AWM
ASSOCIATION FOR WOMEN IN MATHEMATICS

Volume 29, Number 6 NEWSLETTER November–December 1999

## AWM ELECTION!!

The ballot is enclosed between pages 10 and 11. Be sure to vote! Ballot due: **December 1, 1999**

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# PRESIDENT'S REPORT

Welcome to all the new AWM members. To those of you who haven't renewed yet, find that renewal form and send it in! Or fill out the application at the back of this *Newsletter*, or download an application form from the AWM website.

Next, let me remind you to vote in the AWM election. As usual, we have an excellent slate of candidates. See pages 7–11 for their statements.

Many things have been happening with AWM recently, and there are many more that are about to begin.

AWM is joining the Combined Membership List. This means that you will be able to look up AWM members soon in the electronic version at www.ams.org/cml and later in the printed version to be mailed in fall 2000. [See page 7 for more details.] You can see if a member of another mathematical society is also a member of AWM (and if not, encourage him or her to join).

Our web page, www.awm-math.edu, continues to grow in content and usefulness. I hope that by the time you receive this *Newsletter*, on-line advertising will have begun. If you are seeking a job or have a job to offer in the mathematical sciences, investigate the web page. AWM has also recently restructured its system of corporate memberships. If you have any contacts with corporations, large or small, that you believe would be interested in joining with AWM and/or advertising on its web pages, please encourage them to contact AWM, and send a message to AWM saying you have done so.

AWM has an excellent program at the Joint Mathematics Meetings in Washington, DC January 19–22, 2000. The events begin with the AWM Panel on Wednesday afternoon, with the topic "How to increase the number of tenured women in mathematics departments." Participants in the panel (which I will moderate) are: Millie Dresselhaus, Institute Professor, MIT; Elaine Hansen, Provost, Haverford College; Maria Klawe, Dean of Science, University of British Columbia; Jerry Ostriker, Provost, Princeton University; and Karen

AWM
ASSOCIATION
FOR WOMEN IN
MATHEMATICS

The Association was founded in 1971 at the Joint Meetings in Atlantic City. The purpose of the association is to encourage women to study and to have active careers in the mathematical sciences. Equal opportunity and the equal treatment of women in the mathematical sciences are promoted.
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Uhlenbeck, Professor of Mathematics, University of Texas, Austin. The panelists represent institutions, large and small, that have been successful in increasing the number of their tenured female mathematicians. Following the panel there will be an AWM business meeting, the AWM dinner in honor of the Noether Lecturer Margaret Wright (sign up for the dinner at the AWM table in the exhibition area), and the AWM party, which is always a highlight of the meeting. There is time between the meeting and the dinner for you to attend the talk by Bruce Alberts, President of the National Academy of Sciences, and between the dinner and the party for you to attend the Gibbs Lecture.

Margaret Wright gives the AWM Noether Lecture Thursday morning; on Friday, there will be a Special Session organized by Wright and Dianne O'Leary and cosponsored by AWM, AMS, and SIAM. At the Joint Prize Session late Thursday afternoon, AWM will award the Schafer Prize and the Hay Award.

On Thursday afternoon, there will be a session organized by the AWM Education Committee and cosponsored by AMS, MAA, and MER with a truly outstanding group of speakers: Gail Burrill (former president of NCTM), Shirley Malcom (member of President Clinton's Committee of Advisors on Science and Technology, and the Director of the AAAS Education and Human Resources Directorate), Bernice Sandler (author of the "Chilly Climate" studies), and Virginia M. Warfield (senior lecturer at the University of Washington and chair of the AWM Education Committee). A discussion period will follow. Finally, the AWM Workshop will take place on Saturday; at this workshop, to which all mathematical scientists are warmly invited, selected women present their research, the postdocs through talks and the graduate students via posters.

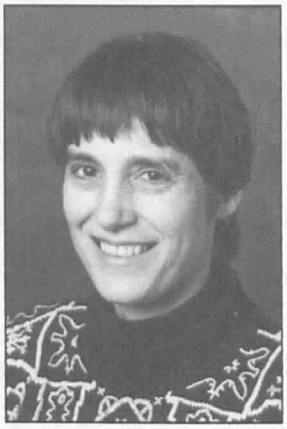
See the inside back cover for the schedule for these events.

There is another meeting you and/or your students should consider attending, and that is the annual meeting of the American Association for the Advancement of Science, held February 21–22, 2000, again in Washington DC. There is a marvelous mathematical component to the meeting this year; it is detailed on pages 6–7 of this *Newsletter*. One of the delights of AAAS meetings is the effort of everyone, in every discipline, to make his or her work accessible to those outside the field. This year, for the first time, AWM will sponsor selected students to attend this meeting as session aides. AWM will cover part of their expenses, and I will provide a daily briefing and debriefing session, with some of the speakers and organizers, to ensure that the students get the most possible out of the meeting. Information on applying for this program can be found on the AWM web site or on page 6 of this issue. If you know of a female student, undergraduate or early graduate, who you believe has the wide-ranging interests (mathematical and otherwise) to benefit from this meeting, please write a letter of recommendation for her and encourage her to complete an application, as detailed on the web site. All communication regarding this program should be sent electronically to awmpres@math.awm.edu.

AWM will be a cooperating co-sponsor of the IMA workshop on "Women in Mathematical Sciences Connected to Industry," September 8–10, 2000. The organizing committee consists of Rosemary Chang, Suzanne Lenhart, and Margaret Wright. Put it on your calendar, and stay tuned for further details.

Finally, AWM has participated in the efforts of many scientific societies to increase science funding in the USA, in particular by writing letters to Senators and Representatives.

You can see that AWM has a full slate of activities. Volunteers are always needed; let us know if you can help out.



Jean E. Taylor
Princeton, NJ
September 28, 1999

# LETTERS

## Expanding Your Horizons

Dear AWM members,

I would like to draw your attention to another way that mathematicians can get involved in the mathematical lives of young women. For the past 24 years, the Math/Science Network has licensed and coordinated Expanding Your Horizons in Science and Mathematics™ (EYH™) Conferences for young women in grades 6 through 12. Over that period of time, half a million girls and young women have enjoyed a day of hands-on activities with women role models who have math-based careers. We are the largest grass-roots volunteer-based organization of its kind in the United States. Each year, EYH conferences take place at over 100 sites in 30 states. Many AWM members have participated in individual conferences, but we would

MEMBERSHIP AND NEWSLETTER INFORMATION

**Membership dues**

Individual: $50
Family (no newsletter): $30
Retired, part-time: $25
Student, unemployed, developing nations: $15
Contributing: $100
All foreign memberships: $8 additional for postage
Dues in excess of $15 and all contributions are deductible from federal taxable income.

Institutional:
Level 1 (one free basic job ad and up to ten student memberships): $150 ($230 foreign)
additional student memberships: $15 ($23 foreign) for next 15; $11 ($19 foreign) for remainder
Level 2 (one free basic job ad and up to three student memberships): $95 ($120 foreign)

Corporate: $150 Affiliate: $250
Friend: $1000 Benefactor: $2500

**Subscriptions and back orders**

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

**Payment**

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

**Ad information**

AWM will accept advertisements for the *Newsletter* for positions available, programs in any of the mathematical sciences, professional activities and opportunities of interest to the AWM membership and other appropriate subjects. The Director of Marketing, in consultation with the President and the Newsletter Editor when necessary, will determine whether a proposed ad is acceptable under these guidelines. *All institutions and programs advertising in the newsletter must be Affirmative Action/Equal Opportunity designated.* A basic ad is four lines of type. Institutional members receive one free basic job ad as a privilege of membership. For non-members, the rate is $60 for a basic ad. Additional lines are $6 each.

**Deadlines**

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

**Addresses**

Send all **Newsletter** material **except ads and material for book review and education columns** to Anne Leggett, Department of Mathematical and Computer Sciences, Loyola University, 6525 N. Sheridan Road, Chicago, IL 60626; email: leggett@math.luc.edu; phone: 773-508-3554; fax: 773-508-2123. Send all **book review** material to Marge Murray, Department of Mathematics, 460 McBryde Hall, Virginia Tech, Blacksburg, VA 24061-0123; email: murray@calvin.math.vt.edu and all **education column** material to Ginger Warfield, Department of Mathematics, University of Washington, Seattle, WA 98195; email: warfield@math.washington.edu. Send everything else, **including ads and address changes**, to Dawn V. Wheeler, 4114 Computer & Space Sciences Building, University of Maryland, College Park, MD 20742-2461; phone: 301-405-7892; email: awm@math.umd.edu.

**AWM CHALLENGE GRANT**

We have an incentive for each of us to try to enroll new members and thereby improve our finances: an anonymous donor will give AWM $6 for each new member joining in November, $4 for December, and $2 for January. Encourage your colleagues to join, or give a membership (only $15) to the most promising student you know. Be sure to write "challenge grant" at the top of the membership form.

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**AWM-Net**

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**AWM DEADLINES**

AWM Workshop, San Juan, Puerto Rico: January 25, 2000

NSF-AWM Travel Grant: February 1, May 1, October 1, 2000

NSF-AWM Mentoring Travel Grant: February 1, 2000

Sonia Kovalevsky High School Days (pending funding): February 4, 2000

AWM-AAAA Scholars: see web page

**AWM CALENDAR**

AWM at the Joint Meetings, Washington, DC, January 13-19, 2000

2000 Noether Lecturer: Margaret Wright, Bell Labs, Lucent Technologies, "The Mathematics of Optimization"

AWM Workshop, SIAM meetings, Puerto Rico, July 9–11, 2000

like to make you aware that these opportunities to encourage girls in mathematics exist across the country.

Of the 35,000 to 40,000 young women who participate in EYH each year, 80% are in grades 6 through 9, and 35% identify themselves as members of minority groups. EYH is a wonderful way to make a difference in the lives of middle school girls from a variety of backgrounds, including those who have little opportunity for success or encouragement.

This coming academic year will mark the 25th anniversary of Expanding Your Horizons. We invite AWM members who would like to participate in EYH as workshop leaders, help with the "behind the scenes" work of a conference, or organize a conference in their area, to visit our web site at: http://www.elstad.com/msn.html for the location of EYH sites around the country, or contact our office at 510-430-2222 or msneyh@mills.edu for information.

Betty Levitin
Executive Director

### Women + blond + math jokes are not funny

To: tonightshow@nbc.com

Dear Mr. Leno,

I was distressed to see your September 23rd broadcast with the bit about driver's license photos.

You showed four men and made jokes about their hair, body, etc.

You showed one woman (a cute blond, at that) and made a joke about her fear of doing math.

Let me assure you Jay, women are not afraid of math. Check out the Association for Women in Math at http://www.awm-math.org. Even better, invite Jean Taylor, President of the AWM, to be your guest. You will be amazed to learn about women in the mathematical sciences! You can reach Jean at taylor@math.rutgers.edu.

I look forward to seeing women + math presented in a positive light on your show!

Judy Floy
Jfloy@aol.com

### Math contests

Hello!

My name is Emily Peters and I'm a freshman in college (I started at the University of Chicago this fall and intend to major in math). I came across your President's Report on the AWM website. As a high school student, I participated in many, many math contests, enjoyed them immensely, and was bothered by the fact that there were very few other girls participating in them. I would like to offer my assistance to you as you address this problem. I

could help do research, or something like that — I'm not really sure what you would need done.

You also mentioned that you would like to hear about the experiences people have had with math competitions. I will try not to go into too much detail here, but there's a lot I can say about this.

First of all, math competitions were valuable to me not so much for what they were, but for the connections they provided. As part of my school's math team, I met a number of people who shared my interest in math and who would not think less of me because I was a nerd. Also, doing well on math competitions opened doors to other mathematical opportunities — I joined Chicago's ARML team (technically, that is also a math contest, but I learned an incredible amount of interesting math from participating) and was encouraged to take trigonometry over one summer so I could take calculus a year earlier than I otherwise would have. I was also encouraged to participate in Hampshire College's Summer Studies in Mathematics, which was the most amazing mathematical experience I've ever had.

Secondly, I enjoyed the math competitions themselves. I liked doing the math, and although I'm not too competitive and don't become upset when I lose, I enjoyed winning. During my senior year, I qualified for the U.S.A. Math Olympiad and won the oral competition at the Illinois state math contest. Things like this were not only incredibly exciting, but they helped me to build confidence.

Math team was the place at my school where I received encouragement in math. Maybe this is wrong — maybe students shouldn't have to do well on competitions to be encouraged to go further in mathematics, but I think that's the way it is everywhere. Frankly, until I joined math team I had never thought of pursuing a career in mathematics. My geometry teacher freshman year, in all ways a wonderful man, was the first person to ever encourage me to pursue mathematics outside of the classroom — by convincing me to join the math team.

I think that, if I hadn't been on math team, I would probably be a prospective psychology or English literature major at this point. I also would have much less self-confidence and wouldn't have enjoyed high school as much as I did.

That being said, math team had some down sides. One was that it was a very competitive environment. There was always some tension between me and other members of my grade on math team, because we competed against each other as well as other schools in contests.

Another problem was that there just weren't very many girls who participated in the contests. I remember very clearly that, when I took the AIME my sophomore year, I was the only girl in the group of fifteen or twenty students from my school who took it. Furthermore, the small percentage of girls on math team makes it harder for the girls who are on the team, because it just reinforces the idea held by many of the boys that girls aren't good at math. I felt as if I had to fight for every bit of respect people had for me, while it was just awarded to many of the boys. After I won the oral contest at the state competition, the team of the second-place finisher started shouting at him "You got beaten by a girl!" as if it was something to be ashamed of — as if my winning did not prove that I was good, but only that he was bad. If I had been African-American, would they have shouted "You got beaten by a Black!" And the teasing that the girls on the team go through is sometimes unbelievable (I have a friend who was teased so badly by her own teammates before a contest that afterwards she left the room and cried for a half hour. I experienced similar teasing not on math team but at the Hampshire summer program.)

Anyway, I have always done my best to encourage the other girls who were on math team. Mostly this involved trying to make the underclasswomen feel welcome and making sure they never got too discouraged. There is more solidarity among the girls on math team than there is among the team as a whole, which is at least a start. It's not a whole lot, but I really don't know what else to do. It might have been nice if we'd had a math club — the sort of thing where someone gives a talk on something like graph theory or abstract algebra, something that most students haven't ever encountered before, and poses a couple of questions at the end that students can work on over the next week. I'm not really sure a program like this would attract more girls, though. I don't think it's only the competitive nature of math teams that discourages girls — after all, a whole lot of girls are on sports teams. It's the mathematical nature of the contests that keeps girls away. Girls just aren't encouraged in math the way boys are. That's what needs to change.

Sincerely,

Emily Peters
em_peters@hotmail.com

# AAAS MEETING TO OFFER STRONG MATHEMATICS PROGRAM

The year 2000 Annual Meeting of the American Association for the Advancement of Science, February 17–22 in Washington, DC, will feature many outstanding expository talks by prominent mathematicians. These include the following symposia (three-hour sessions) and invited talks sponsored by Section A (Mathematics) of the AAAS (organizers or speakers in parentheses):

- The Reasonable Effectiveness of Mathematics: Mathematics in Hollywood, Industry, and Daily Life (Lenore Blum and Felix Browder)
- The Reasonable Effectiveness of Mathematics: Complexity and Computation — Paradigms for the 21st Century (Lenore Blum and Felix Browder)
- Predicting More, Assuming Less — A Game Theoretic Approach to Inductive Inference (Yoav Freund and Bakesh Vohra)
- Earth, Sea, and Sky: Mathematical Modeling in the Earth Sciences (Barbara Keyfitz)
- Battling the Crypto Wars (Susan Landau)
- Breaking Barriers: Research, Education, and the Web (Robby Robson)
- Symmetry and Hierarchy in Science, Technology, Art, Design, and the Humanities (Arthur Loeb)
- The Mathematics of Politics: Census, Representation, and Voting (Leon Seitelman)
- Shaping the Future of Learning Mathematics and Science (Judith Sowder )
- Six Degrees of Separation: From Small-World Networks to the Web (Steven Strogatz)
- Topical Theme Talk: Phase Transitions in Computer Science (Jennifer Tour Chayes)

The AAAS wishes to acknowledge the American Mathematical Society for its generous support.

Other symposia that will be of interest to mathematicians and mathematics educators include: Integrating Technology into Science Education; Science as an Error-Correcting Process; College is Too Late: Teaching Mathematics to Children and Adolescents; Scientific Modeling of Complex Scale Relationships: From Astronomy to Manufacturing; and The Science of Baseball.

The above symposia are only a few of the 150 or so AAAS program offerings in the physical, life, social, and biological sciences that will broaden the perspectives of students and professionals alike. Indeed, AAAS annual meetings are the showcases

*Warren Page, Secretary of Section A, AAAS*

## AWM-AAAS SCHOLARS

AWM is pleased to announce a special opportunity for female mathematics students, both undergraduate and graduate. Up to six students will be chosen to attend the AAAS Annual Meeting, February 17–22, 2000, in Washington, DC. The students will serve as session aides for some of the sessions. In return, they will get free registration for the entire meeting. Furthermore, the AWM President will organize daily seminars for these students, where they will discuss the content of the mathematical sessions that have occurred and are about to occur, both with each other and with some of the session organizers and speakers. The mathematical content of this year's AAAS program is particularly strong and is detailed above. AWM will provide the housing for the students, in shared rooms; the students' own institutions are expected to pay for their other travel expenses. Students are expected to attend the entire meeting.

Applications require an essay by the student, saying what she hopes to get out of the meeting (based on the program as published on the AAAS website www.aaas.org) and a letter of recommendation by a mathematics faculty member (giving evidence that the student has the type of wide-ranging interests that are best served by the AAAS annual meeting). In addition, applications that come with a commitment from the home institution to provide for the student's travel expenses (apart from housing) will be given higher priority.

Further details of the application procedure can be found on the AWM website, www.awm-math.org. All questions, and all application materials, should be sent by email to awmpres@math.umd.edu.

of American science, thereby deserving greater participation by mathematicians. For details of the program, see the October 29th issue of *Science*.

In presenting mathematics to the AAAS Program Committee, I have found the committee to be genuinely interested in symposia on mathematical topics of current issues. The Section A Committee is looking for organizers and speakers who can present substantial new material in ways understandable to a general scientific audience.

