will begin January 25, 1999 and continue until the position is filled. Tufts University is an Affirmative Action/ Equal Opportunity employer. We are committed to increasing the diversity of our faculty. Members of underrepresented groups are strongly encouraged to apply.

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TUFTS UNIVERSITY - DEPARTMENT OF MATHEMATICS - Applications are invited for a tenure-track Assistant Professorship to begin September 1, 1999. Applicants must show promise of outstanding research with specialization in numerical methods for inverse problems or numerical methods for partial differential equations, and excellent teaching. The teaching load will be two courses per semester. We are building a group in applied mathematics to work together and with other units in the university. Preference will be given to candidates who show promise of research interaction with members of our department and other departments at Tufts University. Applicants should send a curriculum vitae and have three letters of recommendation sent to: **Christoph Börgers, Search Committee Chair, Department of Mathematics, Tufts University, Medford, MA 02155**. Review of applications will begin January 20, 1999 and continue until the position is filled. Tufts University is an Affirmative Action/ Equal Opportunity employer. We are committed to increasing the diversity of our faculty. Members of underrepresented groups are strongly encouraged to apply.

UNIVERSITY OF ALABAMA AT BIRMINGHAM - DEPARTMENT OF MATHEMATICS - Applications are invited for two tenure-track positions to begin September 1, 1999, at the level of Associate Professor and Assistant Professor. applicants should have a distinguished research record that is commensurate with the level of the position and a commitment to excellent teaching. Funded research and post-doc experience are desirable. All qualified candidates are encouraged to apply. We are especially interested in candidates with expertise in complex analysis, differential equations, differential geometry, dynamical systems, and mathematical physics, including the computational aspects of these areas. In order to apply, please send a completed *AMS standard cover sheet* and a curriculum vita. Review of applications will begin November 15, 1998, and will continue until the positions are filled. Please arrange for at least three letters of reference to be sent. Applications and letters of reference should be sent to the following address: **Search Committee, Department of Mathematics, UAB, Birmingham, AL 35294-1170**. UAB is an AA/EO Employer. For more information about the position or institution/company: http://www.math.uab.edu/

UNIVERSITY OF CALIFORNIA, DAVIS - DEPARTMENT OF MATHEMATICS - Applications are invited for anticipated **Visiting Research Assistant Professorship (VRAP) positions** in the Department of Mathematics at the University of California, Davis, effective July 1, 1999. These positions are contingent upon budgetary and administrative approval. Duties include a mathematical research, undergraduate, and graduate teaching. The teaching load is four quarter courses per year. Minimal qualifications include a Ph.D. degree in mathematical sciences and great promise in research and teaching. Applicants for these positions are required to have completed their Ph.D. no earlier than 1995. Visiting positions are renewable for a total of three years contingent upon satisfactory performance in research and teaching. Salaries for 1999 will be $38,500. The Department of Mathematics is interested in applicants in the following areas for the VRAP positions: **(1)** Analysis/PDEs, **(2)** Applied Mathematics, **(3)** Geometry/Topology/Discrete Mathematics, **(4)** Mathematical/Physics/Representation Theory, **(5)** Numerical Analysis/ Scientific Computation. The application deadline is December 15, 1998 or until positions are filled. To initiate the application process, request an application package by writing an email message to **vforms@math.ucdavis.edu**. Those who do not have access to email can obtain the package by writing to: **Chair of VRAP Search Committee, Department of Mathematics, University of California, Davis, California 95616-8633**. The University of California, Davis, is an affirmative action/equal opportunity employer with a strong institutional commitment to the Achievement of diversity among its faculty and staff.

UNIVERSITY OF CALIFORNIA, LOS ANGELES - DEPARTMENT OF MATHEMATICS - Regular Positions in Pure and Applied Mathematics - The UCLA Department of Mathematics invites applications for three or more tenure track positions in mathematics. Exceptional promise in research and teaching is required. Positions are generally budgeted at the Assistant Professor level, but sufficiently outstanding candidates will be considered at higher levels. Teaching load is an average of 4.5 quarter courses per year. Positions subject to availability of resources and administrative approval. To apply, send electronic mail to: **search@math.ucla.edu** or open "**http://www.math.ucla.edu/~search**" on the World Wide Web, or write to: **Staff Search, Department of Mathematics, University of California, Los Angeles, CA 90095-1555**. UCLA is an equal opportunity/affirmative action employer.

UNIVERSITY OF CALIFORNIA, LOS ANGELES - DEPARTMENT OF MATHEMATICS - Temporary Positions - Subject to availability of resources and administrative approval: **(1)** Three E.R. Hedrick Assistant Professorships. Applicants must show very strong promise in research and teaching. Salary $47,100. Three year appointment. Teaching load: four quarter courses per year, which may include one advanced course in the candidate's field. Preference will be given to applications completed by January 6, 1999. **(2)** One or two Research Assistant Professorships in Computational and Applied Mathematics (CAM). Applicants must show very strong promise in research and teaching. Salary $47,100. Three year appointment. Teaching load: normally is reduced to two quarter courses per year by research funding as available; may include one advanced course in the candidate's field. Preference will be given to applications completed by January 6, 1999. **(3)** One Adjunct Assistant Professorship or Lectureship 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 quarter programming courses and one more advanced quarter course per year. 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 $50,400. 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 quarter programming courses per year. One-year appointment, probably renewable one or more times, depending on the needs of the program. Salary is $41,472 or more, depending on experience. Preference will be given to applications completed by February 6, 1999. **(4)** An Adjunct Assistant Professorship. One year appointment, probably renewable once. Strong research and teaching background required. Salary $43,600-$45,900. Teaching load: five quarter courses per year. Preference will be given to applications completed by January 6, 1999. **(5)** Possibly one or more positions for visitors. To apply, send electronic mail to: **search@math.ucla.edu** or open "**http://www.math.ucla.edu/~search**" on the World Wide Web, or write to: **Staff Search, Department of Mathematics, University of California, Los Angeles, CA 90095-1555**. UCLA is an equal opportunity/affirmative action employer.

UNIVERSITY OF CALIFORNIA AT SANTA BARBARA, DEPARTMENT OF MATHEMATICS - Faculty Positions - The University of California, Santa Barbara invites applications for positions in the Department of Mathematics, beginning Fall 1999. **(1)** KY FAN ASSISTANT PROFESSORSHIP: Candidates will be considered in the following areas: algebra, differential geometry, analysis, numerical analysis/applied mathematics, and low-dimensional topology. The Ky Fan Assistant Professorship is a special two-year nonrenewable position which carries a research stipend and a course load of 4 one quarter courses per year. Appointment begins July 1, 1999. Candidates must possess a Ph.D. by September 1999 and should have held their Ph.D. for no more than five years as of January 1, 1999. Selection will be based primarily on research achievement, but documented evidence of satisfactory teaching is necessary and departmental research priorities will be taken into account. **(2)** VISITING ASSISTANT PROFESSORSHIPS: Several one-year visiting assistant professorships in the research areas listed above, with the possibility of a second year, carrying a teaching load of 6 one quarter courses per year. Applicants for the Ky Fan position will automatically be considered for these positions as well. Excellence in research, potential for interaction with other faculty, and documented evidence of good teaching are all required. Candidates must possess a Ph.D. by September 1999. Applicants should send the following materials to: **Search Committee at the Department of Mathematics, University of California, Santa Barbara, CA 93106-3080**: a vita, a publication list, and a statement of research interests and the *American Mathematical Society Cover Sheet* (available on-line at http://www.ams.org). Include an email address if available. Applicants should also arrange to have a least four letters of recommendation sent to the appropriate committee. Applications which are complete by January 4, 1999, will be given full consideration. UCSB is an affirmative action/equal opportunity employer.