I invite you to attend our Section A Committee meeting 7:30–10:30 P.M. on Friday, February 18, 2000 in the Marriott Wardman Park, Suite 8212. The committee meeting is open to all who wish to stimulate interest and activities of the mathematical sciences within AAAS.

Please send me, and encourage your colleagues to send me, symposium proposals for future AAAS Annual Meetings.

# AWM IN THE CML

As AWM approaches the new century, we are pleased to announce that plans are underway for AWM to be included as part of the Combined Membership List (CML), starting in the summer of 2000. The CML is a joint enterprise of the American Mathematical Society (AMS), the Mathematical Association of America (MAA) and the Society of Industrial and Applied Mathematicians (SIAM). The CML includes members of these societies along with members of the American Mathematical Association of Two Year Colleges (AMATYC). AWM is very excited to be joining this endeavor.

**How do you guarantee you'll be listed in the CML as an AWM Member?**

If you are an AWM member for the 1999–2000 membership year, we will be submitting your membership information to the CML to be flagged as an AWM member. Make sure that AWM has the most accurate information by reviewing and updating the membership renewal form you received in September or October and returning it to AWM along with your membership dues. If you are not currently an AWM member and would like to join, please use the form on page 50.

**What will AWM be submitting to the CML?**

AWM will be submitting the following information: name, address, position, institution (if not in address), home and work phone numbers and email address. If you do not wish for your membership information to be released to the Combined Membership List, please indicate this to us by checking the appropriate box on your membership form or emailing us at awm@math.umd.edu.

AWM's 1999-2000 membership year officially started October 1, 1999. Membership renewals went out slightly later than usual this year; we wanted to wait until plans on AWM's inclusion in the CML were more definite. If you have any questions, please feel free to contact me at the AWM Office, awm@math.umd.edu.

AWM values its members, and we look forward to a continuing relationship!

Dawn V. Wheeler
Director of Membership, Meetings and Marketing

# AWM ELECTION

This year, we are electing a President-Elect, a Treasurer and two Members-at-Large of the Executive Committee. The positions of Member-at-Large are contested, so we encourage you to vote. Two candidates have withdrawn and another has been chosen since the slate was announced. Statements and biographical data provided by the candidates follow. Those elected will take office on February 1, 2000.

You should find a ballot between pages 10 and 11 of this *Newsletter*. Also, family members who do not receive the *Newsletter* will receive a ballot by a separate mailing. Institutional, affiliate, and corporate memberships do not carry voting privileges. Please note that a validating signature is required on the envelope; if the signature does not appear, your votes will not be counted. Ballots must be received by **December 1, 1999**.

If you do not receive a ballot or you spoil your ballot, a replacement will be supplied and sent by first class or air mail; contact Dawn Wheeler at awm@math.umd.edu or 301-405-7892. However, the deadline for receipt of ballots will not be extended to accommodate these special cases.

PRESIDENT-ELECT

**Suzanne Lenhart, University of Tennessee and Oak Ridge National Laboratory**

I am very honored to be nominated to be the next President of the Association for Women in Mathematics. Encouraging women and girls to study mathematics and to pursue careers in the mathematical sciences has been one of the important pursuits in my life. I am very interested in serving the community as President of AWM.

For several years, I have been involved in the AWM workshops for female graduate students and postdocs at the Joint Meetings and at the SIAM Annual Meetings, and I plan to continue this important work.

Mentoring is an essential part of my role as a parent, teacher and a research mathematician. Mentoring is one of the top priorities of AWM and is needed at many levels ranging from postdocs to young girls. I have recently been involved in mentoring projects and hands-on "math and science" workshops for middle school girls. I plan to head up a new AWM initiative reaching out to middle school girls and their teachers.

AWM does an excellent job of cooperating with other math organizations. Those ties will continue to strengthen. Establishing connections with industry and government is important and the recruitment of corporate members and program sponsors will be one of my goals. AWM needs to further integrate women mathematicians from non-academic circles in participation in our mentoring projects as well as in our organization as a whole.

Biographical Info

Suzanne Lenhart received her Ph.D. from the University of Kentucky in 1981 in the area of partial differential equations. She is currently a full professor at the University of Tennessee in Knoxville. She has been a part-time research staff member at the Oak Ridge National Laboratory since 1987. She has 72 research publications in the areas of partial differential equations and optimal control. She is working on applications in mathematical biology including environmental, disease and populations models and in physical models including acoustic waves and plates.

She is currently an elected member of the SIAM Council and is a member of the SIAM Education Committee. She is also the current chairperson of the AMS-MAA Committee on Teaching Assistants and Part-time Instructors. Lenhart was the MAA Southeastern Section Lecturer of the year in 1999. She is the director of a Research Experiences for Undergraduates program at her university. She was

## NSF-AWM TRAVEL GRANTS FOR WOMEN

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

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

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

Target dates. There are three award periods per year. An applicant should send *five* copies of 1) a description of her current research and of how the proposed travel would benefit her research program, 2) her curriculum vitae, 3) a budget for the proposed travel, and 4) information about all other sources of travel funding available to the applicant along with *five* copies of her cover letter to: Travel Grant Selection Committee, Association for Women in Mathematics, 4114 Computer & Space Sciences Building, University of Maryland, College Park, MD 20742-2461. If you have questions, contact AWM by phone (301-405-7892) or email (awm@math.umd.edu). Applications via email or fax will not be accepted. The next deadline for receipt of applications is **February 1, 2000**. Subsequent deadlines are **May 1** and **October 1, 2000.**

president of the local chapter of the Association for Women in Science for two years and led two mentoring projects through that chapter. Lenhart received the "Mentor of the Year" Award from the Southern Regional Education Board in 1998 for her work in the Compact for Faculty Diversity Program.

TREASURER

**Amy Cohen, Rutgers University**

I have "hung out" with AWM intermittently since it was founded. I was glad that my service as Acting Treasurer gave me a chance to contribute more actively. I hope to continue to do so.

Over the last decades, I have helped organize or taken other roles in a number of organizations directly or indirectly to improve opportunities for women in mathematics: the Douglass Project for Rutgers Women in Math Science and Engineering, Project EXCEL at Rutgers, Mathematicians and Educational Reform Network, Project NExT....

Various parts of my university experience (as a dean and as a vice chair for the undergraduate program) have taught me to read and write budgets.

MEMBER-AT-LARGE

**Joan Feigenbaum, AT&T Bell Labs**

I am pleased and flattered to have been approached by the AWM leadership to run for the position of Member-at-Large. I am probably atypical of AWM members, because my Ph.D. is in theoretical computer science, not traditional mathematics, and because I work in an industrial research lab, not in a university. Nonetheless, I have enjoyed my participation in AWM activities, where I have encountered strong and growing interest in nonacademic research careers and in the role of mathematics in information and communication technology. In particular, I have enjoyed serving on the selection committees for several AWM workshops

## NSF-AWM MENTORING TRAVEL GRANTS FOR WOMEN

The objective of the NSF-AWM Mentoring Travel Grants program supported by the National Science Foundation is to help junior women to develop a long term working and mentoring relationship with a senior mathematician. This relationship should help the junior mathematician to establish her research program and eventually receive tenure. AWM expects to award as many as six grants, in amounts of up to $4000 each. Each grant would fund travel, subsistence, and other required expenses for an untenured woman mathematician to travel to an institute or a department to do research with a specified individual for one month. Any unexpended funds could be used for further travel to work with the same individual during the following year. (Applicants for mentoring travel grants may in exceptional cases receive up to three such grants throughout their careers, possibly in successive years; each such grant would require a new proposal and would go through the usual competition.) For foreign travel, U.S. air carriers must be used (exceptions only per federal grant regulations; prior AWM approval required).

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

Each applicant should submit **five** copies of each of the following: a cover letter; a curriculum vita; a research proposal, approximately five pages in length, which specifies why the proposed travel would be particularly beneficial; a supporting letter from the proposed mentor (who must promise to be available at the time of the proposed travel and may be either a man or a woman), together with the curriculum vita of the proposed mentor; an approximate budget; and information about other sources of funding available to the applicant. Send these materials to: **Mentoring** Travel Grant Selection Committee, Association for Women in Mathematics, 4114 Computer and Space Sciences Building, University of Maryland, College Park, MD 20742-2461.

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

If you have questions, phone 301-405-7892 or email awm@math.umd.edu. Applications via email or fax will not be accepted. The deadline for receipt of applications is **February 1, 2000**.

for graduate students and postdocs and giving "career path" talks at these workshops, which were co-located with major AMS or SIAM conferences. Attendance at these career sessions, by men as well as women and by established mathematicians as well as young people, has grown steadily since I first started going to them, and they are a good example of the type of valuable service that AWM does for the mathematical sciences community.

If elected to an AWM Member-at-Large position, I would work to extend these valuable services and to increase participation by mathematicians in the information and communication industries. For example, I would seek additional funding for valuable AWM workshops from professional societies, from government funding agencies, and from relevant companies. I would also work to increase awareness in university math departments of research career opportunities outside of academia. Finally, I would work to increase the number of student internships, academic/industrial postdocs, and mid-career retraining positions in the information and communication industries, and I would encourage my colleagues in these industries to bring more mathematicians into those positions.

Biographical Info

Joan Feigenbaum received a B.A. in mathematics from Harvard and a Ph.D. in computer science from Stanford. Since finishing her Ph.D. in 1986, she has been at AT&T, where she now heads the Algorithms and Distributed Data research department at AT&T's Shannon Laboratory in Florham Park, NJ. Her research interests are in algorithmics for massive data sets, cryptology and security, and computational complexity theory. Her current and recent professional service activities include Editor-in-Chief of the *Journal of Cryptology*, Editorial Board Member of the *SIAM Journal on Computing*, National Research Council panel member for Intellectual Property Rights in the Emerging Information Infrastructure, and Program Chair for the 1998 IEEE Conference on Computational Complexity. In 1998, she gave an invited talk at the International Congress of Mathematicians on "Games, Complexity Classes, and Approximation Algorithms," and, in 1999, she gave invited plenary talks at the annual meetings of the American Mathematical Society and the Society for Industrial and Applied Mathematics on "Massive Graphs: Algorithms, Applications, and Open Problems."

**Victoria Hamilton, The Washington Advisory Group, New York City**

My candidacy for Member-at-Large is a bit of an experiment on the part of AWM. I am not a mathematician or even an academician. The skill set I have to offer your organization comes of having spent the better part of the last twenty years building businesses and strengthening organizations. The aspirations Jean Taylor has for AWM excite me. My role would not be to define your mission, but to help AWM achieve it.

I would like to help AWM leverage the assets you now have to create the kind of impact you could have. Leverage often comes from building on others' experiences. I am convinced there are women in business fields with experiences on which AWM can build. I'd like to help unearth and apply those lessons. Unlike many other social movements, this seems to be an area where academia may lag rather than lead.

By way of background, my childhood role models were a little unusual. My father was a writer, and my mother taught math at the high school level. I thought men typed and women calculated. (I find my 10-year-old daughter has similar misconceptions due to our friends and her friend's mothers. I mentioned a male lawyer the other day, and she paused and inquired "You mean men can be lawyers too?" Progress is a bumpy path.) I enrolled at Radcliffe/Harvard in 1971 as one of the very few female economics students, and the only Cliffie to aspire to a business education. By the time I received my MBA at Harvard Business School in 1979, I was still among a distinct minority, but I stood on the backs of many pioneering women. Today, women MBA's consider our experiences dusty relics, and I understand the school has even removed the urinals from the ladies' room.

After various banking and consulting jobs, I spent ten years in venture capital, helping found mostly technology-based businesses. I then spent seven years at a publicly traded closed end investment fund, concluding as Chief Operating Officer.

Today I am privileged to have joined The Washington Advisory Group. WAG provides strategic counsel to universities, governments, companies and not-for-profit organizations for whom research, development or higher education is either their primary activity or a key element of their mission. You can see a list of my colleagues at www.TheAdvisoryGroup.com.

**Ginger Warfield, University of Washington**

I was born into a mathematical family and always knew that when I grew up I would be a professor of mathematics at a research university. Accordingly, I did a bachelor's degree in mathematics at Bryn Mawr College (1963) and a master's (1965) and doctorate (1971) at Brown (thesis in stochastic control theory). Then I got hooked on teaching, first as Seattle director of Project SEED, then as co-developer and director of the University of Washington's remedial mathematics program. I also got hooked on being a wife and mother, so for a number of years I had a part-time faculty position as director of remedial math. As the children grew, I shifted more of my focus back to the mathematical sphere and became involved in the teaching of future elementary school teachers and in building bridges between the Mathematics Department and the College of Education. In the last ten years I have intensified my involvement in mathematics education on many levels. I became active in the MER (Mathematicians and Educational Reform) network. I worked for a year in the community of Didactique, a French field of research in mathematics education, and have since been working on bringing that research to the English-speaking academic community. I implemented the math department's Preparing Future Faculty grant from the Pew Charitable Foundation, which focused on strengthening connections between the UW math department and community colleges and four-year colleges with an eye to reducing graduate students' research tunnel vision. I have worked continuously to encourage my department's growing awareness of and interest in issues of teaching and learning.

Currently I am a co-PI on a pair of NSF-sponsored projects in which faculty members from mathematics and education are working with K–12 teachers from six nearby school districts. I am Project Director for the NSF-sponsored successor to the Preparing Future Faculty project described above. I am chair of the AWM's Education Committee and education editor of its *Newsletter*. In my spare time I sing and play medieval music.

How does all this relate to the AWM executive committee? It seems to me that one of the strengths and joys of the world of mathematics is that it has so many different aspects. The AWM is doing a superb job of supporting women in these different aspects at many levels. To continue its success, AWM needs to keep active communication among its foci. My experience puts me in a good position to help with that.

# AMS ELECTION

Professor Bass apologizes for the late arrival of his statement, due to computer problems.

**Hyman Bass, University of Michigan, Candidate for President**

In my statement for the *Notices*, I called attention to a paradox: Viewed in historical perspective, the advancement of mathematical knowledge and the impact of mathematics on science, technology and society have never been greater. Yet, at the same time, the field suffers from inadequate allocation of institutional resources, shallow public appreciation and understanding, and an inability to draw appropriate numbers of qualified students into the field.

I remarked that the AMS has a significant role to play, not only in its important historic mode of supporting research through meetings and publications, but also as a public advocate for the fundamental importance and multiple roles of mathematics in science, technology, education, and society. I further proposed that we, as a professional community, can most naturally and effectively address these concerns through the work we do as teachers at all levels. We must dedicate to our work with students the same quality attention that we assign to research. I was pleased to see this view echoed in the dramatic opening sentence of the just published report of the AMS Task Force on Excellence: "We have a simple message: To ensure their institution's commitment to excellence in mathematics research, doctoral departments must pursue excellence in their instructional programs."

I see these concerns with the quality of teaching and mentoring as closely related to our efforts to increase participation of women and underrepresented minorities in the field. Effective teaching calls first of all for a deep understanding of subject matter, and well-organized and motivated expositions of it for students. For many mathematicians this is the end of the story, the tacit assumption being that our students will learn, understand, feel,

and communicate about our subject as we did and do. But effective instruction further requires listening with care to students, diagnosing what they know, being sensitive to language, culture, and individual difference. Mathematical talent comes in diverse forms, and we should provide welcoming opportunities for all of them. This applies to all levels of teaching, from school mathematics to the mentoring of doctoral students.

Significant progress has been made in increasing our attention to quality instruction and in increasing the diversity of our profession, particularly by women, who are now providing some of our strongest scientific leadership. But we are still far short of what we should achieve. The growing work and prominence of the AWM has been a major force in this change. The AMS as well should continue to provide professional and moral leadership in these efforts.

## SONIA KOVALEVSKY HIGH SCHOOL MATHEMATICS DAYS

Through grants from Coppin State University, IMO 2001 USA, Inc., Microsoft Corporation, and the National Security Agency (NSA) (*pending final funding approval*), the Association for Women in Mathematics expects to support Sonia Kovalevsky High School Mathematics Days at colleges and universities throughout the country. Sonia Kovalevsky Days have been organized by AWM and institutions around the country since 1985, when AWM sponsored a symposium on Sonia Kovalevsky. They consist of a program of workshops, talks, and problem-solving competitions for high school women students and their teachers, both women and men. The purposes are to encourage young women to continue their study of mathematics, to assist them with the sometimes difficult transition between high school and college mathematics, to assist the teachers of women mathematics students, and to encourage colleges and universities to develop more extensive cooperation with high schools in their area.

AWM anticipates awarding at least eighteen to twenty grants of up to $3000 each (*pending final funding approval*) 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 late February to early March. The high school days are to be held in Spring 2000 and Fall 2000. Reports on funded 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, 2000, whichever comes first. Reimbursements will be made in one disbursement; no funds can be disbursed prior to the event date.

As a special Year 2000 enhancement of the program, AWM hopes that at least one SK Day workshop will be held in every state of the United States! Unfortunately AWM does not anticipate sufficient funding for that number of workshops. In case AWM receives more excellent proposals than the Association can fund, the applicants will be encouraged to find other funds to support their AWM Sonia Kovalevsky High School Day workshop proposals. AWM is happy to provide information and assistance to organizers of SK Days.

Send *five* complete copies of the application materials to: Sonia Kovalevsky Days Selection Committee, Association for Women in Mathematics, 4114 Computer & Space Sciences Building, University of Maryland, College Park, 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 **February 4, 1999**.

ATTENTION APPLIED MATHEMATICIANS!

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

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

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

WHEN: An AWM Workshop is scheduled to be held in conjunction with the 2000 Society for Industrial and Applied Mathematics (SIAM) Annual Meeting (July 10–14, 2000) at the Westin Rio Mar Beach Resort and Country Club, in Rio Grande, Puerto Rico. The Workshop events will run from Sunday, July 9 to Tuesday, July 11, 2000.

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, Modeling, Control, Optimization, Scientific Computing and PDEs and Applications. Selected graduate students participants will present their research in a poster session. Selected recent Ph.D.'s (within five years of the degree) will speak in one of the three AWM research minisymposia. AWM will offer funding for travel and two days subsistence for up to 20 participants. Departments are urged to help graduate students and recent Ph.D.'s 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.