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UNIVERSITY OF CALIFORNIA AT SANTA BARBARA - DEPARTMENT OF STATISTICS AND APPLIED PROBABILITY - invites applications for tenure-track Assistant Professor position in Statistics, specialization in Theoretical Statistics preferred. Start July 1, 1999. Require Ph.D. in Statistics and demonstrated potential for excellence in research and teaching. Current resume, papers and three reference letters to: **David Hinkley, Department of Statistics and Applied Probability, University of California, Santa Barbara, Santa Barbara, CA 93106-3110, USA.** Deadline December 15, 1998. The University of California is an Equal Opportunity and Affirmative Action employer. Women and minorities are encouraged to apply. Applications for anticipated visiting positions are also invited.

UNIVERSITY OF CALIFORNIA, SANTA CRUZ - DEPARTMENT OF MATHEMATICS - **Tenure-track Assistant Professor** - The Mathematics Department at the University of California, Santa Cruz is recruiting for a tenure-track Assistant Professor Step I-III in the areas of Algebra and Number Theory, with primary emphasis in number theory; **please refer to #517.** The position will be effective July 1, 1999, contingent on budgetary approval. The teaching load is four one-quarter courses per year. Minimum Qualifications: Ph.D. [or equivalent] in Mathematics or closely related field; prefer Ph.D. by June 30, 1999, must be in hand no later than June 30, 2000; demonstrated achievements or potential for excellence in research and teaching. Step commensurate with experience. Salary Range: $41,200-45,900. Application Deadline: January 11, 1999. Please refer to position number indicated above in your correspondence. Applicants should send a C.V., a summary of their research and teaching experience and four letters of recommendation with at least one letter addressing teaching experience and ability (all letters will be treated as confidential documents) to: **Recruitment Committee, Mathematics Department, University of California, Santa Cruz, CA 95064.** Inquiries [not applications] can be sent to mathrcr@cats.ucsc.edu. UCSC is an AA/EEO/IRCA employer.

UNIVERSITY OF CALIFORNIA, SANTA CRUZ - DEPARTMENT OF MATHEMATICS - **Visiting Assistant Professorships** - The Department expects to have Visiting Assistant Professorships beginning Fall 1999 (subject to availability of funding). Appointees will be expected to teach and pursue their research. These positions are available for periods of one quarter to the full academic year, with a possible extension. Minimum Qualifications: Ph.D. [or equivalent] in Mathematics, or a closely related field, and demonstrated achievements or potential for excellence in research and teaching. Salary: $41,200. Available: Fall 1999. Application Deadline: January 11, 1999. **Refer to #T98-3.** Applicants should send a C.V., a summary of their research and teaching experience and three letters of recommendation with at least one letter addressing teaching experience and ability (all letters are treated as confidential documents) to: **Recruitment Committee, Mathematics Department, University of California, Santa Cruz, CA 95064.** Inquiries [not applications] can be sent to mathrcr@cats.ucsc.edu. UCSC is an AA/EEO/IRCA employer.

UNIVERSITY OF COLORADO AT BOULDER - DEPARTMENT OF APPLIED MATHEMATICS - **Instructor Position/Postdoctoral Fellowships** - Applications are invited for several nontenure-track positions to begin Fall 1999. These are: **1. Instructor.** This initial one-year position is typically renewed for up to two additional years based upon satisfactory performance. The teaching load is two courses per semester. Preference will be given to those candidates whose research emphasis is in the areas of statistics, stochastic processes or probability. Exceptionally strong candidates in other areas of applied mathematics may be considered. Additional areas of research expertise within the Department include computational mathematics, nonlinear waves and dynamics, analysis of differential equations, and physical applied mathematics. **2. Postdoctoral fellowships.** The Department of Applied Mathematics has a vigorous and dynamic research program. In recognition of our high level of activity the Department has been awarded one of the new Vertical Integration of Research and Education (VIGRE) grants funded by the National Science Foundation. This award will support three year appointments for four postdoctoral fellows. The fellows will join a multi-level research group in one of the following areas: dynamical systems, nonlinear waves, fast algorithms or multi-level computation. An innovative attribute of this grant is the dual participation in research and teaching. Each fellow will be involved in teaching and learning programs in the Department at the equivalent of one course per semester. Fellowships are available only to U.S. citizens or permanent residents. Further information about the unit can be found on the Department's web page: http://amath.colorado.edu/appm/. Applicants should send a letter of application, an AMS cover, a current curriculum vitae, a statement of research interests and three letters of recommendation (sent directly) to: **Chair, Search Committee (for the instructor's position) or Postdoctoral Fellowship, Department of Applied Mathematics, University of Colorado, Campus Box 526, Boulder, CO 80309-0526.** Review of applications will begin December 31, 1998 and will continue until the positions are filled. The University of Colorado at Boulder is committed to diversity and equality in education and employment.

UNIVERSITY OF COLORADO AT BOULDER - DEPARTMENT OF MATHEMATICS - Applications are invited for a tenure track faculty position at the Assistant Professor level beginning in the fall of 1999 in Algebraic Geometry. Candidates should have earned a Ph.D. in Mathematics by August 1999, have demonstrated interest and ability in teaching, and have experience in and commitment to mathematical research. This position requires teaching at various levels, mathematical research, and service. The ideal candidate will have a strong research emphasis in Algebra. Applications, including a resume and four letters of reference, should be sent to: **Search Committee, Department of Mathematics, Campus Box 395, University of Colorado, Boulder, CO 80309-0395.** Reviewing of applications will begin December 15, 1998, and will continue until the position is filled. The University of Colorado is committed to diversity and equality in education and employment.

UNIVERSITY OF DAYTON - DEPARTMENT OF MATHEMATICS - Applications are invited for two tenure track positions at the assistant professor level starting in August 1999, one in analysis or applied mathematics, and one in set-theoretic topology or graph theory. Candidates must have a strong commitment to research, the potential to become an effective teacher, and the Ph.D. degree in the appropriate area; preference will be given to those whose research interests are compatible with those of current faculty. The selection process will begin on December 7, 1998. To receive full consideration, all materials must be received by January 16, 1999. 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 email address in your correspondence. Application materials should be sent to the appropriate search committee: **Dr. Muhammad Islam, Chair of the Analysis/Applied Math Search Committee, or Dr. Ralph Steinlage, Chair of the Topology/Graph Theory Search Committee, Department of Mathematics, University of Dayton, Dayton, OH 45469-2316.** Further information can be obtained at http://www.udayton.edu/~mathdept. Applications from women and minority candidates are especially encouraged. The University of Dayton is an Equal Opportunity and Affirmative Action Employer.

UNIVERSITY OF DELAWARE - DEPARTMENT OF MATHEMATICS - The department invites applications for a tenure/tenure-track position to begin September 1, 1999. The position is in applied mathematics with level open. Strong preference will be given those individuals at the Associate or entry Full Professor level. Evidence of a strong publication record and fundable research are required. Experience and interest in establishing or mentoring links with industry and other academic disciplines will weigh heavily in the candidate's favor. Expertise in any of the areas of Wave Propagation, Fluid Dynamics, Material Science, Scientific Computation and Inverse Problems will also weigh heavily in the candidate's favor. Evidence of effective teaching at the graduate and undergraduate level is essential. Applicants should send C.V. (including funding history), reprints and/or preprints and arrange to have three letters of recommendation sent to: **Applied Math Search Committee, Department of Mathematical Sciences, University of Delaware, Newark, DE 19716.** Applications must be received by January 15, 1999 to receive full consideration. The University of Delaware is an equal opportunity employer which encourages applications from qualified minority group members and women.