ELIGIBILITY: To be eligible for selection and funding, *graduate students* must have begun work on a thesis problem. Applications should include a cover letter, a summary of their work (1–2 pages), a title of the proposed poster, a curriculum vitae, and a supporting letter of recommendation from a faculty member or research mathematician. Applications from *recent Ph.D.'s* should include a cover letter, a title and abstract (75 words or less) of the talk (to be given if accepted), summary of their work (1–2 pages), and curriculum vitae and may also include a letter of recommendation. Letters of support are encouraged. A recent Ph.D must have received her Ph.D. within the last five years, whether or not she currently holds a postdoctoral or other academic position. (All non-U.S. citizen applicants must have a current U.S. address.) All selected and funded participants are invited and strongly encouraged to attend the full AWM two-day program. Those individuals selected will be notified by the AWM Office and will need to submit a title and abstract (75 words or less) by mid-February to SIAM for the meeting program; AWM will provide instructions with the notification.

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; email: awm@math.umd.edu; WWW: www.awm-math.org; phone: 301-405-7892.

APPLICATION DEADLINE: Applications must be received by **January 25, 2000**.

Applications via email or fax will not be accepted.

# THE OLGA TAUSSKY TODD CELEBRATION OF CAREERS IN MATHEMATICS FOR WOMEN: Part I

The Celebration featured the legacy of Olga Taussky Todd (1906–1995), who was an inspiration to a number of the mathematicians present. Among her many other achievements, Taussky Todd presented the Noether Lecture of the Association for Women in Mathematics in 1981.

This AWM-organized conference drew over one hundred women and men mathematicians to the Mathematical Sciences Research Institute at Berkeley for three days of information, inspiration, camaraderie. There was agreement that the primary goals of the celebration were well met: to assist, encourage and inspire the participating beginning mathematicians, to provide a forum for networking between mathematicians at different career stages and to promote the achievements of women in mathematics. Forty of the participants were women graduate students or recent Ph.D.'s. Most of them presented their mathematical research in three poster sessions. Their enthusiasm and thoughtful questions were a motivation for the senior mathematicians; as an organized feature of the program, junior and senior women were paired in mentoring activities.

The program featured ten plenary talks by women in the mathematical sciences. [Abstracts are given below.] The first talk by Helene Shapiro (Swarthmore College), a student of Olga Taussky Todd, discussed Taussky Todd's mathematics. Christa Binder (Technische Universität Wien) also discussed Olga's work and life. Other speakers gave information about her life, work and career path: Richard Varga spoke after dinner about "Remembrances of Olga Taussky Todd and her impact on me and on her many students." A few remarks were then made by John Todd, widower of Taussky Todd. "Olga's Irishman" attended all the sessions and spoke encouragingly to many of the individuals; he graciously presented mementos from among Taussky Todd's belongings to those involved in the early planning of the conference.

A symposium session of short talks describing the various types of employment of Taussky Todd and her interactions with other mathematicians during those periods was organized by Mary Ann McLoughlin.

Five of the speakers at the conference currently have corporate employment, though most had held academic positions at some time after earning their Ph.D.'s: Lisa R. Goldberg, BARRA, Inc.; Fern Y. Hunt, National Institute of Standards and Technology (successor to the National Bureau of Standards where both Olga and John were employed after World War II); Lani Wu, Microsoft; and Diane Lambert and Margaret Wright of Bell Laboratories, Lucent Technologies.

The three speakers listing academic affiliations described portions of their careers which were very different from the general perception of an academic career. They were: Cathleen Synge Morawetz, Courant Institute, NYU; Evelyn Boyd Granville, California State University at Los Angeles; and Linda R. Petzold, University of California at Santa Barbara.

Reports on two panel discussions are given below: Helen Moore (Stanford University) describes "Issues and inside information for women in mathematics," organized by Sylvia M. Wiegand, University of Nebraska, Lincoln. Krystyna Kuperberg, Auburn University, organized "Finding a traditional or nontraditional job and growing in it." She and several of her panelists report on the session and the lively discussion which followed.

The Conference Organizers are grateful to all the individuals who participated in the Celebration for their assistance and for their pervasive good spirits. The organizers for the conference included: Bettye Anne Case, Florida State University (Chair); Sue Geller, Texas A&M University; Carolyn Gordon, Dartmouth College; Dianne O'Leary, University of Maryland, College Park; Gail Ratcliff, University of Missouri, St. Louis; Jean Taylor, Rutgers University; and Sylvia M. Wiegand, University of Nebraska, Lincoln.

The early assurance of base support from the National Security Agency facilitated conference planning; NSA staff provided helpful advice at many stages, and two women mathematicians at the

*By Bettye Anne Case, Florida State University. Part II will appear in the January–February issue of this* Newsletter. *Papers based on the plenary talks will be featured in a volume about AWM; the plan of the book will be described in that* Newsletter.

agency participated in the Celebration. Supplementary funding from the Department of Energy, the Office of Naval Research, and the hosting Mathematical Sciences Research Institute made possible support to bring a variety of panelists and to allow a good number of senior mathematicians to participate in the conference and, with the speakers and panelists, to act as mentors for beginning mathematicians.

The organizers thank those who joined them on planning committees for the conference: Mary Ellen Bock, Sharon Frechette, Jenny Harrison, Linda Keen, Krystyna Kuperberg, Edith Luchins, Mary Ann McLoughlin, Carolyn R. Mahoney, Linda P. Rothschild, and Janice B. Walker.

The initial planning was assisted by: Isabel Beichl, Lynne Billard, Lenore Blum, Mary Ellen Bock, Sun-Yung Alice Chang, Jane Cullum, Mary W. Gray, Jenny Harrison, Gloria Hewitt, Linda Keen, Krystyna M. Kuperberg, Edith Luchins, Carolyn R. Mahoney, Linda P. Rothschild, Alice T. Schafer, Bhama Srinivasan, Chuu-Lian Terng, Janice B. Walker, and Carol Wood.

Three Plenary Speakers: Margaret Wright, Evelyn Boyd Granville, Diane Lambert
Photo credit: R. Dimitric; © 1999 AWM/R. Dimitric

## Abstracts of Plenary Talks

"Fräulein Dr. Taussky in Vienna and Göttingen," Christa Binder

> Olga Taussky from 1925 till 1934 — her first years as number theorist in Vienna and Göttingen (1931–1932); her teachers and colleagues: Philip Furtwängler, Wilhelm Wirtinger, Hans Hahn, Karl Menger, Kurt Gödel …; class field theory, class field tower, group theory.

"Looking Back … Looking Ahead," Evelyn Boyd Granville

> The speaker reflects on growing up in the nation's capital at a time when schools in the city were segregated by race, and being the beneficiary of excellent academic training provided by dedicated teachers. She looks ahead at what can be done to provide quality mathematics education to every child in the United States.

"Portfolio Risk: Diversification in Volatile Markets," Lisa R. Goldberg

> Recent turbulence in world financial markets has brought financial risk management to the forefront of the news. This talk reviews the recent history and mathematical underpinnings of financial risk management. We outline a factor risk model for international bonds and discuss its performance during volatile periods.

"Measurement Science and Measure Theory: A Mathematician at NIST Today," Fern Y. Hunt

> We will discuss the role of a mathematician at the National Institute of Standards and Technology (NIST). The author will report on work on NIST applications that made use of probability theory as well as some non-mathematical talents.

"What is Statistics?" Diane Lambert

> Statistics is about extracting information from data, broadly interpreted. Almost all university courses in statistics, however, teach methods that have good mathematical properties and are

Seven Plenary Speakers between Two After-dinner Speakers: Richard Varga, Cathleen Morawetz, Helene Shapiro, Christa Binder, Linda Petzold, Fern Hunt, Lani Wu, Lisa Goldberg, Jack Todd
Photo credit: R. Dimitric; © 1999 AWM/R. Dimitric

designed for small sets of randomly sampled data. This narrow focus tends to ignore the really big data sets with hundreds of gigabytes or more that are increasingly common in business, astronomy, manufacturing, data networking, and many other areas. Moreover, the most visible challenges with massive data involve computing, which leads to the view that data mining and other branches of computer science are more important than statistics. In this talk, however, I argue that statistics in the broad sense is essential for extracting information from really big sets of data, and I show how statistics intersects with both its traditional partner, mathematics, and its new partner, computer science.

"Problems, Including Mathematical Problems, from My Early Years," Cathleen Synge Morawetz

In my early years, that is from 1945 to 1957, I was supported at what is now the Courant Institute on big grants. I did not teach but was instead a research assistant or associate. I spent one year at the Massachusetts Institute of Technology (MIT) in a similar way. This meant working on other people's problems and only later on my own. This talk is about how that all worked out.

"Math, with an Attitude," Linda R. Petzold

In this talk, I will describe from experience how it is possible to start out in the mathematical sciences and end up working on a wide variety of problems in engineering and science, and how those problems have in turn influenced the mathematics. In looking back, much of my career progress has been unexpected and unplanned. I will try to give some advice on how, with a more aggressive and well-informed approach, one should be able to do better.

"Numbers, Matrices, and Commutativity," Helene Shapiro

Olga Taussky Todd was interested in a diverse range of mathematical topics and published over 170 research papers between 1931 and 1991. She is best known for her work in number theory and matrix theory. This talk will focus on some of her contributions to matrix theory.

"A Selection of Mathematical Experiences," Margaret H. Wright

I'll describe highlights of some interesting mathematical experiences from work at Stanford

University and Bell Laboratories. A common theme in all cases will be mathematical underpinnings and research arising from practical applications.

"Following My Interest," Lani Wu

In this talk, I will talk about reasons why I chose to come to Microsoft, my experience transitioning to industry, some of the interesting problems that I have worked on at Microsoft, and some of the conclusions I have drawn about my experiences.

Conference Organizers: Jean Taylor, Bettye Anne Case, Sylvia Wiegand, Gail Ratcliff, Dianne O'Leary [Sue Geller and Carolyn Gordon were unable to attend]
Photo credit: R. Dimitric; © 1999 AWM/R. Dimitric

## Issues and Insider Insights

The panel "Issues and Insider Insights for Women in Mathematics" was organized by Sylvia Weigand (University of Nebraska at Lincoln). The issues addressed by the panelists included the following topics: 1) finding research collaborators; 2) fitting into and learning about department politics at a new job; 3) presenting oneself and promoting one's career; 4) grant writing and opportunities; 5) visiting other universities, including interviews; 6) family issues; 7) teaching issues; and 8) mentoring: finding it and giving it.

The panel was an excellent mix of women at various stages in their careers and at various types of institutions, including a research laboratory. Plenty of thoughtful and eye-opening advice and information was offered, including contributions from the audience. Below is a list of the panelists, with a few tidbits of the concrete advice they offered. A more detailed account of the panel, including the discussion that followed the panelists' initial remarks, will appear in the proceedings of the OTT conference.

Jean Taylor (Rutgers University) suggested reading someone else's papers and talking to them about their work as a good way to start a collaboration. She herself started a collaboration by finding a mistake in a paper and pointing it out to the author.

Susan Morey (Southwest Texas State University) advocated eating lunch with others in the department as a way of informally finding out about department politics and policies. She also found it to be a useful way of letting people know how hard you're working.

Tamara Kolda (Sandia National Laboratories in Livermore, CA) spoke about networking and promoting one's career. She recommended asking people questions about themselves and their work when you first meet them, and telling them information about yourself (e.g., your advisor's name, your area of research) as well.

Maria Klawe (University of British Columbia) included advice on getting promoted. She suggested meeting with the department chair once a year and asking what else should be on your CV. For example, would it make a difference to the department if you were the editor of a journal, if you gave an invited talk at a conference, or if you organized a conference? If so, then you should ask

*Helen Moore, Lecturer at Stanford University and postdoc participant at the Olga Taussky Todd Celebration*

organizations how to go about doing such things. Often, an inquiry leads to an opportunity!

Claudia Polini (Hope College) was told that she could get a reduced teaching load at her small college (and thus have some time to do research) if she got grants. So she applied for four, and received two! She advocated this strategy (applying for lots of things) as a way of increasing your odds of ending up with something.

Ellen Kirkman (Wake Forest University) stated that institutions are different, so there is little advice that applies everywhere. Hence it is important to regard the source of the advice and to talk with a variety of people when seeking advice. If you're at a small school, and you get advice that seems more appropriate for a large institution, ask somebody else.

## "Finding a Traditional or Nontraditional Job and Growing in It"

Krystyna Kuperberg, Auburn University, organized the panel "Finding a Traditional or Nontraditional Job and Growing in It". The panelists were Karen M. Brucks, University of Wisconsin, Milwaukee; Barbara S. Deuink and Barbara B. Flinn, National Security Agency; Lisa R. Goldberg, BARRA, Inc.; Sarah Holte, Fred Hutchinson Cancer Research Center; Linda R. Petzold, University of California, Santa Barbara; and Margaret H. Wright, Bell Laboratories, Lucent Technologies.

The panelists relied on their rich experiences working in both academic and nonacademic environments. Some started their careers with positions at universities and later switched to different types of employment; some did just the opposite. The panelists shared with the audience their thoughts about the profession, based on their individual, real-life experience. Selecting the career was usually a question of choice even though some element of necessity to make a change often was involved. Both traditional and nontraditional math jobs can be rewarding, challenging, and satisfying. The panel also discussed how to overcome predictable adversities, avoid stumbling blocks, and take advantage of opportunities. Questions from the audience ranged from addressing specific mathematical issues to simple practical topics such as how to prepare an application for a nontraditional position.

*Krystyna Kuperberg, Auburn University*

Linda R. Petzold

After receiving my Ph.D. in Computer Science in 1978 from the University of Illinois, I went to Sandia National Laboratories in Livermore, California as a member of the technical staff in the Applied Mathematics Division. From 1985–1991, I was group leader of the Numerical Mathematics Group at Lawrence Livermore National Laboratory in Livermore, California. In 1991 I moved to the University of Minnesota, where I was Professor of Computer Science until 1997. In 1997 I assumed my present position as Professor in the Departments of Mechanical and Environmental Engineering and Computer Science, and Director of the Computational Science and Engineering Program, at the University of California Santa Barbara. My interests in mathematics are in the numerical solution of ordinary and partial differential equations, model reduction, sensitivity analysis and optimal control, and scientific computing.

In this brief discussion I hope to provide some information and advice on the topics of transitioning from industry/government to academia, choosing the right position, and recovering from a wrong decision.

Over the years I have been asked many times how hard it is to move from a nonacademic to an academic position. It is not so difficult, but if you want to do this you should plan for the possibility right from the beginning. This is because you will need to keep your publication record and research visibility up to the standards required for promotion and tenure in academia. Depending on your nonacademic position and whether publication is encouraged or emphasized, this may or may not be easy to do. Unless you make the transition very early in your career, it is prudent to move to an academic position only with tenure. Once you are there, here is my experience: teaching is tiring, especially the first time you teach a course; research is the same although you may be working more with students and less by yourself; the grant process is not so difficult (selling yourself and your work in industry/government is good preparation); and the politics at a university can be much different. Making such a move is a lot of work, and in some respects you will be at a disadvantage for a while compared to your colleagues with more academic experience. On the other hand, in other ways your background is probably much more interdisciplinary than the traditional academic background,

and this can be greatly advantageous, especially in your research. Having worked outside of academia, you can contribute a lot. Students are always curious about the outside world and greatly appreciate anything you can tell them. And universities can benefit from the collaborative, problem-solving culture which is more common in government and industry.

The second and related subject is choosing the right position, whether it is nonacademic or academic. Here is some advice which is most applicable to research positions. You should go where it is interesting and friendly, where they seem to be excited about having you, where there is an emphasis on science and recognition for good work, where there is a chance for visibility and where your work could make an impact. In an interview, remember that you are interviewing them and deciding whether you want to work there just as much as they are interviewing you. Be very cautious about going anywhere where people seem to be unhappy or are planning to move because of unhappiness (you can ask them about this in the interview), or where there have been recent severe political problems.

Finally, what if you find later that you have made the wrong decision? If this happens, then you will need to find a way to keep up, or even increase, the level of your research.... This may not be easy if you are upset, but it is essential in order to be able to move to another position. And your friends and colleagues in the research community can be a great source of help and support.

Karen M. Brucks

Currently I am an associate professor in the Department of Mathematical Sciences at the University of Wisconsin-Milwaukee (UWM). I received my Ph.D. in mathematics from the University of North Texas under Professor Dan Mauldin. After completing my degree, I spent one year at Michigan State University and then one and a half years at SUNY Stony Brook, working with the dynamical systems group. I then came to Milwaukee to an "urban university."

One issue I want to address is having a productive research program even though there may be few or no colleagues in your department working in your area of research. *Travel* and bring researchers in to visit you. Plan your summers carefully; do not teach in the summer. Attend workshops and conferences. Give talks! Of course, travel takes money. Your home institution may have funding available for your travel. AWM has a wonderful travel grant. AAUW has many grants and fellowships. Search out funding options. If your institution has a sabbatical program, take one when it becomes available to you.

Currently I am serving on the American Fellowship Panel of the AAUW. This is my third year of two two-year terms. This panel makes funding decisions for dissertation fellowships, postdoc grants, and summer grants. Over the past three years, the number of applicants from mathematics has seriously declined. This should not be the case. *Apply!!!* In mathematics we often think of postdoc funding as funding available the first few years past your Ph.D. AAUW thinks differently; here postdoc simply means "past Ph.D.," any time past your Ph.D. The summer grants are targeted towards women at smaller institutions that may have higher teaching loads during the academic year; they support summer research programs. *Apply*, and please advertise this funding. We need to increase the number of applicants from mathematics!

One topic of this panel was "growing." Currently my home institution is going through many changes. Part of the change involves outreach programs. Given this "climate change," we are trying to develop outreach programs in mathematics directed towards local high school students. You will have many ideas for projects that you want to create, nurture, grow ... work through your institution's channels to make your projects happen.

Enjoy your life in academics, it really is a blast!