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UNIVERSITY OF FLORIDA - DEPARTMENT OF MATHEMATICS - Applications are invited for tenure track positions at the assistant/associate professor level in applied mathematics with emphasis in biology, and at the assistant professor level in combinatorics, differential geometry & mathematical physics, and logic. Priority is given to candidates who can interact with existing groups in the department. Appointments commence August 1999. Applicants must show strong research promise and are expected to excel in teaching. Applicants must forward curriculum vitae and publications list to: **Chair of Search Committee, Department of Mathematics, University of Florida, Gainesville, FL 32611-8105.** Three letters of recommendation are to be sent directly to the above address. Completed applications and supporting letters are due December 11, 1998. The Department welcomes applications from women and minority candidates. The University of Florida is an EEO/AA institution. Anyone requiring special assistance in completing the application should contact the search committee chair.

UNIVERSITY OF GEORGIA - DEPARTMENT OF MATHEMATICS - Assistant Professor Positions - Applications are invited for two tenure-track positions at the rank of assistant professor, to begin in August 1999. Candidates should have a Ph.D. in mathematics or applied mathematics and should exhibit outstanding research potential as well as a commitment to excellence in teaching. The area of priority for one of these positions is harmonic analysis. This area is broadly defined to include the following research areas: classical harmonic analysis, analysis on Lie groups, analysis of partial differential equations, and the theory of wavelets. Applications from all areas of pure and applied mathematics will be considered for the second position. Applicants should send a completed *AMS Standard Cover Sheet*, a curriculum vitae and a brief statement about their current and future research plans to: **Dr. Kevin Clancey, Head, Department of Mathematics, University of Georgia, Athens, GA 30602.** They should also arrange to have three letters of recommendation concerning research and one concerning teaching sent directly to the above address. Review of applications will begin December 1, 1998; applications received by this date are assured of consideration. The University of Georgia is an Affirmative Action/Equal Opportunity Employer which is committed to increasing the diversity of its faculty. We especially encourage applications from women, minorities and underrepresented groups.

UNIVERSITY OF GEORGIA - DEPARTMENT OF MATHEMATICS - Postdoctoral Position - Description: One 2 year postdoctoral position in Number Theory with the title part-time instructor postdoctoral associate, offered by the Department of Mathematics beginning in the 1999-2000 academic year. The department especially encourages applications from women and minorities. Duties consist of teaching 3 courses per year and conducting original research. Applicants are suggested to identify a member of the current faculty with whom they would like to work. Eligibility: Applicants must exhibit potential for significant research and the skills necessary to be an excellent teacher. Deadline: Review of applications will begin on December 1, 1998 and continue until the position is filled. Application information: To apply, send a vita with a list of publications and four letters of recommendation to: **Kevin Clancey, Head, Department of Mathematics, University of Georgia, Athens, GA 30602.** The University of Georgia is an Equal Opportunity/Affirmative Action Employer.

UNIVERSITY OF ILLINOIS AT CHICAGO - DEPARTMENT OF MATHEMATICS, STATISTICS, AND COMPUTER SCIENCE - The Department has active research programs in all areas of pure mathematics, computational and applied mathematics, combinatorics and computer science, statistics, and mathematics education. See **http://www.math.uic.edu** for more information. Applications are invited for the following positions, effective August 21, 1999. First, a TENURE TRACK OR TENURED POSITION. Candidates in all areas of interest to the Department will be considered. The position is initially budgeted at the Assistant Professor level, but candidates with a sufficiently outstanding research record may be considered at higher levels. Applicants must have a Ph.D. or equivalent degree in mathematics, computer science, statistics, mathematics education or related field, an outstanding research record, and evidence of strong teaching ability. Salary negotiable. Second, a RESEARCH ASSISTANT PROFESSORSHIP. This is a non-tenure track position normally renewable annually to a maximum of three years. The position carries a teaching load of one course per semester, with the requirement that the incumbent play a significant role in the research life of the Department. The salary for AY 1999-2000 for this position is expected to be $40,000. Applicants must have a Ph.D. or equivalent degree in mathematics, computer science, statistics, mathematics education or related field, and evidence of outstanding research potential. We encourage applicants to submit an electronic cover sheet. The electronic cover sheets may be filled out on the web at **www.phds.org** or may be obtained by sending an email to the address **coversheets@phds.org**. However, for this search we still require that an original paper application must also be submitted. Send vita and direct 3 letters of recommendation, indicating the position being applied for, to: **Henri Gillet, Head; Department of Mathematics, Statistics, and Computer Science; University of Illinois at Chicago; 851 S. Morgan (M/C 249); Chicago, IL 60607.** To ensure full consideration, materials must be received by **December 21, 1998.** Minorities, persons with disabilities, and women are particularly encouraged to apply. UIC is an AA/EOE employer.

THE UNIVERSITY OF IOWA - DEPARTMENT OF MATHEMATICS - The department invites applications for the following position: Pending availability of funds, one or more visiting positions for all or part of the 1999-00 academic year. Selection will be based on research expertise and teaching ability. Preference will be given to applicants whose scholarly activity is of particular interest to members of the current faculty. Women and minority candidates are especially urged to apply for the above positions. To apply, send a complete vita and have three letters of recommendation sent to: **Professor Bor-Luh Lin, Chair, Department of Mathematics, The University of Iowa, Iowa City, Iowa 52242.** The University of Iowa is an Equal Employment Opportunity and Affirmative Action Employer.

UNIVERSITY OF KANSAS - DEPARTMENT OF MATHEMATICS - Applications are invited for a tenure-track position and a temporary position at the assistant professor level beginning August 18, 1999 or as negotiated. (These positions are contingent on final budgetary approval.) For the tenure-track position preference will be given to candidates in non-linear dynamical systems and chaos and otherwise to candidates in pure or applied mathematics or statistics whose specialties mesh well with those already represented in the department. For the temporary position, preference will be given to candidates in quantum groups and otherwise to candidates whose research interests mesh well with those of our faculty. Candidates must have a Ph.D. or its requirements completed by August 15, 1999. Postdoctoral experience for the tenure-track position is preferred. Letter of application, detailed resume with description of research, completed AMS standardized application form, and three letters of recommendation should be sent to: **C.J. Himmelberg, Chairman, Department of Mathematics, 405 Snow Hall, University of Kansas, Lawrence, KS 66045-2142.** Deadlines: Review of applications will begin on January 1, 1999 and will continue until the positions are filled. EO/AA Employer.

UNIVERSITY OF KENTUCKY - DEPARTMENT OF MATHEMATICS - The University of Kentucky Mathematics Department invites applications for at least two tenure-track assistant professorships to begin Fall 1999 (subject to budgetary approval). We seek applicants in the areas of discrete mathematics/combinatorial optimization and algebra/number theory. However, applicants in other areas are also welcome. Mail the *AMS application cover sheet*, vita, description of research and teaching, and three recommendation letters to: **Recruiting Committee, Mathematics Department, University of Kentucky, Lexington, KY 40506-0027.** Submission deadline: 31 January 1999. Application evaluations begin 1 December 1998. UK is an Equal Opportunity Affirmative Action Employer.

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[←] candidate will assume regular faculty duties in the Department of Mathematics. Rank and salary depend on qualifications and budget considerations. Ph.D. in mathematics or closely related field and exceptionally strong research record and commitment to excellent teaching required. Persons with established expertise in scientific computation and physical applied mathematics will be given highest priority in the search. Evidence of extramural funding, either from federal agencies or industry, is expected. Some experience with administration is desirable, though not necessary. A copy of this ad may be found on our World Wide Web page at http://www.math.unc.edu/General/Job.announcements. Send curriculum vitae, abstract of current research program, and four letters of recommendation to: **Applied Search Committee, Senior Position, Mathematics Department, CB #3250 Phillips Hall, UNC at Chapel Hill, Chapel Hill, NC 27599-3250.** EO/AA Employer. Women and Minorities are encouraged to identify themselves voluntarily. Applications will be accepted until the position is filled.

UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL - DEPARTMENT OF MATHEMATICS - Tenure-Track Position in Mathematics - Applications are invited for one tenure-track assistant or associate professor position in applied mathematics, with employment to begin Fall 1999. Preference will be given to an exceptional candidate in applied scientific computation. A strong research record and doctorate in mathematics, applied mathematics or a closely related field are required. Preference is given to candidates with a commitment to interdisciplinary university research, collaborations with industry or government, and teaching including development of applied math curricula at undergraduate and graduate levels. This position contributes toward an aggressive plan to build a strong applied and computational mathematics group interacting with existing strengths at UNC in mathematics and its applications in materials, marine, biomedical, life, environmental, and the computational sciences. A copy of this ad may be found on our World Wide Web page at http://www.math.unc.edu/General/Job.announcements, and further information about the Applied Mathematics Program may be found at the website http://www.math.unc.edu/Applied. Send curriculum vitae, abstract of current research and four letters of recommendation to: **Applied Search Committee, Tenure Track Position, Department of Mathematics, CB #3250, Phillips Hall, UNC-Chapel Hill, Chapel Hill, NC 27599-3250.** EO/AA Employer. Women and Minorities are encouraged to apply and to identify themselves. Applicants are encouraged to submit a concise statement of current research plans and teaching interests. Completed applications received by December 1, 1998 are assured of full consideration.

UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL - DEPARTMENT OF MATHEMATICS - Research Assistant Professor Position(s) - Applications are invited for one, possibly two, term 3-year research assistant professor positions in applied mathematics. The successful candidate(s) will begin duties effective Fall 1999. A strong thesis and research promise, and a doctorate in mathematics, applied mathematics or closely related field are strongly preferred. Preference is given to candidates whose area of specialization is complementary to that of the existing faculty in applied mathematics, or in areas of applied science which have direct ties to applied and computational mathematics, e.g., materials science, environmental sciences, biomedical sciences. atmospheric or geophysical science. Computational science and/or physical modeling are two areas of high priority. These positions are term appointments, with a maximum teaching load of three courses per year. A copy of this ad may be found on our website at http://www.math.unc.edu/General/Job.announcements. Further information about the Applied Mathematics Groups may be found at the math website http://www.math.unc.edu. Send curriculum vitae, abstract of current research and four letters of recommendation to: **Applied Search Committee, Research Assistant Professor Position, Department of Mathematics, CB #3250 Phillips Hall, UNC-Chapel Hill, Chapel Hill, NC 27599-3250.** EO/AA Employer. Women and minorities are encouraged to apply and to identify themselves. Completed applications received by December 1, 1998 are assured of full consideration.

UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL - DEPARTMENT OF MATHEMATICS - Research Assistant Professor Position - We invite applications for a three-year, non-renewable research assistant professorship effective Fall 1999. Applicants must have a recent Ph.D. in an area of pure mathematics which is currently represented in the department. A strong research potential and a commitment to quality teaching is required. The teaching load is three courses per year. Send a curriculum vitae, abstract of current research, statement of teaching goals and four letters of recommendation to: **Research Assistant Professor Search, Department of Mathematics, CB #3250 Phillips Hall, UNC-Chapel Hill, Chapel Hill, NC 27599-3250.** A copy of this ad may be found on our website at http://www.math.unc.edu/General/Job.announcements. Further information about the Math Dept. may be found at our website http://www.math.unc.edu. EO/AA Employer. Women and minorities are encouraged to apply and to identify themselves. Applications received by January 15, 1999 are assured of full consideration.

UNIVERSITY OF NORTH CAROLINA AT GREENSBORO - DEPARTMENT OF MATHEMATICAL SCIENCES - Two tenure-track positions, Assistant Professor (Computer Science), beginning August 1, 1999. Ph.D. in computer science & commitment to high quality research & teaching required. Systems area or software engineering preferred. Send vita & 3 letters of reference to: **S.M. Lea, Computer Science Search Committee, Department of Mathematical Sciences, P.O. Box 26170, University of North Carolina at Greensboro, Greensboro, NC 27402-6170** (smlea uncg.edu). See http://www.uncg.edu/mat. Full consideration guaranteed for applications received by February 15, 1999. Closing date March 15,1999. EEO/AA:W/M/V/D.

UNIVERSITY OF NORTHERN IOWA - DEPARTMENT OF MATHEMATICS - Assistant Professor in Applied Mathematics - Seeking candidates for a tenure-track position in applied mathematics who possess a Ph.D. in mathematics, ability and interest in maintaining a superior teaching record, and an emerging record of research/scholarship. The successful candidate is expected to teach a broad spectrum of mathematics courses at both the undergraduate and graduate levels. Recent collegiate teaching experience, experience using technology in mathematics courses, and the ability to teach numerical analysis and optimization are preferred. This appointment begins in August 1999. The salary is competitive with excellent fringe benefits. An application must be received by January 22, 1999 for full consideration. For more information see the position announcement at www.math.uni.edu or contact: **Min Ho Lee, Department of Mathematics, University of Northern Iowa, Cedar Falls, IA 50614-0506. lee@math.uni.edu, 319-273-2941.** AA/EOE.

UNIVERSITY OF NORTHERN IOWA - DEPARTMENT OF MATHEMATICS - Assistant/Associate Professor of Mathematics - Seeking candidates for a tenure-track position who possess a Ph.D. in mathematics, ability and interest in maintaining a superior teaching record, and an emerging record of scholarship. The successful candidate will be expected to teach a broad spectrum of mathematics courses at both the undergraduate and graduate levels. Recent collegiate teaching experience, experience using technology in mathematics courses, and expertise in analysis and/or research interests that are compatible with departmental offerings are preferred. Appointment begins in August 1999. Salary is competitive with excellent fringe benefits. Application must be received by January 22, 1999 for full consideration. For more information see position announcement at www.math.uni.edu or contact: **Gregory Dotseth, Department of Mathematics, University of Northern Iowa, Cedar Falls, IA 50614-0506.** dotseth@math.uni.edu, 319-273-2397. AA/EOE.

UNIVERSITY OF NORTHERN IOWA - DEPARTMENT OF MATHEMATICS - Assistant Professor in Statistics - Applications are invited for a tenure-track assistant professorship commencing August 1999. Duties will include teaching a general education statistics course effectively. Applicants must possess a Ph.D. in statistics; high potential for excellence in teaching, research and statistical consulting; excellent communication skills; and competency in modern statistical computing. Demonstrated excellence in teaching and/or research and consulting will be preferred. Arrange for three letters of reference (to be sent directly by the referees) and submit a letter of application, C.V., transcripts, a statement of professional interests and goals to: **Professor Syed Kirmani, Chair, Statistics Search Committee, Department of Mathematics, University of Northern Iowa, Cedar Falls, IA 50614-0506**, kirmani@math.uni.edu. To be assured of full consideration, the completed application must be received by January 25, 1999. The University of Northern Iowa is an EOE with a comprehensive plan for affirmative action.