Sarah Holte

I began my career as a mathematician by writing a dissertation in point-set topology under the direction of Lew Ward at the University of Oregon. Upon completion of my dissertation, I went to the University of Missouri at Rolla where I had a tenure-track appointment. At this point I had pretty much the "traditional career" for Ph.D. mathematicians. I was teaching and doing research in topological dynamics.

However, after a few years in this position, I decided that research in abstract mathematics was not for me. So I began to investigate other opportunities for mathematicians. I began my search by obtaining journals like the *Notices* of the AMS from other professional organizations. Many of these

journals have advertisements for positions and postdocs. I was primarily interested in moving into an area where I could be part of medical research, and after about a year of investigating the options, I found a postdoc in Biostatistics at the University of Washington.

The postdoc allowed me to learn statistics and some programming (both areas where I had no experience as a graduate student or assistant professor), as well as the opportunity to gain experience and make contacts in the medical research community. After a year and a half on the postdoc I was offered a permanent position at the Fred Hutchinson Cancer Research, where I am currently employed.

My work at the Fred Hutchinson Cancer Center involves all sorts of projects where I contribute mathematical and statistical expertise. I've worked on projects involving the role of genetics in cancer, assessing environmental risk factors for cancer, and mathematical modeling of the carcinogenesis process; currently, I'm working exclusively on HIV research. This involves both mathematical and statistical modeling of HIV infection, as well as offering statistical guidance to large trials of methods to prevent HIV transmission. I also work in developing improved statistical methods for data analysis.

I've found the biggest difference in working in non-academic setting is the pace. Everything in medical science happens extremely fast, at least in HIV research. New results seem to turn the field around on a regular basis, and often the focus of work shifts dramatically as a result. It's both frustrating and exciting. You have to be flexible and work quickly, sometimes letting go of the "but we haven't proved it yet!" ethic we learn in graduate school in mathematics. Another difference is that I work mostly with non-mathematicians, and so communication is challenging. It takes a lot of patience to get truly collaborative research results — when the collaborators are speaking two different languages, e.g. mathematics and biology. But you learn exciting new things in other disciplines on a regular basis.

For people interested in work in the life sciences or medicine, good training in statistics is extremely useful. Statistics is the quantitative language of biology and medicine, and if you have the ability to analyze data, it's an excellent way to get involved with medical research. Mathematics is more outside the mainstream, but I've found that many researchers are interested in exploring mathematical models if you can offer some statistical guidance as well. It's also often the case that "less is more." I very rarely need to use extremely sophisticated mathematics. Most everything I use is part of the undergraduate curriculum in mathematics: differential equations, multivariate calculus, and linear algebra.

I've found my "non-traditional" career to be sometimes frustrating, but overall extremely rewarding. I learn new things everyday, and feel that I have the opportunity to contribute to advances in HIV science.

Margaret H. Wright

My career as an applied mathematician has been highly nonlinear. After receiving a B.S. in Mathematics and an M.S. in Computer Science from Stanford, I was not ready to go for a Ph.D. — I had no idea what academic research was, and also I needed to earn some money. So I worked for several years at GTE Sylvania doing numerical analysis and scientific programming. This experience taught me a lot, not necessarily about mathematics, but about some of the ways of the world. It also made me realize that I would not be satisfied in the long term unless I had a job with more individual responsibility. Luckily, by this point I had become very interested in optimization and was eager to begin work on a Ph.D.

Since the topic for this panel involves our jobs, let me first describe where I work. Bell Labs is a large industrial research lab. The "research" part of Bell Labs includes about 1,200 Ph.D.'s in different scientific areas; I am in the Computing Sciences Research Center, an organization of about 65 people. It's difficult to give a precise job description of a Bell Labs researcher; one way to think about it is having several careers at the same time.

First, I'm supposed to be a visible scientist in my own field. This means that I do basic research, write papers, and give talks. Bell Labs is a wonderful environment for research because of its openness and collegiality, which have to be experienced to be understood. Second, I was hired because my area of research is seen as important to Lucent Technologies (the parent company, which was part of AT&T until 1996), so I serve as a resource for the company in this area. I'm very happy about this because I like to apply mathematics to real-world problems, and the broader Lucent environment provides plenty of these.

As well as these two core activities, I try to be an active member of the mathematical sciences community. I serve on editorial boards and committees and am active in scientific societies, particularly SIAM (of which I was president in 1995–96). And although I am still (after all these years!) uncomfortable with the idea of being a "role model," this position is inevitable, whether we like it or not, for all women working in science and engineering. I care a lot about encouraging women (and minorities) to pursue careers in science and engineering, and I give "rah-rah" math and science talks to students of different levels.

Turning now to the theme of growing in a job, I want to mention a few pieces of advice, which I offer with no claims of accuracy. Being a good mathematician is without question hard work for anyone, but there are certain extra, familiar difficulties that women mathematicians tend to encounter. We all have our stories of what I sometimes call the "presumption of incompetence," in which we have to prove that we are good rather than being given the benefit of the doubt. One can argue that this makes us tough, but it is definitely frustrating to have to convince someone that we know what we're talking about when it should be perfectly obvious that we do! However, at least in the foreseeable future, this will continue to be a problem for women. My only advice about this is to be prepared and not to let it get you down except at the level of an occasional irritation. (And remember that it is a good source of anecdotes.)

From the beginning of any job, it's helpful to develop your own individual style. I'm not suggesting striving to be eccentric or peculiar — simply that you should establish a definite identity, so that people will notice and remember you in a good way. My advice on this is, first, to know yourself, and second, to watch others for things you like. Think about what you admire in a speaker, teacher, or colleague; then adapt that person's behavior so that it suits you. Don't be afraid to experiment with something new; this is not a context where you can determine in advance what will work best for you. Style comes with no effort to some people — but for me, it is something I have had to work on (and I'm still working on it).

A related suggestion is that you become familiar with your weaknesses. It is a stereotype, often true, that women as a group lack self-confidence. This is certainly true of me, and of most of my close women colleagues. But lacking confidence (which is usually bad) is not the same thing as knowing your faults (which is good). You need to take a hard, objective look at your research, writing, talks — every aspect of your job — and figure out which things you can do better. This is ideally done with an honest friend who will tell you the truth. We all like it when friends reassure us that everything is fine, but in the long run this is unhelpful if in reality everything is not fine. So, even though it is incredibly difficult to accept criticism, we need to do it. I used to worry because I became upset when people made critical comments to me after I had asked them to be frank, but I now think (rationalize?) that this is natural. What matters is that, once you calm down, you think carefully about what they said. If, being rigorously honest, you find that their criticisms are valid, then you can try to correct the problem — or accept that it is part of you and try to work around it. (And remember to thank the person for being honest.)

Finally, a key part of growing in a job is a highly developed sense of self-awareness. What I mean by this is that you need to keep track of your "professional temperature" and think periodically about whether you are really satisfied with what you are doing. No job is perfect and all jobs have ups and downs, but you should pay attention to serious, chronic unhappiness. A key part of growing within a job is to understand what things you would like to improve, and then to figure out an action plan to change them. Being in control, in the sense that you know what you want, makes a huge difference to your effectiveness. In the worst case, if you realize after careful thought that, despite your best efforts, your job is simply not right for you — this happened to me at Stanford — then you need to take the stressful and scary step of changing jobs. I completely agree with the advice given by Linda Petzold in her contribution to this panel about making sure that at any time your publications and visibility are strong enough that you can change jobs.

Barbara Brown Flinn

When I first learned that this would be the last panel of the conference, I worried that the subject of career development would not get the attention it deserved. To my delight, there have been many times in the last few days when we have heard or discussed career advice, so I am going to keep this short. First, I want to tell you a little about myself, highlighting experiences that you may want to ask

me about later. I will finish with two observations that I hope will complement the advice you have heard so far.

*Pre-NSA*

After finishing my Ph.D. at Michigan, I took a postdoc at The University of Texas at Austin. Although there was only one other person in my field there, my husband was at Texas A&M (where there was no one in my field), so this seemed a good compromise. On the other hand, UT and A&M are 2 hours apart, so my husband did a lot of commuting. We tired of the lifestyle quickly, but both wanted to keep research positions.

A visiting friend suggested NSA as a possible solution, and before you know it, we had job offers. We had not researched any other jobs, we still had academic jobs, but we accepted anyway. I found that time very scary, as I was leaving academics — the only profession I had known or prepared for. Fortunately, both my husband and I have been very happy in our careers at NSA: in particular, I have found myself well-suited to applied math and focused problem solving.

*Working at NSA*

Throughout my 14 years at NSA, I have benefited from a number of development programs. I joined NSA as a member of a three-year intern program, which, through rotational assignments, gave me a broad base of familiarity with the people and problems. I stayed for four years in my first post-intern assignment, during which I worked with some fantastic cryptomathematicians on some very important problems. Eventually, I moved on, both to further my own professional development (keep from getting in a rut) and to allow junior colleagues in on the high-visibility projects. I left to work on harder, riskier problems, and found this to be a tremendous way to learn. Thanks to prodding from my managers, I applied to, and was chosen for, a new in-house development program for senior technical people, which allowed me to study at the Harvard math department for a school year: another great learning experience! At present, I am working in a different area altogether, trying to discover what we mathematicians can do to help solve some of the computer science problems.

My outward-directed activities include teaching in-house, conducting research studies, leading research activities, mentoring — all the things you might expect — but I had two exceptional outreach experiences. First, I spent a summer as a technical director for our Director's Summer Program back when it was new. I truly believe this is NSA's best way to connect with the mathematical leaders of the future. It is also amazing to experience the energies of so many exceptionally talented students focused on our problems! The other activity I at first viewed with great skepticism, but now am very glad to have participated in: planning the 1993 Women In Mathematics Symposium. Sure, the symposium was a great way for NSA to raise its profile with the outside women mathematicians, but what I hadn't realized was just how wonderful it would be, for both the hosts and guests, to have so many women mathematicians together.

*Final Thoughts*

I'm waxing philosophical, so it must be time to wrap up!

You've heard many good ideas for how to move forward in your careers. As the last speaker, I can't help but underscore two general points which concern being a positive force in your workplace. These become increasingly important as you progress in your career: that is, as you become increasingly influential.

1. You have a tremendous amount of power, so every now and then, assess how you are using it.

OK, I used to pooh-pooh the idea of role models. In my enlightened view, I reasoned that — since I as a child had never known any grownup who was remotely like me or like who I wanted to be — role models obviously were not necessary. Now I know better. Accomplished colleagues with whom we can identify inspire us at all stages of our lives. What's more, we are all role models *right now*! No matter how far down you think you are on the food chain, you have accomplished much to be here, and many less experienced people are looking to you to see how it's done.

Look for (or at least recognize!) opportunities to make an important difference. This could mean saying "yes" when you'd rather say "no" to a task you think is important and needs your leadership. It could also mean saying "no" to something that sounds like fun, in order to suggest another candidate who has the skills but needs the chance to shine. This is a perfect segue to the next point....

2. Give extra weight to activities that build community, be it math department, AWM, faculty, etc.

Besides stepping aside to allow someone junior a chance, this includes organizing or sponsoring conferences, etc. As we've experienced these past few days, there's something very special that we all get from seeing myriad versions of success together, all of whom are a lot like us. There's the subliminal confidence boost from seeing such a wide range of success stories, for starters, and we all can add to the list!

*— to be continued —*
*(more narrative and photos next time)*

Chuu-Lian Terng (Northeastern University) and Richard Palais (Brandeis University). Photo credit: Sylvia Wiegand.

# IMPRESSIONS OF MAA MATHFEST

Once again AWM participated in the Mathematical Association of America (MAA) Summer Mathfest, held in Providence Rhode Island July 31 to August 2. Past AWM president Chuu-Lian Terng of Northeastern University gave a dazzling talk, "Geometry and Visualization of Surfaces," accompanied by beautiful flowing computer pictures. In his introduction Richard Palais described Chuu-Lian as his "collaborator, student, teacher and closest friend," and he praised the remarkable series of papers on soliton equations she and Karen Uhlenbeck have written recently.

There was another well-attended AWM party on the evening before Chuu-Lian's talk, organized with the help of Kristin Moore, now at the University of Michigan (a former AWM workshopper).

While at the Mathfest, I was impressed by what Project Next offers young mathematicians to further their development. All recent Ph.D.s should apply to join this remarkable program! In particular, I participated in a panel discussion, organized by Robert Krueger of Coe College and Jill Hemmati of Arkansas Tech University, on "Advising and Recruiting in Mathematics," with the emphasis on the retention of underrepresented groups in mathematics. The other panelists were Robert Megginson, University of Michigan; Elizabeth McMahon, Lafayette College; and Abdulalim Shabazz, Lincoln University. Some of the suggestions included offering scholarship money, honors class for freshmen, receptions for scholarship students, work opportunities, and outreach programs for high school students, as well as visiting schools with minority students and providing assistance to the students when they get there — generally making an extra effort to be available and encouraging to

*Sylvia Wiegand, AWM Past President, University of Nebraska*

At the AWM Party: Deborah Tepper Haimo (UCSD), Genevieve Knight (Penn State Harrisburg), Sylvia Wiegand (University of Nebraska) and Walter Mientka (University of Nebraska)
Photo credit: Sylvia Wiegand.

prospective majors. Students need to know they are welcome and that the faculty believe in their potential. (One caution to new Ph.D.'s, however: Do not neglect those activities which are evaluated for tenure!)

Other items of interest included some wonderful expository lectures, as usual at MAA events. Carolyn Gordon of Dartmouth College, an AWM Workshop coordinator, gave an entertaining talk on "Can you hear the shape of a drum." AWM past president Judy Roitman spoke on "What to do in K–12," emphasizing the importance of listening to teachers' concerns. Carl Pomerance's impressive lectures on number theory drew us in with the elementary nature of his leading questions (such as the birthday problem: "How many people should there be so that there are better than even odds for two to have the same birthday?") and worked up to deeper ones, which were still clear, even to the general audience. He urged teachers to tell students that unsolved problems remain. In his address "Teaching Stages," Tom Banchoff (Brown, MAA president) discussed eight stages of learning (childhood to emeritus), several stages of mentoring and how his professional development benefited from inspiring teachers and students.

The closing gala lobster dinner was honored by a surprise visit from the mayor of Providence who told funny stories for about half an hour, and ended by encouraging us to spend lots of money.

Pat Kenschaft's weekly math radio program was broadcast from Providence during the Mathfest, with guests Arthur Jaffe (past president of the AMS), Phillip Davis (Brown University, mathematician/journalist), and myself trying to explain to a general audience some of our answers to these questions: Why is mathematics important to you? What is your perception of mathematics? What is mathematical research? (This is a great mystery for most people.) Can you say something for our radio audience about yours? And other aspects of your career? What is the role of the AMS in today's world? What is the role of math in today's world? What are the prospects for math and the math communities in tomorrow's world? During this radio discussion Pat mentioned that the AWM *Newsletter* can have a healthy influence on teachers; she has been known to send subscriptions anonymously to teachers in need of it, which has greatly improved their attitudes and behaviors with girls. As for the rest, we attempted the difficult task of conveying the beauty and utility of mathematics to an audience who might consider "integer" to be a technical term!

# EDUCATION COLUMN

Before we hit the meat of this column, I want to call your attention good and early to an upcoming event: the AWM/MER Special Session at the Joint Math Meetings in D.C. on Thursday afternoon, January 20, 2000. The session will work from the premise that people no longer need convincing that there are serious problems for women and for men as well in the education system, but are ready to start looking at how we might conceivably help solve those problems. Bernice Sandler, one of the authors of the "Chilly Climate" studies, will address the issue using what she learned doing those reports. Gail Burrill will speak from her perspective as past president of NCTM and Shirley Malcom from hers as head of the Education and Human Resources Directorate at AAAS. And I will tell a tale whose chief protagonist is a colleague whose energy and inspired opportunism have allowed her to set up a really neat connection between graduate students and elementary school teachers. Discussion will follow. So be there or you will miss the fun!

Meanwhile, in the midst of our very real concerns and efforts, it is nice to be reminded occasionally of our most basic goal: introducing students to the joy of thinking and learning and learning about thinking. Helen Burns, a professor at Highline Community College, kindly sent me an essay that does just that, and here it is.

**Platonism**

Is mathematics created or discovered? Does it exist independently of us in some Platonic realm that humans — and mathematicians in particular — can access? Or, rather, is mathematics purely a product of the evolutionary development of the brain resulting from our need to interpret and parse the world? This enduring question has no answer at present but is nonetheless interesting to explore yourself and with your mathematics students regardless of level. Some students will complain because such contemplation can make the brain ache. However, most will be fascinated to learn that, in a subject they perceive as black and white, filled with absolute right and wrong answers, there is a pending uncertainty about its very nature.

An easy way to introduce this notion is to have your students read "The Limits of Mathematics" by Philip J. Davis and Reuben Hersh, a one page essay that asks the question: Can everything be mathematized? Student responses will range from a resounding no to several who will assert with confidence that even their feelings and emotions will ultimately be traceable to neuronal activity and hence to the mathematical equations governing same. A lively discussion is sure to ensue, and the issue can be revisited during future classes when making the distinction between pure and applied mathematics or in acknowledging the assumptions one must make when using mathematics to model the real world.

The most compelling reason to believe that mathematics exists independently of us — a belief called platonism in the parlance of philosophy of mathematics — is because of its unreasonable effectiveness in describing the physical world. This idea is expounded upon at length by mathematician and Nobel laureate physicist Eugene Wigner. A superb resource for reading his ideas more closely, as well as the Davis-Hersh essay, is *The World Treasury of Physics, Astronomy, and Mathematics*, edited by Timothy Ferris. Wigner acknowledges the power of mathematics in the natural sciences but at the same time cautions that we have no rational explanation for this unreasonable effectiveness — a term he coined. Thus, one must question the uniqueness of our physical theories. To demonstrate his point, an analogy is made using a set of keys and locked doors. Physicists approach a locked door and it just so happens that the second key — namely, mathematics — always unlocks it. Thus, they assume that the second key unlocks all doors in all cases. Wigner is in the company of other philosophers of science who warn of the dangers in assuming that the laws of nature are formulated in mathematics — that such an assumption could be akin to wearing blinders.