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UNIVERSITY OF NORTHERN IOWA - DEPARTMENT OF MATHEMATICS - Assistant Professor of Mathematics - Collegiate Mathematics Education - Seeking candidates for a tenure-track position in collegiate mathematics education. Candidates must possess a doctorate (by the date of appointment) in mathematics or mathematics education, specializing in the teaching or learning of undergraduate mathematics, the ability and interest to maintain a superior teaching record, and an emerging record of scholarship. Candidates possessing a doctorate in mathematics education should provide evidence of course work through the level of mathematics doctoral comprehensive examinations. The successful candidate will be expected to teach a broad range of mathematics courses at both the undergraduate and graduate levels. Recent collegiate teaching experience and experience using technology in mathematics courses are preferred. Appointment begins in August 1999. Salary is competitive with excellent fringe benefits. Application must be received by January 21, 1999 for full consideration. For more information see position announcement at www.math.uni.edu or contact: **Joel Haack, Department of Mathematics, University of Northern Iowa, Cedar Falls, IA 50614-0506.** haack@math.uni.edu, 319-273-2397. AA/EOE.

UNIVERSITY OF NOTRE DAME - DEPARTMENT OF MATHEMATICS - Regular Positions in Pure Mathematics - The Department of Mathematics of the University of Notre Dame invites applications for two positions starting August 24, 1999. The fields of interest are Algebraic Geometry, Differential Geometry, and Lie Representation Theory, but outstanding candidates in all fields are encouraged to apply. The positions are at the tenure track level, though a tenured appointment may be possible for an exceptional candidate. The teaching load is one course one semester and two courses the other semester. Salaries are competitive. Applications, including a curriculum vitae, a letter of application, and a completed *AMS standard cover sheet*, should be sent to: **Alexander J. Hahn, 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 teach articulately and effectively. Notre Dame is an equal opportunity employer. Women and minorities are urged to apply. The evaluation of candidates will begin December 1, 1998. Information about the department is available at http://www.math.nd.edu/math

UNIVERSITY OF NOTRE DAME - DEPARTMENT OF MATHEMATICS - Regular Position in Stochastic Analysis - The Department of Mathematics of the University of Notre Dame invites applications for a position in the field of Stochastic Analysis to start on August 24, 1999. Of special interest are candidates with expertise in Stochastic Control, Stochastic Optimization, or Stochastic Differential Equations. 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: **Alexander J. Hahn, 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 teach articulately and effectively. Notre Dame is an equal opportunity employer. Women and minorities are urged to apply. The evaluation of candidates will begin December 1, 1998. Information about the department is available at http://www.math.nd.edu/math

THE UNIVERSITY OF OKLAHOMA - DEPARTMENT OF MATHEMATICS - Applications are invited for one full-time, tenured track position beginning 16 August 1999. The position is initially budgeted at the assistant professor level, but an appointment at the associate professor level may be possible for an exceptional candidate with qualifications and experience appropriate to that rank. Normal duties consist of teaching two courses per semester, conducting research, and rendering service to the Department, University, and profession at a level appropriate to the faculty member's experience. The position requires an earned doctorate and research interests that are compatible with those of the existing faculty; preference will be given to applicants with potential or demonstrated excellence in research and prior successful undergraduate teaching experience. Salary and benefits are competitive. For full consideration, applicants should send a completed *AMS cover sheet*, curriculum vitae, a description of current and planned research, and have three letters of recommendation (at least one of which must address the applicant's teaching experience and proficiency) sent to: **Search Committee, Department of Mathematics, University of Oklahoma, 601 Elm, Phsc 423, Norman, OK 73019,** Telephone: 405-325-6711, FAX: 405-325-7484, Email: search@math.ou.edu. Screening of applications will begin on December 15, 1998 and will continue until the position is filled. The University of Oklahoma is an Equal Opportunity/Affirmative Action Employer. Women and Minorities are Encouraged to Apply. OU has a policy of being responsive to the needs of dual-career couples.

UNIVERSITY OF OREGON - DEPARTMENT OF MATHEMATICS - Applications are being accepted for a two year postdoctoral position in mathematics or mathematical statistics beginning September 1999. This is a research position with a reduced teaching load. Qualifications are a Ph.D. in mathematics or mathematical statistics, research accomplishment, and evidence of teaching ability. Preference will be given to candidates with research interests that complement those currently represented. Competitive salary and excellent fringe benefits. Send complete resume and three letters of recommendation to: **Hiring Committee, Mathematics Department, 1222 University of Oregon, Eugene, OR 97403-1222.** Closing date is January 15, 1999. Women and minorities are encouraged to apply. An EO/AA/ADA institution committed to cultural diversity.

UNIVERSITY OF PENNSYLVANIA - DEPARTMENT OF MATHEMATICS - Tenure Positions in Mathematics - We anticipate that commencing July 1, 1999, there may be one or more tenure positions available in the following areas: algebra, analysis, geometry/topology and discrete mathematics. These positions are for candidates with outstanding, internationally recognized research achievements who are successful teachers of undergraduate and graduate students. Rank and salary will depend upon experience. Write to the **Personnel Committee, Department of Mathematics, University of Pennsylvania, Philadelphia, PA 19104-6395.** The University of Pennsylvania is an equal opportunity, affirmative action employer.

UNIVERSITY OF PENNSYLVANIA - DEPARTMENT OF MATHEMATICS - Junior Positions in Mathematics - Several positions (mostly non-tenure track) will be available beginning July 1, 1999. Candidates should have strong research credentials and be recognized as potentially successful teachers of undergraduate and graduate students. Send resume and three letters of reference to the **Personnel Committee, Department of Mathematics, University of Pennsylvania, Philadelphia, PA 19104-6395.** These are due by January 1, 1999. The University of Pennsylvania is an equal opportunity, affirmative action employer.

UNIVERSITY OF PITTSBURGH - DEPARTMENT OF MATHEMATICS - The department invites applications for two tenure-track positions, one each in Analysis and in Applied Mathematics, to begin Fall 1999. The appointments will be at the starting Assistant Professor level, but experienced candidates with outstanding records will be considered for higher level appointments. We seek excellence in teaching and research so applicants should demonstrate substantial research accomplishment and a dedication to teaching. We particularly encourage applications from minorities and women. The University of Pittsburgh is an affirmative action/equal opportunity employer. All appointments at the University of Pittsburgh are subject to budgetary approval. Send a vita, three letters of recommendation, and a research statement by December 11, 1998 to: **Hiring Committee, Department of Mathematics, University of Pittsburgh, Pittsburgh, PA 15260.**

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UNIVERSITY OF SOUTH ALABAMA - DEPARTMENT OF MATHEMATICS AND STATISTICS - Mathematics Positions - The Department of Mathematics and Statistics at the University of South Alabama anticipates three tenure track faculty positions in mathematics to begin August 15, 1999. Rank and salary will depend on qualifications and availability of funding. Ph.D. is required, along with evidence of strong commitment both to teaching at all levels and to research. Send application, curriculum vitae, transcripts, and three letters of reference directly to: **Daniel Flath, Search Committee Chair Department of Mathematics and Statistics, University of South Alabama, Mobile, AL 36608-0002.** Application deadline is January 15, 1999. http://www.mathstat.usouthal.edu AA/EEO/M/F/D

UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES - DEPARTMENT OF MATHEMATICS - The **Core Mathematics Section** of the Department of Mathematics expects two tenure-track positions at the assistant or associate professor level. The positions will be in any traditional area of core mathematics, but with a preference in geometry/topology or analysis. In addition there will be several visiting and postdoctoral positions. Applicants must show exceptional promise in research and teaching. To apply, please submit the following materials in a single package: letter of application (including your email address, fax number, and position applied for), the *AMS Cover Sheet*, and a curriculum vitae. Candidates for assistant professor, visiting, and/or postdoctoral positions should also arrange for three letters of recommendation to be sent. Mail all materials to: **Core Math Search Committee, Department of Mathematics, DRB 155, University of Southern California, Los Angeles, CA 90089-1113.** Review of applications will begin December 1, 1998. Additional information about USC can be found on the Web at http://www.usc.edu/. USC is an Equal Opportunity/Affirmative Action Employer.

UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES - DEPARTMENT OF MATHEMATICS - Tenure-track position Fall 1999. Assistant Associate Professor level. Any area **statistics or computational mathematics.** Also possible visiting and postdoc positions. Include email address, fax number, the *AMS Cover Sheet*, C.V.. Have three recommendation letter sent to: **Chair of Search Committee, Computational Mathematics and Statistics Section, Department of Mathematics, DRB 155, University of Southern California, Los Angeles, CA 90089-1113.** http://www.usc.edu/. EO/AAE.

UNIVERSITY OF TENNESSEE - KNOXVILLE - DEPARTMENT OF MATHEMATICS - The Mathematics Department of The University of Tennessee seeks to fill two tenure track assistant professorships: **(1)** in probability and stochastic processes, with preference shown to those candidates working in such areas of applied probability as communication networks, mathematical biology and genetics, and mathematical finance, and **(2)** in computational mathematics, with preference shown to those candidates pursuing new and innovative research in applications of computational mathematics to material sciences, biology, or finance. A Ph.D. is required. Some postdoctoral experience is preferred, but not required. Substantial research promise as well as dedication to teaching are paramount. Employment begins August 1, 1999. 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, Probability Search or Computational Math Search, (whichever applies), Mathematics Department, University of Tennessee, Knoxville, TN 37996-1300.** Electronic applications are not acceptable. Use of the recent *AMS application form* is appreciated. Review of applications will begin December 1, 1998 and will continue until the position is filled. Information about the department can be found at http://www.math.utk.edu/. UTK is an EEO/AA/Title VI/Title IX/Section 504/ADA/ADEA employer.

THE UNIVERSITY OF TEXAS AT AUSTIN, DEPARTMENT OF MATHEMATICS - Openings for Fall 1999 include: **(A) Instructorships, some of which have R.H. Bing Faculty Fellowships attached to them,** and **(B) two or more positions at the tenure-track/tenure level. (A)** Instructorships at The University of Texas at Austin are post-doctoral appointments, renewable for two additional years. It is assumed that applicants for Instructorships will have completed all Ph.D. requirements by August 31, 1999. Other factors being equal, preference will be given to those whose doctorates were conferred in 1998 or 1999. Candidates should show superior research ability and have a strong commitment to teaching. Consideration will be given only to persons whose research interests have some overlap with those of the permanent faculty. Duties consist of teaching undergraduate or graduate courses and conducting independent research. The projected salary is $35,000 for the nine-month academic year. Each R.H. Bing Fellow holds an Instructorship in the Mathematics Department, with a teaching load of two courses in one semester and one course in the other. The combined Instructorship-Fellowship stipend for nine-months is $38,500, which is supplemented by a travel allowance of $1,000. Pending satisfactory performance of teaching duties, the Fellowship can be renewed for two additional years. Applicants must show outstanding promise in research. Bing Fellowship applicants will automatically be considered for other departmental openings at the post-doctoral level, so a separate application for such a position is unnecessary. Those wishing to apply for Instructor positions are asked to send a vita and a brief research summary to: **Instructor Committee, Department of Mathematics, The University of Texas at Austin, Austin, Texas 78712.** Transmission of the preceding items via email (address: **instructor@math.utexas.edu**) is encouraged. **(B)** An applicant for a tenure-track or tenured position must present a record of exceptional achievement in her or his research area and must demonstrate a proficiency at teaching. In addition to the duties indicated above for Instructors, such an appointment will typically entail the supervision of M.A. or Ph.D. students. The salary will he commensurate with the level at which the position is filled and the qualifications of the person who fills it. Those wishing to apply for tenure-track/ tenure positions are asked to send a vita and a brief research summary to: **Recruiting Committee, Department of Mathematics, The University of Texas at Austin, Austin, Texas 78712.** Transmission of the preceding items via email (address: **recruit@math.utexas.edu**) is encouraged. All applications must be supported by three or more letters of recommendation, at least one of which speaks to the applicant's teaching credentials. The screening of applications will begin on December 1, 1998. The University of Texas at Austin is an equal opportunity employer.

THE UNIVERSITY OF TEXAS AT SAN ANTONIO - DIVISION OF MATHEMATICS AND STATISTICS - Faculty Positions in Mathematics - Applications are invited for two tenure-track faculty positions in Mathematics at the assistant professor level pending budget approval. Applicants are required to have a Ph.D. in Mathematics prior to September 1, 1999, and to demonstrate strong potential for excellence in research and teaching. Responsibilities include research, teaching, direction of graduate students and program development. The salary for the positions will be competitive. Applicants who are not U.S. citizens must state their current visa and residency status. Applicants must submit a letter of application, a resume, and arrange to have three current letters of recommendation sent to: **Chair, Mathematics Faculty Search Committee, Division of Mathematics and Statistics, The University of Texas at San Antonio, 6900 North Loop 1604 West, San Antonio, Texas 78249-0664.** http://www.math.utsa.edu. The position has a starting date of September 1, 1999. All application materials (in signed original), including the letters of recommendation, must be postmarked no later than January 11, 1999. The University of Texas at San Antonio is an Affirmative Action/Equal Employment Opportunity Employer. Women and Minorities are encouraged to apply.

UNIVERSITY OF WASHINGTON - DEPARTMENT OF MATHEMATICS - Applications are invited for one Assistant Professor position starting September 1999. Applicants are required to have a Ph.D. degree by the starting date. Duties include undergraduate and graduate teaching and independent research. Applications should include a curriculum vitae, statement of research and teaching interests, three letters of recommendation, and a Mathematics Subject Classification (as found in the December index volumes of Mathematical Reviews) of their primary research interest. Applications should be sent to: **Appointments Committee Chair, Department of Mathematics, Box 354350, University of Washington, Seattle, WA 98195-4350.** Priority will be given to applications received by December 15, 1998. The University of Washington is building a culturally diverse faculty and strongly encourages applications from female and minority candidates. The University is an Equal Opportunity/Affirmative Action employer. Availability of position is subject to budgetary approval.

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UNIVERSITY OF WASHINGTON - DEPARTMENT OF MATHEMATICS - Applications are invited for non-tenure-track Acting Assistant Professor positions, each for up to a three-year period beginning September 1999. Availability of these positions is subject to budgetary approval. Applicants are required to have a Ph.D. by the starting date and be highly qualified for undergraduate and graduate teaching and independent research. Applications should include a curriculum vitae, statement of research and teaching interests, three letters of recommendation, and a Mathematics Subject Classification (as found in the December index volumes of Mathematical Reviews) of their primary research interest. Applications should be sent to: **Appointments Committee Chair (AAP position), Department of Mathematics, Box 354350, University of Washington, Seattle, WA 98195-4350.** Priority will be given to applications received by December 15, 1998. The University of Washington is building a culturally diverse faculty and strongly encourages applications from female and minority candidates. The University is an Equal Opportunity/Affirmative Action employer.

UNIVERSITY OF WASHINGTON - DEPARTMENT OF MATHEMATICS - Applications are invited for non-tenure-track Lecturer positions, starting September 1999 or later. Availability of these positions is subject to budgetary approval. Duties include teaching 2 or 3 freshman/sophomore mathematics courses per quarter. Applicants must have a Masters Degree or a Ph.D. by the starting date. Preference will be given to applicants with evidence of an outstanding teaching record. Applications should include a curriculum vitae, statement of teaching interests and experience, three letters of recommendation, and other evaluations of teaching ability, such as student evaluations. Applications should be sent to: **Appointments Committee Chair (Lecturer position), Department of Mathematics, Box 354350, University of Washington, Seattle, WA 98195-4350.** Priority will be given to applications received by December 15, 1998. The University of Washington is building a culturally diverse faculty and strongly encourages applications from female and minority candidates. The University is an Equal Opportunity/Affirmative Action employer.

UNIVERSITY OF WATERLOO - DEPARTMENT OF COMBINATORICS AND OPTIMIZATION - Faculty Position - Applications are being invited for a tenure-track faculty position at the rank of Assistant Professor, in any area of combinatorics and optimization, but especially in graph theory. A Ph.D. and proven ability, or the potential, for excellent research and effective teaching are required. Responsibilities will include the supervision of graduate students, as well as teaching at the undergraduate and graduate levels. Salary will depend on the candidate's qualifications. Effective date of appointment: July 1, 1999. This appointment is subject to the availability of funds. In accordance with Canadian Immigration requirements, this advertisement is directed to Canadian citizens and permanent residents. The University of Waterloo encourages applications from all qualified individuals, including women, members of visible minorities, native peoples, and persons with disabilities. Interested individuals should send curriculum vitae, selected reprints/preprints and the names of three references to: **Professor W.H. Cunningham, Chair, Department of Combinatorics and Optimization, Faculty of Mathematics, University of Waterloo, Waterloo, Ontario, Canada N2L 3G1.** Email: combopt@math.uwaterloo.ca; Phone: (519) 888-4567 ext. 3482; fax: (519) 725-5441; http://math.uwaterloo.ca/CandO_Dept/homepage.html. Closing date for receipt of applications is January 15, 1999.

UNIVERSITY OF WISCONSIN, EAU CLAIRE - DEPARTMENT OF MATHEMATICS - Tenure-track position to begin August 1999. Earned doctorate in statistics or equivalent required. Specialization in experimental design and analysis, linear regression analysis, survey sampling, or nonparametric statistics considered an asset. Responsibilities: teaching statistics courses and other undergraduate mathematics courses, scholarly activity, academic advising, and service. Evidence of excellent teaching potential required. Send *AMS Application Cover Sheet*, letter of application, vitae, complete transcripts, and three recent letters of recommendation, including at least one addressing teaching effectiveness, to: **Tom Wineinger, Mathematics Department, UW-Eau Claire, Eau Claire, WI 54702-4004.** Email wineintw@uwec.edu; Web address www.uwec.edu. Screening will begin on January 15, 1999 and will continue until the position is filled. UW-Eau Claire is an EO/AA Employer.

UNIVERSITY OF WISCONSIN, MADISON - DEPARTMENT OF MATHEMATICS - Van Vleck Visiting Assistant Professorships - The Department of Mathematics invites applications for possible Van Vleck Visiting Assistant Professorships to begin August 23, 1999. Appointments are for a fixed term of two or three years. The usual teaching load is two courses per semester. Ordinarily only those applicants who have received their doctorate since 1996 will be considered. Promise of excellence in research and teaching is important. Preference will be given to candidates who are likely to interact well with other members of the Department. Applicants should send a completed *AMS Standard Cover Sheet*, a curriculum vita which includes a publication list, and a brief statement of research plans to: **Hiring Committee, Department of Mathematics, Van Vleck Hall, University of Wisconsin-Madison, 480 Lincoln Drive, Madison, WI 53706-1388.** Applicants should also arrange to have sent to the above address, 3 to 4 letters of recommendation, at least one of which must discuss the applicant's teaching experiences and capabilities. Other evidence of good teaching will be helpful. The deadline for completed applications is January 31, 1999. The University of Wisconsin is an Affirmative Action, Equal Opportunity Employer and encourages applications from women and minorities. Unless confidentiality is requested in writing, information regarding the applicants must be released upon request. Finalists cannot be guaranteed confidentiality.

WASHINGTON STATE UNIVERSITY - DEPARTMENT OF PURE AND APPLIED MATHEMATICS - A tenure-track assistant professor position is available beginning August 16, 1999 for a person specializing in **complex analysis and its applications**. We require the following: Ph.D. in mathematics specializing in complex analysis and its applications; evidence of quality teaching at the undergraduate level; a strong potential for quality graduate instruction as well as dissertation direction; record of high quality research publications; the potential to interact with existing faculty at Washington State University; and the ability to attract external funding. Send letter of application with a statement of current and planned research, a statement of teaching philosophy, a current vitae and arrange for three letters of reference to be sent to: **Chair, Search Committee/Complex Analysis, Department of Mathematics, P.O. Box 643113, Washington State University, Pullman, WA 99164-3113.** Screening begins December 1, 1998 and continues until position is filled. For additional information see our web site <http://www.sci.wsu.edu/> http://www.sci.wsu.edu/math/math.html. WSU is an EO/AA educator and employer. Protected group members are encouraged to apply.

WASHINGTON STATE UNIVERSITY - DEPARTMENT OF PURE AND APPLIED MATHEMATICS - A tenure-track assistant professor position is available beginning 16 August 1999 for an **applied analyst** who performs analytical and/or numerical investigations of differential and/or difference equation systems with demonstrated application to real-world problems. Expertise in parameter-identification-type inverse methods and/or ill-posed problems is of special interest. We require the following: Ph.D. in mathematics specializing in applied analysis or closely-related area; evidence of quality teaching at the undergraduate level; a strong potential for quality graduate instruction as well as dissertation direction; record of high quality research publications; the potential to interact with existing faculty at WSU; and the ability to attract external funding. While not absolutely required, postdoctoral experience is preferred. Send letter of application with a statement of current and planned research, a statement of teaching philosophy, a current vitae and arrange for three letters of reference to be sent to: **Search Committee/Applied Analyst, Department of Mathematics, P.O. Box 643113, Washington State University, Pullman, WA 99164-3113.** Screening begins 15 January 1999 and continues until position is filled. For additional information see our web site <http://www.sci.wsu.edu/> http://www.sci.wsu.edu/math/math.html. WSU is an EO/AA educator and employer. Protected group members are encouraged to apply.