Ultimately, to be a platonist requires a leap of faith that some are unwilling to take, hoping instead that, as we understand more about the brain, we will discover how it creates mathematics. In fact, new evidence comes in steadily from the neuroscientific community. An excellent resource in this regard is Stanislas Dehaene's *The Number Sense*. Dehaene, a

*intro by Column Editor Ginger Warfield, Department of Mathematics, University of Washington, warfield@math.washington.edu; "Platonism" by Helen Burns, Highline Community College*

mathematician turned cognitive neuroscientist, asserts that our brains are hard-wired to do some basic math, that this ability is also present in animals, and that a specific portion of our brain is dedicated to doing math: the inferior parietal region of both cerebral hemispheres. Dehaene provides ample experimental evidence in support of his claims, including one very entertaining experiment purporting to show that rats can count. Asked whether the laws of the universe are written in mathematical language, Dehaene would say no but that mathematics is the only language available to us to attempt to read it.

Ultimately, life will go on regardless of whether we ever understand the true nature of mathematics. Some believe that the question will finally be laid to rest — and platonists declared the winners — when we encounter alien life forms and find that they use the same mathematics we do. But while the general public can choose not to bother themselves with the issue, as mathematics educators we have a duty to explore this question and develop a personal opinion on the matter. What you believe about the nature of mathematics can affect your attitude about the subject and thus your instruction. One way to develop your opinion is to open up the discussion with your students. You may be surprised by their answers. At the very least, after hearing about Dehaene, students may learn to place a higher value on the backs of their heads.

# OPPORTUNITIES

### Nebraska Conference for Undergrad Women

The aim of this conference held by the Department of Mathematics and Statistics at the University of Nebraska – Lincoln on February 11–13, 2000 is to give undergraduate women the opportunity to present their research and to meet other women who share their interest in the mathematical sciences. Professor Karen Uhlenbeck of the University of Texas will be one of two plenary speakers at the conference. See the March–April 1999 *Newsletter* for a report on last year's conference.

Partial funding is available for participants. We welcome recommendations of undergraduates who should be personally invited to attend. Please send names and addresses of such students to either womenws@math.unl.edu or Nebraska Conference for Undergraduate Women in Mathematics, Department of Mathematics & Statistics, University of Nebraska–Lincoln, Lincoln, NE 68588-0323. More information, including online registration, is available at www.math.unl.edu/~womenws.

### Mathematics, Information, Education, Gender Studies

A conference, co-sponsored by the Russian Association of Women Mathematicians and the (Russian) Association for Women in Science and Education, will be held May 22–26, 2000 in Voronezh, Russia. Topics will include mathematics and its applications, data analysis, teaching mathematics and computer science, problems of gender equality on the intellectual labour market, and women's unemployment and poverty. The scientific program will include oral presentations and poster sessions. Abstracts of communications will be published before the conference, and conference proceedings afterward.

Voronezh is located 250 miles south of Moscow and easily reached by overnight train. Participants will be accommodated at the hotel of the Trade Union Educational Centre where the conference will take place. This location has been successfully used for a number of international conferences.

The Russian conference organizing committee may be contacted by email at strygin@sos.vsu.ru, for information or to apply to be a speaker or poster presenter. Sue Geller (geller@math.tamu.edu) is a member of the international organizing committee. She would like to organize a group to go to the conference with the option of traveling somewhere before or after; please contact her if you are interested.

### Project NExT/YMN Poster Session

Project NExT and the Young Mathematician's Network invite submissions for a poster session to be held 2:00–4:00 P.M., Thursday, January 20, 2000 at the Joint Mathematics Meetings in Washington, DC. The session provides an excellent way to showcase your work in a relaxed, informal environment; the sessions held at the last three Joint Meetings have been very successful. See http://darkwing.uoregon.edu/~ross1 for application instructions. The application deadline is **December 12, 1999**.

### Nonlinear Analysis

Nonlinear Analysis, 2000: May 28 through June 2, 2000. Dedicated to the state of the art in nonlinear analysis and its applications, with emphasis on PDEs and ODEs. Applications will include numerical analysis, optimal control, inverse problems, mathematical physics, dynamical systems, fluid dynamics, mathematical biology, mathematical finance, and other areas of applied mathematics. All talks will be short presentations by promising junior scientists. Please see www.cims.nyu.edu/math2k or write to Mary Pugh (mpugh@math.upenn.edu).

### Mathematical Challenges of the 21st Century

The AMS has applied to the NSF for travel funds for U.S. mathematicians attending the special meeting "Mathematical Challenges of the 21st Century," to be held at UCLA, August 7–12, 2000. In anticipation of the availability of funds, the Society is preparing to administer the selection process. This program is open to U.S. mathematicians who received their doctorates on or after January 1, 1994 or who are now graduate students in Ph.D. programs in mathematics at U.S. institutions. Applications forms appear in the November AMS *Notices* and on e-MATH at http://www.ams.org/employment/mathchall.html. Applications must be mailed to the AMS by **January 31, 2000**.

### MSRI, 1999–2000

**November 25, 1999** is the deadline to apply for Postdoctoral Fellowships and General Memberships for programs at the Mathematical Sciences Research Institute, Berkeley, CA in Operator Algebras, Algorithmic Number Theory, or Spectral Invariants: Analytic and Geometric Aspects. See http://www.msri.org. Also see this site for information on special events, including Constructive Galois Theory, Hopf Algebras, Mathematics in Imaging, Combinatorial Algebra, Mathematics of Quantum Computation, and Quantum Groups, among others.

### AAUW Fellowships and Grants

The American Association of University Women (AAUW) Educational Foundation has many opportunities available for the year July 1, 2000 through June 30, 2001. Postmark deadlines for applications and nominations are: **November 15, 1999** for Postdoctoral Research Leave Fellowships, Dissertation Fellowships, and Summer/Short-Term Research Publications Grants; **December 15, 1999** for Career Development Grants, Academic Grants, and Professional Development Institute Grants; and **February 10, 2000** for Recognition Awards for Emerging Scholars and the Founders Distinguish Scholar Award. See http://www.aauw.org for more information.

### Other Deadlines

**February 15, 2000** for Geophysical Fluid Dynamics Fellowships at the Woods Hole Oceanographic Institution (WHOI) for the 2000 program "The General Circulation of the Atmosphere." See http://www.whoi.edu.

**November 12, 1999** for Ford Foundation Predoctoral Fellowships for Minorities and Dissertation Fellowships for Minorities and **January 7, 2000** for Ford Foundation Postdoctoral Fellowships for Minorities. See http://national-academies.org/osep/fo.

**November 15, 1999** for proposals for "Shaping a National Agenda for Women in Higher Education," a national teleconference for women and men students, faculty, and staff sponsored by the University of Minnesota. See www.umn.edu/women/wihe.html.

## LATE BREAKING NEWS

On October 7, House and Senate conferees met to resolve their differences on the funding for agencies and programs in the FY 2000 VA, HUD, and Independent Agencies Appropriations Act. This legislation includes funding for the VA, HUD, EPA, and NASA as wells as the National Science Foundation. After some intense negotiations with OMB, the conferees reached the following agreement with respect to NSF:

The conferees agreed to provide NSF with a total budget of $3.91 billion — this amount represents an increase of $240 million or 7% over the FY 1999 appropriation. For the Research and Related Activities account, the conferees have agreed to provide a total of $2.996 billion — nearly $200 million or 7% over the FY99 level.

## ADVERTISEMENTS

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**Responsibilities:** teaching approximately 8 to 9 hours per semester, predominantly at the undergraduate level; research in mathematics; and professional service. **Minimum qualifications:** all requirements for a doctorate in one of the mathematical sciences completed by August 1, 2000. **Preferred qualifications:** research interests (financial mathematics, numerical/computational methods, differential equations, differential geometry, geometric topology, and Lie groups) compatible with present faculty in pure and applied mathematics. Competitive salary & benefits package.

The Department includes faculty in pure and applied mathematics, statistics, actuarial science and mathematics education. The Department offers a range of academic programs leading to BA, BS, MA and MAE degrees in these areas. More information about the department, its programs, and its faculty is available at the URL: **www.cs.bsu.edu/~math/**

An applicant's file is complete when all of the following have been received: letter of application; *AMS Standard Cover Sheet*, available from the AMS or from the Department; curriculum vitae; research summary; and three letters of reference, at least one of which substantially addresses the applicant's teaching ability performance. Send materials to: **John Emert, Chair, Mathematics Search Committee, Department of Mathematical Sciences, Ball State University, Muncie, IN 47306.** Email: msearch@math.bsu.edu. Review of completed applications will begin immediately and will continue until the positions are filled. Interested applicants should also notify the Committee Chair if they intend to attend the 2000 Joint Mathematics Meetings in Washington, D.C.

Ball State University is an equal opportunity, affirmative action employer and is strongly and actively committed to diversity within its community.

### UNIVERSITY AT BUFFALO
**STATE UNIVERSITY OF NEW YORK**

The Department of Mathematics anticipates the appointment of a tenure-track assistant professor beginning September 1, 2000. The salary will be competitive. We seek applicants who have excellent research accomplishments/potential, and a strong commitment to teaching. Our priority will be in Applied Mathematics, but highly qualified applicants in other areas may apply.

Applicants should send supporting information, including a curriculum vitae with a list of research interests, and have four letters of recommendation sent to:

**Search Committee Chairman, Department of Mathematics**
**University at Buffalo, SUNY, Diefendorf Hall Rm. 106**
**3435 Main Street Bldg. 20, Buffalo, New York 14214-3093**

No electronic applications will be accepted.

The deadline for applications is **December 1, 1999.** Late applications will be considered until positions are filled.

University at Buffalo, SUNY is an Equal Opportunity/Affirmative Action Employer. We are interested in identifying prospective minority and women candidates. No person, in whatever relationship with the University at Buffalo, State University of New York shall be subject to discrimination on the basis of age, creed, handicap, national origin, race, religion, sex, marital or veteran status.

### *University of Colorado at Boulder*
### *Department of Mathematics*

*Applications are invited for two tenure track faculty positions at the Assistant Professor level beginning in the fall of 2000, one in* ***Algebraic Topology*** *and one in* ***Logic****. Candidates should have earned a Ph.D. in Mathematics by August 2000, and have demonstrated strong interest and ability in mathematical research.*

*This position requires teaching at various levels, mathematical research, and service.*

*Applications, including a resume and four letters of reference (at least one of which addresses teaching), should be sent to: Search Committee, Department of Mathematics, Campus Box 395, University of Colorado, Boulder, CO 80309-0395, attn: Logic or, attn: Algebraic Topology. Reviewing of applications will begin December 15, 1999, and will continue until the position is filled.*

***The University of Colorado is committed to diversity and equality in education and employment.***

### Enhancing Diversity in Graduate Education (EDGE)

**BRYN MAWR COLLEGE ◆ SPELMAN COLLEGE**

This program, funded by the National Science Foundation, the National Security Agency, and the Andrew W. Mellon Foundation, is designed to strengthen the ability of women and minority students to successfully complete graduate programs in the mathematical sciences.

The summer program consists of two core courses in analysis and algebra/linear algebra. There will also be minicourses in vital areas of mathematical research in pure and applied mathematics, short-term visitors from academia and industry, guest lectures, graduate student mentors, and problem sessions. In addition, a follow-up mentoring program and support network will be established with the participants' respective graduate programs. Applicants to the program should be women who are **(i)** graduating seniors who have applied to graduate programs in the mathematical sciences, **(ii)** recent recipients of undergraduate degrees who are now entering graduate programs, or **(iii)** first-year graduate students. All applicants should have completed standard junior-senior level undergraduate courses in analysis and abstract algebra and have a desire to earn a doctorate degree. Women from minority groups who fit one of the above three categories are especially encouraged to apply. Final acceptance to the program is contingent upon acceptance to a graduate program in the mathematical sciences. In 2000, the program will be held at Bryn Mawr College in Bryn Mawr, PA, and in 2001 at Spelman College in Atlanta, GA. The dates for the summer program are June 5 - June 30th, 2000. It will be co-directed by Sylvia Bozeman (Spelman) and Rhonda Hughes (Bryn Mawr). A stipend of $1,800 plus room and board will be awarded to participants. Participants to the program will be announced by April 15th.

Applications should consist of the following: completed application form, statement describing the expected value of this program to the applicant's academic goals, two letters of recommendation from mathematical sciences faculty familiar with the applicant's work, transcript and current resume, list of graduate programs to which the applicant has applied, together with ranked list of her two or three top choices. Applications should be sent to: **EDGE Program, Dept. of Mathematics, Bryn Mawr College, Bryn Mawr, PA 19010.** Visit our website: http://www.brynmawr.edu/Acads/Math/. **Deadline: March 1, 2000.**

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## ADVERTISEMENTS

### Association for Symbolic Logic ASL Travel Awards

**Awards for Students and Recent PhDs.** In 2000 the ASL will again make available modest travel awards to graduate students in logic and (for the European Summer Meeting only) to recent PhDs so that they may attend the 2000 ASL Annual Meeting at the University of Illinois at Urbana-Champaign, or the 2000 ASL European Summer Meeting in Paris, France. To be considered for a Travel Award, please (1) send a letter of application, and (2) ask your thesis supervisor to send a brief recommendation letter. The application letter should be brief (one page) and should include (1) your name, (2) your home institution, (3) your thesis supervisor's name, (4) a one-paragraph description of your studies and work in logic, (5) your estimate of the travel expenses you will incur, (6) (for citizens or residents of the USA) citizenship or visa status, and (7) (voluntary) indication of your gender and minority status. Only modest awards will be possible, partially covering travel costs and perhaps some of the living expenses during the meeting. Women and members of minority groups are strongly encouraged to apply. In addition to funds provided by the ASL, this program of travel awards is supported by a grant from the US National Science Foundation; NSF funds may be awarded only to students at USA universities and to citizens and permanent residents of the USA. Air travel paid for using NSF funds must be on a US airline. For both meetings, application by email is encouraged.

For the 2000 ASL Annual Meeting, applications and recommendations should be received before the deadline of February 15, 2000, by the Program Chair: Carl Jockusch, Department of Mathematics, University of Illinois, 1409 West Green Street, Urbana, Illinois 61801; email: `jockusch@math.uiuc.edu`.

For the 2000 ASL European Summer Meeting, applications should be received before the deadline of March 31, 2000, by the Organizing Committee; they should be sent by email to: `lc2000-robot@logique.jussieu.fr`, by Fax to +33 1 44 27 61 48, or by mail to LC2000, UFR de Mathématiques, case 7012, Université Paris 7 – Denis Diderot, 2 place Jussieu, 75251 Paris, Cédex 05, France. In addition, recommendation letters should be sent to the Program Chair: Carol Wood, Department of Mathematics, Wesleyan University, Middletown, Connecticut 06459; email: `cwood@wesleyan.edu`.

**2000 ASL Annual Meeting.** *June 3–7, 2000, University of Illinois at Urbana-Champaign.* Abstracts of contributed talks from ASL members should be received before the deadline of January 15, 2000, by the ASL office.

**2000 ASL European Summer Meeting.** *July 23–31, 2000, Paris, France.* Abstracts of contributed talks must be received by the deadline of March 31, 2000; they should be sent by email to `lc2000-robot@logique.jussieu.fr`, by Fax to +33 1 44 27 61 48, or by mail to LC2000, UFR de Mathématiques, case 7012, Université Paris 7 – Denis Diderot, 2 place Jussieu, 75251 Paris Cédex 05, France.

ASL, 1409 West Green Street, Urbana, Illinois 61801;
email: `asl@math.uiuc.edu`; Fax: 217-333-9576.
Also visit the ASL website: `http://www.aslonline.org`.

### ASSOCIATE EXECUTIVE DIRECTOR MEMBERSHIP AND PROGRAMS

**Mathematical Association of America, Washington, D.C.**

The Mathematical Association of America seeks an Associate Executive Director, Membership and Programs, to begin June 2000. The Association, with 27,000 members, is dedicated to the advancement of mathematics, particularly at the collegiate level. The AED will oversee all membership recruitment and retention efforts, member services, program development, grant management, and support, preparation and submission of proposals to foundations and government agencies.

Candidates should hold a doctorate or the equivalent in mathematics or mathematics education, at least ten years of experience as a collegiate faculty member and administrator, and have served as the principal investigator on one or more grants or as a grants administrator.

The deadline for submission of applications is December 15, 1999. Candidates should send a resume and letter of interest to:

**Ms. Julie Kraman**
**Mathematical Association of America**
**1529 18th Street, NW**
**Washington, DC 20036**

Applications may be submitted electronically to jkraman@maa.org. References will be requested after review of applications. The MAA is an Affirmative Action, Equal Opportunity Employer. Applications from individuals from underrepresented groups are encouraged. Additional information about the MAA and its programs and services may be found on MAA's Website: <**www.maa.org**>.

### Claremont McKenna College Department of Mathematics

Claremont McKenna College invites applications for a tenure-track position in mathematics, at the assistant or associate professor level, starting in the fall of 2000. Candidates must have a Ph.D. in mathematics, demonstrated excellence in teaching across a broad range of undergraduate courses, and a productive, ongoing research program. All qualified applicants are encouraged to apply. Preference will be given to applicants whose research areas are in analysis (including probability), algebra/number theory (including combinatorics), or differential geometry. For more details concerning the search, please visit our website at http://faculty.mckenna.edu/math/jobs.html.

Claremont McKenna College is a highly selective undergraduate institution enrolling approx. 1,000 students. CMC is a member of The Claremont Colleges, which also include Pomona, Scripps, Pitzer, & Harvey Mudd Colleges, the Keck Graduate Institute, and the Claremont Graduate University. Collectively, The Claremont Colleges constitute an academic community of 6,000 students; their combined faculties include over 40 mathematicians. Claremont is located 35 miles east of Los Angeles.

Applicants should provide a curriculum vitae and three letters of reference. Evaluation of applications will begin by December 31, 1999 and will continue until the position is filled. Claremont McKenna College is an Equal Opportunity Employer. While we are happy to correspond by electronic mail, please understand that we must receive all applications and letters of recommendation in hard copy. Send all materials to:

**Professor Asuman Aksoy, Math Search Committee**
**Department of Mathematics, Claremont McKenna College**
**8850 Columbia Street, Claremont, California 91711-6400**

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## ADVERTISEMENTS

*STATISTICIAN* **HOPE COLLEGE** *APPLIED MATHEMATICIAN*

**The Hope College Department of Mathematics invites applications for two tenure-track positions to begin Fall 2000, one in Statistics and one in Applied Mathematics. Candidates at all ranks considered. Ph.D. required. Primary responsibilities include teaching, research (including projects with undergraduates), and mentoring student internships. Applicants are sought from all areas of statistics, applied statistics (including biostatistics), and applied mathematics (including numerical analysis and operations research).**

**Hope College is a selective, liberal arts college (2,900 students, 219 FTE faculty). The college is affiliated with the Reformed Church in America. The college is located in Holland, Michigan, an attractive community on Lake Michigan within three hours of Chicago and Ann Arbor. For more information, see www.math.hope.edu.**

**Send a resume, unofficial transcript, statement of teaching philosophy, and three letters of recommendation (at least one addressing applicant's teaching ability) to Dr. Janet Andersen, Dept. of Mathematics, Hope College, Holland, MI 49422-9000. Indicate in your letter if you will be attending AMS/MAA meetings in Washington, D.C. in January. Applications received by December 15, 1999 given full consideration.**

**Hope College complies with federal/state requirements for non-discrimination in employment and places a high priority on sustaining a supportive environment that promotes opportunities for ethnic minorities and women. (Positions pending final administrative approval).**

## MATHEMATICAL OLYMPIAD SUMMER PROGRAM of the Mathematical Association of America

Applications are being solicited for the position of instructor at the Mathematical Olympiad Summer Program (MOSP), conducted annually by the Mathematical Association of America (MAA). This four-week program runs each summer at the University of Nebraska-Lincoln during the last weeks of June and early July. Twenty-four to thirty exceptional high school mathematics students are chosen to participate in the MOSP on the basis of their performance on the American Mathematics Competitions and their capacity as potential members of the U.S. team to the International Mathematical Olympiad (IMO). All MOSP participants receive in-depth training in important undergraduate topics to stimulate their continuing interest in mathematics and help them prepare for future study.

Instructors in the program provide accelerated teaching and coaching in Advanced Geometry, Algebra, Number Theory, and Combinatorics. Extensive experience in working with outstanding mathematics students and familiarity with olympiad-type competitions is highly desired.

Applicants should send a copy of the curriculum vitae and a statement of related experience to: **Tituc Andreescu, American Mathematics Competitions, 1740 Vine Street, Lincoln, NE 68588-0658** by February 1, 2000. It is expected that instructors will be selected by March 31, 2000.

*The MAA is an equal opportunity/affirmative action employer.*

## ADVERTISEMENTS

**AGNES SCOTT COLLEGE - DEPARTMENT OF MATHEMATICS** - The Department of Mathematics at Agnes Scott College invites applications for a tenure-track position at the assistant professor level beginning Fall 2000. Candidates are expected to have completed the Ph.D. by July 1, 2000. We seek someone who is well qualified to teach upper division courses in algebra and combinatorics, and who has both an interest in and experience with innovative teaching with technology. A background in computer science would be an asset. Department members are expected to teach a wide range of mathematics courses, have an ongoing program of scholarly work, show evidence of excellent teaching, and be willing to participate fully in the life of the department and the college during a period of growth. The teaching load in the 4-person department is three courses per semester. Send a letter of application that includes a statement of teaching experience and philosophy, curriculum vitae, and names, addresses, phone numbers and email addresses of three references to: **Myrtle Lewin (Search), Department of Mathematics, Agnes Scott College, 141 East College Avenue, Decatur, GA 30030-3797**, or by email to mathsearch@agnesscott.edu. To ensure full consideration, applications should be received by November 30, 1999. Agnes Scott College is a highly selective, independent national liberal arts college for women located in metropolitan Atlanta. Faculty salaries at all levels are in the top quintile of AAUP rankings for baccalaureate institutions. Support for faculty development is generous and includes a one semester pre-tenure research leave at full pay. You are invited to browse our home page for further information on the department, the position and the college. Visit our web site at http://www.AgnesScott.edu. Founded in 1889 by Presbyterians, Agnes Scott College has a strong commitment to diversity and urges members of underrepresented groups to apply. An Equal Opportunity Employer.

**BARNARD COLLEGE, COLUMBIA UNIVERSITY - DEPARTMENT OF MATHEMATICS** - The Department of Mathematics of Barnard College invites applications for a position at the rank of assistant professor, starting Fall 2000. This position is for a new Ph.D., and is a one-year appointment, normally renewable for three more years. The teaching load is two courses per semester. Send vitae, (p)reprints and three letters of recommendation. At least one letter should address teaching experience and ability. Preference will be given to candidates with research interests similar to those in the Barnard and Columbia departments (http://www.math.columbia.edu), and those whose application files are complete by January 10, 2000. Please submit *'AMS Application Cover Sheet'* with application. Email applications will not be accepted. Please send application to: **Professor Dave Bayer, Chair, Mathematics Search Committee, Department of Mathematics, Barnard College, Columbia University, 3009 Broadway, New York, NY 10027-6598.** Barnard is an Equal Opportunity Employer and encourages applications from individuals of diverse racial, ethnic, and cultural backgrounds.

**BOISE STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE** - Four beginning tenure-track Assistant Professor positions for fall, 2000 available at Boise State: applied mathematics, mathematics education, pure mathematics, statistics. Screening begins January 10. Required: doctorate, evidence of research and teaching ability. Consult http://math-cs.boisestate.edu/, **FACULTY POSITIONS**, for further information. Send application letter summarizing research and teaching interests, vita, graduate transcripts, and 3 letters of reference (one addressing teaching): **(Appropriate Hiring Committee), Department of Mathematics and Computer Science, Boise State University, Boise, ID 83725.** Information (208) 426-1172, TTY (208) 426-1436, office@math-cs.boisestate.edu, Fax 208-426-1356.

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# ADVERTISEMENTS

**BOWLING GREEN STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS AND STATISTICS** - The Department of Mathematics and Statistics at Bowling Green State University invites applications for three tenure-track positions at the rank of Assistant Professor in the areas of Algebra, Analysis, and Statistics starting August, 2000. Preference will be given to candidates who can contribute to our doctoral and master's programs and broaden or complement current faculty research. Usual duties consist of teaching two courses each semester, conducting scholarly research and participating in service activities. The successful candidate will have a doctorate in mathematics or statistics, have a strong research record and demonstrate potential for continued research and external funding, and be committed to outstanding teaching at all levels of undergraduate and graduate study. For further information see the Department's homepage: www.bgsu.edu/departments/math/. BGSU is an AA/EEO employer and strongly encourages applications from women, minorities, veterans, and persons with disabilities. To apply, send a cover sheet, letter of application, vita, three current letters of recommendation (one addressing teaching), and official transcripts showing the highest degree earned to: **Search Committee, Department of Mathematics and Statistics, Bowling Green State University, Bowling Green, OH 43403-0221.** Applications must be postmarked by January 15, 2000.

**BROWN UNIVERSITY - DEPARTMENT OF MATHEMATICS** - **J. D. Tamarkin Assistant Professorship:** Two three-year non-tenured non-renewable appointments, beginning July 1, 2000. Teaching load: one to two courses per semester (3 - 6 hours per week). Candidates are required to have received a Ph.D. degree or equivalent by the start of this appointment, and they may have up to three years of academic and/or postdoctoral research experience by then. **VIGRE Postdoctoral Fellow:** One or two three-year non-tenured non-renewable appointments, beginning July 1, 2000. Teaching load: one course per semester (3 hours per week). The fellowship includes summer support and a $2,500/year research fund. Candidates are required to have received a Ph.D. degree by the start of this appointment, and they may have up to 18 months of academic and/or postdoctoral research experience by then. Candidates must be U.S. citizens, nationals, or permanent residents to qualify for the VIGRE fellowships which are NSF supported positions. 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, an *AMS Standard Cover Sheet*, and three letters of recommendation must be received by December 1, 1999. The cover letter should clearly indicate whether the candidate wishes to be considered for a **J. D. Tamarkin Assistant Professorship, a VIGRE Postdoctoral Fellowship, or both.** All inquiries and materials should be addressed to: **Junior Search Committee, Department of Mathematics, Brown University, Providence, Rhode Island 02912.** To access the *AMS Standard Cover Sheet*, visit our website: http://www.math.brown.edu/juniorsearch.shtml. Email inquiries can be addressed to juniorsearch@math.brown.edu. Brown University is an Equal Opportunity/ Affirmative Action Employer and encourages applications from women and minorities.

**CALIFORNIA STATE UNIVERSITY, LONG BEACH** - Tenure-track assistant professor position available 8/23/00. Ph.D. in Statistics with strong Computational Statistics background. Potential for excellence in teaching and research required. Send application letter, CV, and 3 letters of recommendation to: **Dr. Arthur K. Wayman, Chair, Department of Mathematics, California State University, Long Beach, 1250 Bellflower Boulevard, Long Beach, CA 90840-1001.** For details, visit our Web Site at <www.csulb.edu/~math/positions/posStatTT.html>. An EEO/AA/Title IX/ADA employer.

**CALIFORNIA STATE UNIVERSITY, NORTHRIDGE - DEPARTMENT OF MATHEMATICS** - The Department of Mathematics invites applications for two tenure-track appointments at the assistant professor level effective Fall 2000. California State University, Northridge, which is classified as an Hispanic Serving Institution, is a comprehensive university located in the greater Los Angeles area. It is in close proximity to major research universities. The Department of Mathematics has 35 full-time faculty members and offers BA, BS and MS degrees. Candidates should have a Ph.D. in the mathematical sciences, a strong commitment to excellence in teaching both at the undergraduate and graduate level, and potential for success in research. Please send a vita, the *AMS standard cover sheet* and three letters of recommendations, one of which addresses the candidate's teaching abilities, to: **Hiring Committee, Department of Mathematics, CSUN, Northridge, CA 91330-8313** by January 14, 2000. Email (inquires only) math.hiring1@csun.edu. California State University is an Equal Opportunity, Title IX, section 503 & 504 employer.

**CARNEGIE MELLON UNIVERSITY - DEPARTMENT OF MATHEMATICAL SCIENCES - Tenure-Track Position Applied Analysis** - The Department of Mathematical Sciences at Carnegie Mellon University invites applications for tenure and tenure-track positions to begin July 1, 2000. The position is in applied analysis, in the areas of nonlinear partial differential equations and the calculus of variations. Preference will be given to candidates who have shown outstanding promise and/or excellent accomplishments in research in the above areas, and pursue a vigorous research program including major contributions beyond the doctoral dissertation. Expertise in the areas of nonconvex variational problems, multiscale problems, connections between atomistic and continuum models, will be preferred. Leadership skills and an interest in establishing links with scientists in allied disciplines (such as materials science, physics, etc.) are desirable. Evidence of effective teaching is essential. Applicants should send a curriculum vitae, list of publications, a statement describing current and planned research, and arrange to have at least three letters of recommendation sent to: **Applied Analysis Appointments Committee, Department of Mathematical Sciences, Carnegie Mellon University, Pittsburgh, PA 15213.** The deadline for both tenure-track and tenure applications is January 14, 2000. The Department of Mathematical Sciences is committed to increasing the number of women and minority faculty. Carnegie Mellon University is an Affirmative Action/Equal Opportunity Employer and encourages applications from women and minorities.

**CARNEGIE MELLON UNIVERSITY - DEPARTMENT OF MATHEMATICAL SCIENCES - Zeev Nehari Visiting Assistant Professorship** - The Zeev Nehari Visiting Assistant Professorship was established to honor the memory of Professor Nehari, who had a long and distinguished career in the Department of Mathematical Sciences. This position, which is partially funded by the National Science Foundation, is available for a period of three years, beginning in September 2000, and carries a teaching load of two courses during the academic year. Applicants are expected to show exceptional research promise, as well as clear evidence of achievement and should have research interests which intersect those of current faculty of the Department. Applicants should send a vita, list of publications, a statement describing current and planned research, and arrange to have at least three letters of recommendation sent to the committee. The deadline for applications is January 10, 2000. All communications should be addressed to: **Zeev Nehari Appointments Committee, Department of Mathematical Sciences, Carnegie Mellon University, Pittsburgh, PA 15213.** Carnegie Mellon University is an Affirmative Action/Equal Opportunity Employer.

**CARNEGIE MELLON UNIVERSITY - DEPARTMENT OF MATHEMATICAL SCIENCES - Math Finance Post-Doctoral Fellow** - The Department of Mathematical Sciences expects to appoint a post-doctoral fellow in mathematical finance, beginning in September 2000. Applicants should have a strong record of accomplishment in probability research and a serious interest in the applications of probability to finance. This will be a two-year appointment, with the possibility of a third-year extension. Recipients will teach at most two courses per year. Applicants should send a vita, list of publications, a statement describing current and planned research, and arrange to have at least three letters of recommendation sent. The deadline for applications is January 18, 2000. All communications should be addressed to: **Mathematical Finance Post-doctoral Appointments Committee, Department of Mathematical Sciences, Carnegie Mellon University, Pittsburgh, PA 15213.** Carnegie Mellon University is an Affirmative Action/Equal Opportunity Employer.

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## ADVERTISEMENTS

**CARNEGIE MELLON UNIVERSITY - DEPARTMENT OF MATHEMATICAL SCIENCES - Lecturer Track Position** - The Department of Mathematical Sciences at Carnegie Mellon University expects to make one lecturer track appointment for the 2000-01 academic year. This is a three-year appointment, with possible renewal, but is not eligible for indefinite tenure. Qualifications: doctorate, established success in education, familiarity with computer use in mathematics education. This position will carry a 3-course teaching load per semester. A detailed description of this position may be found on our website: http://www.math.cmu.edu. The deadline for applications is January 10, 2000. To apply send a letter of application and curriculum vita to: **Lecturer Track Appointments Committee, Department of Mathematical Sciences, Carnegie Mellon University, Pittsburgh, PA 15213.** Carnegie Mellon University is an Affirmative Action/Equal Opportunity Employer.

**CARNEGIE MELLON UNIVERSITY - DEPARTMENT OF MATHEMATICAL SCIENCES - Tenure-Track Position in Mathematical Finance** - The Department of Mathematical Sciences expects to make a tenure-track appointment in Mathematical Finance at the Assistant or Associate Professor level, beginning September 2000. Applicants should have a high-quality record of academic research in mathematics, knowledge of probability theory, and experience with finance applications. Experience in the finance industry is desirable. Applicants should send a vita, list of publications, a statement describing current and planned research, and arrange to have at least three letters of recommendation sent to: **Math Finance Appointments Committee, Department of Mathematical Sciences, Carnegie Mellon University, Pittsburgh, PA 15213.** The deadline for applications is January 18, 2000. The Department of Mathematical Sciences is committed to increasing the number of women and minority faculty. Carnegie Mellon University is an Affirmative Action/Equal Opportunity Employer and encourages applications from women and minorities.

**CENTRAL MICHIGAN UNIVERSITY - DEPARTMENT OF MATHEMATICS** - Tenure-track assistant professor in statistics. Req's recent Ph.D. in statistics, effective communication skills, commitment to excellence in research & teaching. Will be expected to teach statistics courses at all levels and to apply for external funding. Send resume, transcript, and three letters of reference to: **Chair, Department of Mathematics, Central Michigan University, Mt. Pleasant, MI 48859**, email math@cmich.edu. Screening begins 10/15/99. CMU, an AA/EO institution, is strongly and actively committed to increasing diversity within its community. (see www.cmich.edu/aaeo.html).

**COLLEGE OF WILLIAM AND MARY - DEPARTMENT OF MATHEMATICS** - Two tenure track assistant professorships plus possible visitors. Scholarly and teaching excellence plus Ph.D. required. Applications sought in all parts of mathematics; for one position computational/applied mathematics and statistics especially welcome. Send application, *AMS cover sheet,* and 3 letters (one on teaching) to: **Search Committee, Department of Mathematics, College of William and Mary, Williamsburg, VA 23187-8795.** Details at www.math.wm.edu. Application review begins 12/18/99. EEO/AA employer.

**COLORADO COLLEGE - DEPARTMENT OF MATHEMATICS** - The Department of Mathematics invites applications for a tenure-track Assistant Professor position in applied mathematics to begin in September 2000. Ph.D. in Applied Mathematics or Mathematics required. Applicants must be able to teach numerical analysis and mathematical modeling, as well as courses across the mathematics curriculum. Review of completed applicant files will begin on 19 January 2000 and continue until the position is filled. Colorado College, a leading national liberal arts college, is dedicated to greater diversity among its faculty and in its curriculum, and candidates who can contribute to that goal are encouraged to identify themselves and their relevant experiences. The College welcomes members of all minority groups and reaffirms its commitment not to discriminate on the basis of race, color, age, religion, sex, national origin, sexual orientation, or disability in its educational programs, activities, and employment practices. The Department of Mathematics values both excellence in teaching and vigorous scholarship. Candidates should send a letter of application describing both their commitment to teaching and scholarly interests, a curriculum vita, graduate school transcripts, and three letters of recommendation (at least one of which should address abilities as a teacher) to: **Mike Siddoway, Department of Mathematics, The Colorado College, 14 E. Cache La Poudre, Colorado Springs, CO 80903.** Email address: msiddoway@coloradocollege.edu. Please indicate whether you will be available to meet with representatives of the college at the Joint Mathematics Meetings in Washington DC. Equal Opportunity Employer.

**COLORADO COLLEGE - DEPARTMENT OF MATHEMATICS** - The Department of Mathematics invites applications for a tenure-track Assistant Professor position to begin in September 2000. Ph.D. in Mathematics or Computer Science required. Applicants will be considered from all areas of mathematics, but will be expected to be able to teach undergraduate computer science courses. In keeping with departmental tradition, all applicants are expected to be able to teach courses across the mathematics curriculum. Review of completed applicant files will begin on 19 January 2000 and continue until the position is filled. Colorado College, a leading national liberal arts college, is dedicated to greater diversity among its faculty and in its curriculum, and candidates who can contribute to that goal are encouraged to identify themselves and their relevant experiences. The College welcomes members of all minority groups and reaffirms its commitment not to discriminate on the basis of race, color, age, religion, sex, national origin, sexual orientation, or disability in its educational programs, activities, and employment practices. The Department of Mathematics values both excellence in teaching and vigorous scholarship. Candidates should send a letter of application describing both their commitment to teaching and scholarly interests, a curriculum vita, graduate school transcripts, and three letters of recommendation (at least one of which should address abilities as a teacher) to: **Marlow Anderson, Department of Mathematics, The Colorado College, 14 E. Cache La Poudre, Colorado Springs, CO 80903.** Email address: manderson@coloradocollege.edu. Please indicate whether you will be available to meet with representatives of the college at the Joint Mathematics Meetings in Washington DC. Equal Opportunity Employer.