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ASSOCIATION FOR WOMEN IN MATHEMATICS
1998/1999 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. Questions? (301) 405-7892, or awm@math.umd.edu

LAST NAME _____ FIRST NAME _____ M.I. _____

ADDRESS_____

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Home Phone:_____ Work Phone:_____ Email:_____

Please include this information in: (1) the next **AWM Speaker's Bureau** (Yes/No) _____ (2) the next **AWM Membership Directory** (Yes/No) _____

If student, GRADUATE or UNDERGRADUATE? (circle one)

PROFESSIONAL INFORMATION:

Position:
Institution/Company:
City, State, Zip:

DEGREES EARNED:

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

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.**

REGULAR INDIVIDUAL MEMBERSHIP.. $ 50 _____

2ND FAMILY MEMBERSHIP.. $ 30 _____
(NO newsletter) Please indicate regular family member: _____

CONTRIBUTING MEMBERSHIP... $100 _____
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ALL FOREIGN MEMBERSHIPS (INCLUDING CANADA & MEXICO)....**FOR ADDITIONAL POSTAGE ADD** $ 8 _____
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☐ I am enclosing a DONATION to the **"AWM GENERAL FUND"**........................... $ _____
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N/D98

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_____ Sponsoring CATEGORY I (may nominate 10 students for membership).............................	$150	$230	_____
_____ Sponsoring CATEGORY II (may nominate 3 students for membership)................................	$ 95	$120	_____

INSTITUTIONAL MEMBERS WILL RECEIVE <u>ONE</u> FREE JOB ADVERTISEMENTS **(up to four lines)** IN OUR NEWSLETTER PER YEAR. Advertising deadlines are the 1st of every EVEN month. All institutions advertising in the AWM Newsletter are Affirmative Action/Equal Opportunity Employers. Also, Institutions have the option to nominate students to receive the newsletter as part of their membership. NOTE: List names and addresses of student nominees on opposite side or attach separate page. [ADD $15 ($23 for foreign members) foreign members) for each additional student add-on over initial 10 students for Category I; over initial 3 students for Category II]

FROM _____ (if a GIFT membership)   **TOTAL ENCLOSED** $ _____

AWM Events

AWM would like to invite you to our events to be held in conjunction with the Joint Mathematics Meetings at the Henry B. Gonzales Convention Center, the Marriott Rivercenter and Marriott Riverwalk
San Antonio, Texas, January 13-16, 1999

Preliminary Schedule as of October 12, 1998

Wednesday, January 13th

8 - 9 a.m. and 2 - 3 p.m. **MER-AWM Joint Session at the Joint Meetings** (see page 16 of this issue for more details)

3:20 p.m.- 4:20 p.m. **Panel Discussion:** *"The Education of Women in Mathematics: An International Perspective"*
Panelists: **to be announced.** At the conclusion of the panel, AWM will recognize the **9th Annual Alice T. Schafer Prize honorees.**

4:20 p.m. - 4:50 p.m. **Business Meeting**

6:00 p.m. **Noether Dinner:** As in the past, 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 AWM Table in the exhibit area.

9:30 p.m. **Reception:** entire math community invited; refreshments & cash bar available. This has been a popular, well attended event in the past.

Thursday, January 14th

9:00 a.m. - 9:50 a.m. **20th Annual Emmy Noether Lecture:** *"Aperiodic Dynamical Systems"* presented by **Krystyna Kuperberg,** Auburn Univ. (In conjunction with Kuperberg's Noether Lecture she will organize a four part **Special Session on Geometry in Dynamics** to be held Friday, 8:00 - 10:00 a.m. (I), 1:00- 6:00 p.m. (II) and Saturday, 8:00 - 10:00 a.m. (III), 1:00- 5:00 p.m. (IV)

4:25 p.m. - 6:30 p.m. **Presentation** to the winners of the **9th Annual Louise Hay Award** for Contributions to Mathematics Education and the **9th 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 15th

8 - 11 a.m. and 1 - 6 p.m. **AMS-AWM Special Session: Geometry in Dynamics I & III** (organized in conjunction with the Noether Lecture by K. Kuperberg)

Saturday, January 16th

8 - 11 a.m. and 1 - 6 p.m. **AMS-AWM Special Session: Geometry in Dynamics III & IV** (organized in conjunction with the Noether Lecture by K. Kuperberg)

8:20 a.m. - 4:10 p.m. **AWM WORKSHOP featuring presentations by Women Graduate Students and Recent Ph.D.'s**
The entire math community is invited to attend all Workshop presentations. The AWM Workshop is supported by ONR & NSF. **Organizer: Carolyn Gordon, Dartmouth College. Co-organizers: Gail Ratcliff, Univ. of Missouri, Catherine Roberts, Northern Arizona Univ.**

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.	Ilene H. Morgan, University of Missouri-Rolla	*"Complete Sets of Orthogonal Frequency Hypercubes and Connections to Affine Resolvable Designs"*
9:00 a.m. - 9:20 a.m	Evelyn Sander, George Mason University	*"Unexpectedly Linear Behavior for the Cahn-Hilliard Equation"*
9:30 a.m. - 9:50 a.m.	Bina Bhattacharyya, Univ. of Ottawa/Univ. of Rome	*"Subfactors and an Algebra of Paths on Trees"*
10:00 a.m. - 10:20 a.m.	Elizabeth S. Allman, Univ. of North Carolina, Asheville	*"Subgroup Separability: a Blending of Number Theory, Geometry, & Topology"*

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

Julie L. Benson, Brown University	*"The Gain of Regularity for the KP-II Equation"*
Holly E. Bernstein, Washington University in St. Louis	*"Isothermic Tori with Planar Lines of Curvature"*
Maria G. Fung, Cornell University	*"Twisted Torsion on Compact Hyperbolic Spaces"*
Theresa Girardi, Rutgers University	*"On Artin's Conjecture for Icosahedral Representations"*
Rachel W. Hall, Pennsylvania State University	*"Hecke C*-Algebras"*
Natalia A. Humphreys, Ohio State University	*"Norms of powers and a central limit theorem for complex-valued probabilities"*
Edna W. James, Iowa State University	*"Stochastic Models of Physical Systems"*
(Miriam) Ruth Kantoravitz, U. of Illinois, Urbana-Champaign	*"Adams operations and the Dennis trace map"*
Colleen Margarita Kirk, Northwestern University	*"The Influence of Two Moving Heat Sources on Blow-up in a Reactive-Diffusive Medium"*
Elena Kosygina, Courant Inst. of Mathematical Sciences	*"The Behavior of Relative Entropy in the Hydrodynamic Scaling Limit"*
Amy E. Ksir, University of Pennsylvania	*"Another Reason Why Exceptional Weyl Groups are Exceptional"*
Regan E. Murray, University of Arizona	*"The Relaxation Limit in a Biodegradation Model"*
Guergana Petrova, University of South Carolina	*"Transport equations and velocity averages"*
Liya Zhornitskaya, Duke University	*"Positivity preserving numerical schemes for lubrication type equations"*

12:00 noon - 1:30 p.m. **AWM Workshop Lunch** (for participants & pre-registered attendees. For more information, contact AWM)

12:30 p.m. - 2:00 p.m. **Panel Discussion:** *"Launching a Career in Mathematics"* Panelists: **to be announced.**

2:00 p.m. - 4:00 p.m. **AWM sponsored research talks by recent women Ph.D.'s II**

2:00 p.m. - 2:20 p.m.	Sharon M. Frechette, Wellesley College	*"Hecke Structure of Spaces of Modular Forms"*
2:30 p.m. - 2:50 p.m.	Kristin Lauter, University of Michigan	*"Curves over Finite Fields and Applications in Modern Technology"*
3:00 p.m. - 3:20 p.m.	Moira McDermott, Gustavus Adolphus College	*"Test ideals and computations in tight closure"*
3:30 p.m. - 3:50 p.m.	Helen Moore, Stanford University/Bowdoin College	*"Gauss Maps of Minimal Hypersurfaces with Finite Total Scalar Curvature"*

4:00 p.m. - 4:10 p.m. **AWM Workshop: Closing Remarks**

AWM will have an information table in the exhibit area throughout the meeting. **For more details** on the above events, please stop by the **AWM Information Table** for an **AWM Events Program** or refer to your **Joint Mathematics Meetings Program.**

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