**COLORADO STATE UNIVERSITY, DEPARTMENT OF MATHEMATICS - Faculty Positions** - The Department of Mathematics at Colorado State University invites applications for several regular tenure-track faculty positions beginning Fall of 2000. The individuals appointed must hold a Ph.D. at the time of appointment and be capable of fulfilling the highest expectations in research and in teaching. The appointment level is open, but preference will be given to candidates at the Assistant or Associate Professor levels. The Department currently has areas of strength in algebra and algebraic geometry/topology, analysis and applied analysis, combinatorics, dynamical systems, mathematics education, numerical analysis, optimization partial differential equations, pattern analysis, and scientific computing. Our primary needs this season are in algebraic combinatorics (with special interest in computation with codes, groups or designs); scientific computing (in particular, numerical PDEs and modeling); optimization (with expertise in either discrete or continuous problems); and analysis (e.g. global analysis, operator theory, ergodic theory, complex variables). Exceptional candidates in other areas of Departmental strength may also be considered, and we may well be able to make multiple offers in a single area. One two-year postdoctoral position may also be available. More information may be obtained via the Department's Web page at http://www.math.colostate.edu. Applications should submit a complete curriculum vita, a summary of future research plans, evidence of effective teaching, and at least three letters of recommendation. All materials should be sent to: **Faculty Hiring Committee, Department of Mathematics, Colorado State University, Fort Collins, CO 80523-1874**. Applications received by December 10, 1999, will receive full consideration, but screening will continue until the positions are filled. A job description can be found at http://www.math.colostate.edu/jobs.html. Colorado State University is an EEO/AA employer (Equal Opportunity Office, 101 Student Services).

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

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## ADVERTISEMENTS

**COLUMBIA UNIVERSITY - DEPARTMENT OF MATHEMATICS** - Applications are invited for Ritt Assistant Professorship positions beginning July 1, 2000. Closing date: January 10. Positions for new Ph.D. 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 and ability. Preference will be given to candidates with research interests similar to those in the department. Please submit "*AMS Application Cover Sheet*" with application. Send applications to: **Hiring Committee, Department of Mathematics, Mail Code 4406, 2990 Broadway, Columbia University, New York, NY 10027**. Application files that are complete by January 10 will receive preferred consideration. Email applications will not be accepted. Columbia is an equal opportunity/affirmative action employer and is especially interested in receiving applications from qualified women and minorities.

**COLUMBIA UNIVERSITY - DEPARTMENT OF MATHEMATICS** - Applications are invited for two postdoctoral/assistant professor positions partially supported by a National Science Foundation VIGRE (Vertical Integration of Research and Education) grant beginning July 1, 2000. Summer support is included. Closing date: January 10. Applicants must be U.S. citizens or permanent residents. Ph.D. in Mathematics or Mathematical Physics required. Applicants must demonstrate a commitment to research and teaching. One-year appointment, normally renewable for two or more years. Reduced teaching load of one course per term to allow greater involvement with Columbia's new graduate program emphasizing mathematics courses and research that cross traditional scientific boundaries. Send vitae, (p)reprints and three letters of recommendation (at least one addressing teaching qualifications) and '*AMS Application Cover Sheet.*' Send applications to: **VIGRE Hiring Committee, Department of Mathematics, Mail Code 4406, 2990 Broadway, Columbia University, New York, NY 10027**. Application files that are complete by January 10 will receive preferred consideration. Email applications will not be accepted. Columbia University is an equal opportunity/affirmative action employer and is especially interested in receiving applications from qualified women and minorities.

**COLUMBIA UNIVERSITY - DEPARTMENT OF MATHEMATICS** - Applications are invited for the following positions: One tenured Professorship and one tenure-track Associate Professorship. Ph.D. required. Candidates should show outstanding research accomplishments or exceptional promise as well as strong commitment to teaching. Preference will be given to candidates with research interests compatible with those of the department. Teaching load, two courses per semester. Applications should include introductory letter, a detailed vitae (with publications list), description of current research interests and references. In addition, applicants for the Associate Professorship should have three letters of recommendation sent, at least one addressing teaching experience and ability. Send applications to: **Senior Search Committee, Department of Mathematics, Mail Code 4406, 2990 Broadway, Columbia University, New York, NY 10027.** Application files that are complete by January 10 will receive preferred consideration. Email applications will not be accepted. Columbia University is an equal opportunity/affirmative action employer. Women and underrepresented minority groups are especially encouraged to apply.

**CONNECTICUT COLLEGE - DEPARTMENT OF MATHEMATICS** - Connecticut College invites applications for a tenure-track position in applied mathematics. The rank is open; the position begins fall 2000. Applicants must have a Ph.D. in mathematics, applied mathematics, or statistics, a strong commitment to excellence in undergraduate teaching, and the potential to conduct research in a liberal arts setting. Candidates must have the ability to participate in the development of an applied mathematics program, which will include curricular expansion, student research, and collaborations with faculty and students in the natural and/or social sciences. Preference will be given to candidates with demonstrated experience in employing mathematical models in the natural and/or social sciences. Connecticut College is a small, private, highly selective college with a strong commitment to the liberal arts tradition. Interdisciplinary teaching and research are encouraged. Dorm rooms and all offices are connected by ethernet to the campus network, enabling everyone to access the Connecticut College-Trinity College-Wesleyan University library consortium, the Internet, and the academic courseware server. The College has a strong program of integrating technology throughout the curriculum. Tenure-track faculty receive a research stipend for their first two summers and a semester's leave at full salary after their third year if they are reappointed for the full probationary period. Tenured faculty receive 80% salary during a sabbatical year or 100% salary during a one-semester sabbatical. The normal teaching load is 5 courses per year. Salary is competitive. Connecticut College is an Affirmative Action/Equal Opportunity employer and is actively engaged in increasing faculty and staff diversity. Applicants should send a letter of application, curriculum vitae, graduate transcripts, statements on teaching and research, and 3-5 letters of reference to: **Professor Kathleen A. McKeon, Connecticut College, Box 5561, New London, CT 06320.** Phone: (860) 439-2012; Fax: (860) 439-2700; Email: math-dept@conncoll.edu. Applications received by December 1, 1999 will be given full consideration. More information about this position and the College may be obtained at our web page http://camel.conncoll.edu/ccacad/Math/job.html.

**CORNELL UNIVERSITY - DEPARTMENT OF MATHEMATICS** - We anticipate that the following positions may be available beginning 7/1/00: **(1)** TENURE-TRACK or TENURED POSITIONS, any rank; **(2)** H.C. WANG ASSISTANT PROFESSORSHIPS, non-renewable, 3-year term; **(3)** VISITING POSITIONS, academic year or one semester teaching positions at all levels. For information about fields of interest refer to http://math.cornell.edu/~math/Job_Opps/Faculty/positions.html. Send CV & 3 letters of reference to: **Recruiting Committee, Cornell University, Department of Mathematics, 310 Malott Hall, Ithaca, NY 14853.** Email: recruit@math.cornell.edu. Application Deadline: December 15, 1999. Applicants will be automatically considered for all three positions. Early applications will be regarded favorably. The following positions are for the Academic Year (August - May): **(4)** HALF TIME VISITING POSITIONS (2-3) for mathematics professors on sabbatical/other leaves. Send two teaching references, CV, proposal for research and/or study program, and how visit will benefit home institution to: Ms. C. Stevens by 12/15/99. Requirements for all positions: Candidates must possess a Ph.D. Proven excellence in teaching and research. Cornell University is an Affirmative Action/Equal Opportunity Employer.

**DARTMOUTH COLLEGE - DEPARTMENT OF MATHEMATICS** - Tenure-track Assistant Professor openings with initial appointment in 2000-2001 academic year are anticipated. In exceptional cases an appointment at a higher level is possible. One position is in the field of geometry. The other is in applied mathematics, with preference given to a candidate who can and wants to help cover the undergraduate probability and statistics offerings of the department and has interdisciplinary research interests. Additionally, teaching duties consist of 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 completed by January 15, 2000 considered first. Women and minorities are encouraged to apply.

**DARTMOUTH COLLEGE - DEPARTMENT OF MATHEMATICS - John Wesley Young Research Instructorship** - 2-years, new or recent Ph.D.'s whose research overlaps department member's. Teach 4 ten-week courses spread over 2 or 3 quarters. $41,000 for nine months; $9,111 summer research stipend. Send application letter, resume, research/thesis description, graduate transcript, and 3 or preferably 4 letters of recommendation (at least one should discuss teaching) to: **Betty Harrington, Department of Mathematics, Dartmouth College, 6188 Bradley Hall, Hanover, NH 03755-3551.** Files completed by January 15, 2000 considered first. Dartmouth is committed to affirmative action and strongly encourages minorities and women to apply.

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**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, 2000. 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, (photocopies of) graduate and undergraduate transcripts, and 3 letters of reference, of which at least one must specifically address the applicant's teaching. These materials should be sent to the attention of **Prof. Stephen Davis, Chair, Department of Mathematics, 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/math/.) Applications received by November 30, 1999, will receive fullest consideration. Davidson is a highly selective, nationally ranked four-year liberal arts college with a Presbyterian heritage. Davidson College is an Equal Opportunity Employer; women and minorities are encouraged to apply.

**DUKE UNIVERSITY - DEPARTMENT OF MATHEMATICS** - Applications are invited for two positions as Assistant Research Professor of Mathematics. Candidates should have completed a doctorate as of September 1, 2000 and show definite promise in research and teaching. Special consideration will be given to applicants with an interest in probability for one of the positions. 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 are renewable for two additional years. Applicants please send (a) a vita; (b) a description of current and past research (1-3 pages); (c) a plan for future research, and have at least four letters of recommendation, including one which evaluates teaching, sent directly to Duke by mid-January. The *AMS Standard Cover Sheet* should be completed electronically at 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 Dept. of Mathematics at Duke working in their general area of research. Applications filed by January 1 will be guaranteed full consideration; early application is advisable. All correspondence & references, EXCEPT *AMS Cover Sheets*, should be addressed to: **Appointments Committee, Dept. of Mathematics, Box 90320, Duke University, Durham, NC 27708-0320.** *AMS Cover Sheets* should be completed at <http://www.math.duke.edu/jobs/apply.html>. Email inquiries: appts@math.duke.edu.

**DUKE UNIVERSITY - DEPARTMENT OF MATHEMATICS** - Applications are invited for one position as Lecturing Fellow in the Department of Mathematics at Duke University. Candidates should have completed a doctorate as of September 1, 2000, have excellent teaching credentials and have a strong interest in curriculum development. The teaching load will be two courses per semester. In addition, Lecturing Fellows are expected to participate in the Department's ongoing curriculum revision and experimentation and to continue their own research program in Mathematics. Duke University is an affirmative action/equal opportunity employer. The appointment is for two years and is not renewable. Applicants please send (a) a vita; (b) a description of current and past research (1-3 pages); (c) a plan for future research, and have at least three letters of recommendation, including one which evaluates teaching, sent directly to Duke by mid-January. The *AMS Standard Cover Sheet* should be completed electronically at 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 Dept. of Mathematics at Duke working in their general area of research. Applications filed by January 1 will be guaranteed full consideration; early application is advisable. All correspondence & references, EXCEPT *AMS Cover Sheets*, should be addressed to: **Lecturer Committee, Dept. of Mathematics, Box 90320, Duke University, Durham, NC 27708-0320.** *AMS Cover Sheets* should be completed at <http://www.math.duke.edu/jobs/apply.html>. Email inquiries: appts@math.duke.edu.

**DUKE UNIVERSITY - DEPARTMENT OF MATHEMATICS** - Applications and nominations are invited for a tenure-track (Assistant Professor level) or tenured (Associate or Full Professor level) position in the Mathematics Department. Special consideration will be given to applicants with expertise in nonlinear dynamics (broadly construed) and with strong interdisciplinary connections. The successful candidate will be expected to participate in the Center for Non-Linear Science. Tenure-track applicants are expected to have outstanding research potential, normally including major contributions beyond the doctoral dissertation. Such applicants should send the materials described below, plus reprints or preprints, and/or dissertation abstract, and have four letters of evaluation, including one which evaluates teaching, sent directly to Duke by mid-January. Tenure applicants are expected to have demonstrated leadership in research and should send the materials described below, plus a list of publications, a few selected reprints or preprints, and the names and addresses of three references. In addition the material described above, all applicants should 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 at the address below. The position is to start September 1, 2000. Duke University is an affirmative action/equal opportunity employer. Applications received by January 1 will be guaranteed full consideration; early application is advisable. All correspondence, including references, EXCEPT *AMS Cover Sheets*, should be addressed to: **Applied Mathematics Search Committee, Dept. of Mathematics, Box 90321, Duke University, Durham, NC 27708-0321.** *AMS Cover Sheets* should be completed at <http://www.math.duke.edu/jobs/apply.html>. 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 anticipated tenure track Assistant Professorships or tenured appointments at the rank of Associate Professor or Professor, effective 2000-2001. **SEARCH 1. Numerical analysis/computational mathematics [one appointment].** Primary research interests must be numerical analysis, applied mathematics or high performance computing, with preference for individuals whose application areas enhance Emory's strength in life and physical sciences. Applicants must have a Ph.D. in Mathematics, Computer Science or a closely related field. **SEARCH 2. Computer science [up to two appointments].** Research field is open, with preference for researchers in databases, high performance computing or distributed computing, and interest in collaboration with departmental faculty in CS and mathematics and university faculty in the sciences. Applicants must have a Ph.D. in Computer Science or a closely related field. The department offers several undergraduate programs, a Ph.D. in Mathematics and an MS in Computer Science, and applicants should 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 expansion of our computational science research group and of our computer science faculty; these are part of a series of appointments. Applicants must provide CV's, with at least three recommenders' 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 1 January 2000. Emory University is an Affirmative Action/Equal Opportunity Employer.

**GEORGETOWN UNIVERSITY - DEPARTMENT OF MATHEMATICS** - The Department, committed to excellence in both research and undergraduate teaching, has two tenure-track positions at the Assistant Professor level beginning August 28, 2000. The Ph.D. degree in mathematics is required with strong research credentials in analysis or applied mathematics and interests commensurate with those of the department. To apply, send curriculum vitae and reprints or preprints of no more than three research papers, and arrange to have at least three letters of recommendation sent, to: **Professor Der-Chen Chang, Chairman of the Hiring Committee, Department of Mathematics, Box 571233, Georgetown University, Washington, DC 20057-1233.** Consideration of complete applications will begin November 1, 1999, and will continue until available positions are filled. Georgetown University is an Equal Employment Opportunity and Affirmative Action institution in employment and admissions.

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## ADVERTISEMENTS

**GETTYSBURG COLLEGE - DEPARTMENT OF MATHEMATICS - Tenure-Track, Assistant Professor Position in Mathematics** - Gettysburg College invites applications for a new tenure-track, assistant professor position in mathematics beginning August 2000. Applicants must have a Ph.D. in mathematics or applied mathematics or expect to complete all requirements for the degree by September 2000. Promise of excellence in teaching and a commitment to continued research are essential. Preference will be given to an individual who is willing to teach a broad range of undergraduate mathematics courses and who has the desire to involve undergraduate students in research. 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 2,300 students. 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. A comprehensive program of support is provided for faculty development, including a pre-tenure leave with full pay. Please send a letter of application explaining your interest in our department, a curriculum vitae, a brief description of your teaching methods and objectives, and a summary of your research goals to: **Mathematics Search Committee, Department of Mathematics, Gettysburg College, Gettysburg, PA 17325.** Also arrange for the committee to receive three letters of recommendation addressing teaching effectiveness and research potential. Completed applications received by January 14, 2000, will receive full consideration.

**HARVEY MUDD COLLEGE - DEPARTMENT OF MATHEMATICS - Assistant Professor of Mathematics** - Harvey Mudd College invites applications for a tenure-track assistant professorship in applied mathematics or discrete mathematics. Preference will be given to candidates whose research is in applied mathematics (application of mathematics to scientific or industrial problems, numerical methods, asymptotics, applied dynamics) or in discrete mathematics (broadly interpreted to include algebra, algebraic geometry, and combinatorics). Excellence in teaching is absolutely essential, as is evidence of a strong and ongoing research program. Candidates must be willing to supervise undergraduate research, and work with others in the development of departmental programs. Harvey Mudd College is a highly selective undergraduate institution of science, engineering and mathematics; the average SAT score of entering students is over 1,480. More than one-third of the student body are National Merit Finalists, and one year of high school calculus is a requirement of admission. Each year there are over 20 graduates in mathematics, with approximately half going to graduate school. Over 40% of mathematics alumni from HMC have obtained a Ph.D. degree. The college enrolls about 650 students and is a member of the Claremont College consortium, which consists of four other undergraduate colleges and two graduate institutions, forming an academic community of about 5,000 students. There is an active and vital research community of over 40 mathematicians in Claremont. Claremont is situated approximately 35 miles east of downtown Los Angeles, in the foothills of the San Gabriel mountains. The community is known for its tree-lined streets and village charm. It is an easy drive from Claremont to the cultural attractions of the greater Los Angeles area, as well as the ocean, mountains and deserts of southern California. Applicants should send a curriculum vitae, a description of their teaching philosophy and experience, a description of their current research program, and arrange to have three letters of recommendation sent to: **Professor Andrew Bernoff, Chairman, Search Committee, Department of Mathematics, Harvey Mudd College, Claremont, CA 91711-5990.** Further information about the college and department may be found at http://www.hmc.edu. Preference will be given to applications completed by January 10, 2000. Harvey Mudd College is an equal opportunity employer and is committed to the recruitment of applicants historically underrepresented on college faculties.

**INDIANA UNIVERSITY, BLOOMINGTON - DEPARTMENT OF MATHEMATICS** - Three three-year visiting positions will be available to start in the 2000-2001 academic year. These terminal postdoctoral positions are named after our late, distinguished colleague Max Zorn, and are restricted to new Ph.D.'s. Outstanding candidates in all areas of pure and applied mathematics and statistics are encouraged to apply. Excellent research potential as well as a commitment to teaching are required. Indiana University is an equal opportunity/affirmative action employer. Applications received by January 10, 2000 will be given full consideration. Please send a letter of application to: **Search Committee, Department of Mathematics, Rawles Hall, Indiana University, 831 East 3rd St., Bloomington, IN 47405-7106.**

**IOWA STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS** - The department seeks applicants, pending funding, for several tenure track positions to begin in August 2000. 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. The positions are targeted on the following areas: Computational molecular Biology/bioinformatics, Numerical analysis and Computational mathematics, Discrete mathematics, Applied mathematics. In all cases, we are interested in hiring mathematicians whose research programs are complementary to the existing strengths in the department and who can interact with current faculty in the department as well as with the faculty in other units of the university. Applicants 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 December 15, 1999 are assured of receiving full consideration. Iowa State University strongly encourages women and members of underrepresented groups to apply.

**IOWA STATE UNIVERSITY - PLANT SCIENCES INSTITUTE** - Iowa State University invites applications for an Assistant, Associate, or Full Professor in BIOINFORMATICS in the Center for Bioinformatics and Biological Statistics in the newly established Plant Sciences Institute. The successful candidate will join an academic department consistent with the candidates background and preference. Applications are encouraged from individuals conducting research emphasizing algorithmic and statistical approaches to problems in bioinformatics, genomics, functional and post-genomic analyses, metabolic pathways, and protein structure/function prediction. A Ph.D. in a computational, biological, or physical science and an excellent record in research and teaching experience are required. Post-graduate experience is preferred. Candidates will be expected to establish a nationally competitive research program and contribute to graduate and undergraduate education. The position includes excellent space, access to substantial computational facilities, discipline-competitive salary and generous startup funds. Deadline for applications is December 15, 1999, or until position is filled. Applications should include a cover letter describing current and planned research and teaching interests, a curriculum vitae, and selected reprints. Three letters of recommendation to be sent to: **Dr. James L. Cornette, Iowa State University, 107 Beardshear Hall, Ames, IA 50011-2021.** Iowa State is an AA/EO employer and strongly encourages women and members of underrepresented groups to apply. For more information, please contact: cornette@iastate.edu or visit the www.plantsciences.iastate.edu web site.

**JOHNS HOPKINS UNIVERSITY - DEPARTMENT OF MATHEMATICS** - The J. J. Sylvester Assistant Professorship in Mathematics. The Department of Mathematics invites applications for a new nontenure track three year Assistant Professorship to be awarded each year beginning July 1, 2000. Preference will be given to candidates who have received their Ph.D. within the last two years and who have demonstrated high potential in teaching and research in the general areas of Algebra, Analysis, Geometry, Number Theory and Topology. The position carries a teaching load of two courses one semester and one the other semester with a competitive salary and a discretionary research fund. 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, 1999 will be given priority. The Johns Hopkins University is an Affirmative Action/Equal Opportunity Employer. Minority and women candidates are encouraged to apply.

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**KANSAS STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS** - Subject to budgetary approval, applications are invited for tenure-track and visiting positions commencing August 6, 2000. Preference will be given to specialists in Differential Equations, Number Theory, and Differential Geometry. 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, three letters of reference evaluating research, and one reference letter evaluating teaching should be sent to: **Louis Pigno, Department of Mathematics, Cardwell Hall 138, Kansas State University, Manhattan, KS 66506.** Offers may begin by December 6, 1999, but applications for positions will be reviewed until February 1, 2000, or until positions are closed. AA/EOE.

**KENNESAW STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Chair** - A growing and progressive university in Georgia's public system of higher education invites applications for the twelve-month, tenure-track position of Chair, Department of Mathematics, beginning June 2000. The Chair must be able to provide strong leadership and promote a powerful vision for the advancement of the department's mission and goals. Candidates must have a strong commitment to applied mathematics and mathematics education. The successful candidate will have an earned doctorate in mathematics, mathematics education or a related field with sufficient experience and achievement to qualify for the rank of associate or full professor. Evidence of instructional, administrative and leadership effectiveness is essential as are strong communication and interpersonal skills. The successful candidate will be engaged in significant professional and scholarly activities as well as grant activities. KSU has established a notable record for the inclusion of minorities and women in its educational mission and strongly encourages applications from both groups. APPLICATION INSTRUCTIONS: Applications and nominations will be accepted until the position is filled. To guarantee consideration, application materials must be postmarked by November 8, 1999. Candidates should send a letter of application addressing applicants strengths relative to the qualifications and responsibilities cited above; current curriculum vita; names, addresses, and telephone numbers of five references. Send application materials to: **Dr. Leon Combs, Mathematics Chair Search Committee, College of Science and Mathematics, Kennesaw State University, 1000 Chastain Road, Kennesaw, Georgia 30144-5591.** Visit our home page at http://science.kennesaw.edu/math. Affirmative Action/Equal Opportunity Employer.

**LEHMAN COLLEGE (CUNY) - DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE** - Positions are available starting September 1, 2000 for an Assistant/Associate/Full Professor in the Department of Mathematics and Computer Science. Professorial positions require an earned doctorate, outstanding research record or potential and commitment to excellence in teaching and departmental and college-wide service. Appointment rank and salary commensurate with qualifications and experience. Application deadline is February 5, 2000. Application Procedure: Send curriculum vitae with a cover letter and arrange for at least three letters of recommendation to be sent to: **Professor Robert Feinerman, Chair, Department of Mathematics and Computer Science, Lehman College, 250 Bedford Park Blvd. West, Bronx, NY 10468.** Additional information at http://www.lehman.cuny.edu (see Job Opportunities). EEO/AA/ADA Employer.

**MACALESTER COLLEGE - DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE** - Applications are invited for a tenure-track position in Statistics to begin Fall, 2000. Candidates must have or be completing the Ph.D. or an equivalent degree. They must have a strong commitment to both teaching and research in an undergraduate liberal arts environment. The primary responsibilities will involve teaching statistics at all levels and directing our statistics program, part of which includes consulting with faculty and students from across the college. Applicants are sought from all research areas of statistics and applied statistics. For more information, see www.macalester.edu/~mathcs/stat. Applicants should send a resume as well as statements of research interests and teaching philosophy, and should arrange for three letters of reference to be sent to: **David Bressoud, Math/Computer Science Department, Macalester College, St. Paul, MN 55105.** Evaluation of applications will begin December 15 and continue until the position is filled. Women and members of minority groups are especially 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 2000. Available positions include instructorships, lectureships, assistant professorships, and possibly higher levels. Appointments will be made mainly on the basis of demonstrated research accomplishments and potential. Complete applications must be received by January 3. 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.** MIT is an Equal Opportunity Affirmative Action Employer.

**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 2000 - 2001. The teaching load will be nine hours for the academic year (eight hours for assistant professor appointments). Open to mathematicians with doctorates who show definite promise in research. Applications should be completed by January 15. Applicants please arrange to have sent (a) a vita; (b) three letters of reference; (c) a description of your most recent research; and (d) a research plan for the immediate future 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** - 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. Please arrange to have sent (a) a vita; (b) three letters of reference; (c) a description of the research in your thesis; and (d) a research plan for the next year to: **Pure Mathematics Committee, Massachusetts Institute of Technology, Room 2-263, Cambridge, MA 02139-4307.** M.I.T. is an Equal Opportunity, Affirmative Action Employer.

**MIAMI UNIVERSITY - DEPARTMENT OF MATHEMATICS AND STATISTICS** - Applications are invited for a tenure track Assistant Professor position starting in Fall, 2000. Applicants must have a Ph.D. in applied mathematics, or pure mathematics with research interests compatible with those of the department. Applicants must have demonstrated strong research credentials/potential and high quality teaching. Send an *AMS cover sheet* (available at http://www.ams.org/employment/coversheet-info.html), curriculum vitae, description of current research, statement of teaching philosophy and three letters of recommendation to: **Mathematics Search Committee, Department of Mathematics and Statistics, Miami University, Oxford, Ohio 45056.** At least one letter should address the candidate's teaching abilities. We will begin reviewing applications on December 1, 1999, and continue reviewing applications until the position is filled. Further information about the department may be found at our website http://www.muohio.edu/mathstat/. Miami University is an affirmative action/equal opportunity employer and encourages women and minorities to apply.

**For upcoming AWM EVENTS at the JOINT MATHEMATICS MEETINGS in January - see page 51**

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**MICHIGAN STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Tenure-Track Position in Analysis** - The Department has a tenure track position to begin Fall 2000 for a candidate with primary research interests in Analysis. Rank and salary will be determined by the qualifications of the successful candidate. Preference will be given to candidates whose research interests fit well with those of the Department's current Analysis group (complex and harmonic analysis, operator theory, and interactions between these areas), but all qualified applicants will be given serious consideration. Excellence in both research and teaching is expected. Application information: 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 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.** Completed applications (including letters of recommendation) received by November 30, 1999 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 Position in Applied Mathematics** - The Department has a tenure track position to begin Fall 2000 for a candidate with a history of outstanding research in Applied Mathematics, including but not restricted to Scientific Computation, Applied Combinatorics, Coding Theory, Applied and Numerical PDE, Optimization Theory, Applied Dynamics, Algorithm Theory, and Materials Science. Rank and salary will be determined by the qualifications of the successful candidate. The successful candidate should have a history of substantial collaboration with engineering, the physical sciences, the biological sciences, or the medical sciences. An excellent teaching record is required. A joint appointment with another unit, such as Engineering, might be arranged for the applicant for whom such a situation might be desirable. Application information: 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 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.** Completed applications (including letters of recommendation) received by November 30, 1999 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 Position in Analysis** - The Department has one tenure track position to begin Fall 2000 for a candidate with primary research interests in Mathematics Education. The rank (Assistant Professor, Associate Professor, or Professor) and salary of the successful candidate will depend on his/her qualifications. 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. The successful applicant is expected to have a doctorate in Mathematics Education plus the equivalent of a strong Masters degree in Mathematics. Application information: 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 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.** Completed applications (including letters of recommendation) received by November 30, 1999 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 Position in Applied Mathematics** - The Department has tenure track positions to begin in Fall 2000. It is expected that successful applicants will be appointed at the rank of Assistant Professor, but truly outstanding candidates for appointment at higher ranks will be considered. Excellence is essential in both research and teaching, and it is expected that the successful candidate will have at least two years of experience beyond the Ph.D. While outstanding applicants from all mathematical research areas will be considered, preference will be given to those with significant research accomplishments in at least one of the following areas: Algebraic Geometry, Lie Theory, Representation Theory, Number Theory, Discrete Math/Combinatorics, Optimal Control, Numerical Analysis, and Dynamical Systems. Application information: 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 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.** Completed applications (including letters of recommendation) received by November 30, 1999 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 - Postdoctoral Instructorships** - Several two-year positions will be available beginning Fall 2000, for new or recent Ph.D.'s who show strong promise in research and teaching. The teaching load is four semester courses per year, and participation in the research activities of the department is expected. Starting salary: $37,000 per year. Additional income for summer teaching is usually available, if desired. Application information: 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. Completed applications (including letters of recommendation) received by November 30, 1999 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 STATISTICS AND PROBABILITY** - The Department of Statistics and Probability at Michigan State University has a tenure track Assistant Professorship available beginning August 16, 2000. The candidate should have a Ph.D. with concentration in statistics and/or probability and a strong research and teaching potential. Preference will be given to candidates with research interests in statistics and its applications. Please have curriculum vitae and three recommendation letters sent to: **Search Committee, Department of Statistics and Probability, A415 Wells Hall, Michigan State University, East Lansing, MI 48824-1027.** Selection process will begin December 1, 1999 and continue until position is filled. MSU is an Affirmative Action/Equal Opportunity Institution. Minorities and women are strongly encouraged to apply. <http://stt.msu.edu>.

**Want to advertise a position? ADVERTISING RATES & INFORMATION on PAGE 3**

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## ADVERTISEMENTS

**MONTCLAIR STATE UNIVERSITY - DEPARTMENT OF MATHEMATICAL SCIENCES** - Applications are invited for TWO positions that will start September 1, 2000. TENURE TRACK ASSISTANT PROFESSOR - PURE AND APPLIED MATHEMATICS (V# 22w). Department is particularly interested in candidates with research interests in mathematical biology, operations research, optimization, number theory, cryptography and game theory. Ph.D. in Mathematics or Applied Mathematics required. Strong commitment to quality teaching in a broad range of courses at the undergraduate level and to a more specialized set of graduate courses is necessary. TENURE TRACK ASSISTANT OR ASSOCIATE PROFESSOR IN MATHEMATICS EDUCATION (V#23w). Rank and salary commensurate with qualifications and experience. Applicants are required to have Doctorate in Mathematics or Mathematics Education with a demonstrated commitment to research in Mathematics Education and to the education of mathematics teachers, and also show the ability to direct doctoral candidates in Mathematics Education. Strong background in mathematics at least through the Master's level and some teaching experience with grades K-12 is required. Responsibilities will include involvement with undergraduate and master's courses in mathematics and in undergraduate, masters and the Ed.D. Program in mathematics education. Applicants for both positions are expected to have an active research program, be professionally active, and be committed to quality teaching, and the pursuit of grants. Applicants should send a vita, statement of professional goals, research interests and teaching philosophy, and three letters of recommendation to: **Pure and Applied Mathematics Search Committee (V#-22w), or Mathematics Education Search Committee (V#-23w), c/o Dr. Helen M. Roberts, Chair, Department of Mathematical Sciences, Montclair State University, Upper Montclair, NJ 07043.** Screening begins immediately and continues until the positions are filled. The Department offers undergraduate programs in Mathematics, Mathematics Education and Physics; Master's programs in Mathematics, Mathematics Education, and Statistics; and an Ed.D. in Pedagogy with a concentration in Mathematics Education, and has 30 full-time faculty. Montclair State University is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply. Subject to available funding.

**MOORHEAD STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS** - Two Candidates will be selected for the following position: **Assistant Professor of Mathematics, Tenure Track Appointment, (Pending Funding).** RANK AND SALARY: Salary is dependent on qualifications/experience. QUALIFICATIONS AND EXPERIENCE: A Ph.D. or Ed.D. in Mathematics Education is strongly preferred. Substantial progress toward a terminal degree is required. Eligibility for licensure at some level K-12 and good communication skills are required. Preference will be given to candidates with evidence of successful teaching at the K-12 and college level. Interest or experience in teaching a mathematics methods course and evidence of ability to work effectively as a member of a teaching team are desired. RESPONSIBILITIES: Teaching mathematics education methods and content courses and undergraduate mathematics courses. Other responsibilities include advising students, developing in-service workshops, service to the university, and maintaining an appropriate level of professional activity. The teaching load is twelve hours per semester, which may include supervising student teachers. APPLICATIONS INFORMATION AND DEADLINE: Screening of applications will begin January 17, 2000. Applications accepted until filled. Completed applications must include a resume, MSU Standard Application Form, graduate and undergraduate transcripts, and three current letters of reference. Successful candidate must be legally able to work in the U.S. on the day employment begins. Apply to: **Don Mattson, Chair, Mathematics Department, Moorhead State University, Moorhead, MN 56563**, (218) 236-2274; fax number (218) 236-2168; email: mattson@mhd1.moorhead.msus.edu. Moorhead State University is an EO/AA employer. Women, minorities and persons with disabilities are encouraged to apply.

**NEW MEXICO STATE UNIVERSITY - DEPARTMENT OF MATHEMATICAL SCIENCES** - The department invites applications for possible tenure-track and visiting positions in pure and applied mathematics and statistics for academic year 2000-2001. The department has 31 tenure-track faculty members, and offers B.S., M.S. and Ph.D. degrees. Tenure-track appointments are expected to be at the assistant professor level. 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 a tenure-track or visiting position. 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 20, 1999. Letters of recommendation received by January 3, 2000 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.

**THE OHIO STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Tenure-track Assistant Professor position in Algebra** - Applications invited for one tenure-track assistant professor position in Algebra. All applicants must show exceptional promise in research and teaching. We are looking to hire a candidate who extends and complements the research interests of our algebra group. The position will be effective September 1, 2000; a Ph.D. in mathematics is required. The salary is competitive and there is an excellent fringe benefit package. A review of applications will begin January 15, 2000. Send a letter of application, resume and three letters of recommendation to: **Chair, Search Committee, Department of Mathematics, Ohio State University, 321 Morton Hall, Athens, Ohio 45701.** For additional information on our department and the available positions, check http://www.math.ohiou.edu/. Ohio University is an Equal Opportunity/Affirmative Action employer.

**THE OHIO STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS** -The Department of Mathematics of The Ohio State University expects to have available at least one tenure-track/tenured position and several visiting positions, effective Autumn Quarter 2000. Candidates in all areas of pure and applied mathematics are invited to apply. The Department will also have available several Hans J. Zassenhaus Assistant Professorships and Arnold Ross Assistant Professorships. These term positions are renewable annually up to a total of three years. Significant mathematical research accomplishments or exceptional promise, and evidence of excellent teaching ability are required. Please send a CV and have at least three letters of recommendation sent to: **Professor Peter March, Chair, Department of Mathematics, The Ohio State University, 231 W. 18th Avenue, Columbus, Ohio 43210.** The Ohio State University is an Equal Opportunity/Affirmative Action employer. Women and minority candidates are encouraged to apply.

**OHIO WESLEYAN UNIVERSITY - DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE** - Ohio Wesleyan University invites applications for a tenure-track assistant professor position in statistics (pending administrative approval). A Ph.D. in Statistics is the ideal qualification but candidates with a Ph.D. in Mathematics and significant academic training in Statistics will also be considered. Responsibilities include teaching undergraduate courses in statistics and developing the Concentration in Statistics within the mathematics major. Consult **www.owu.edu/~macsweb/** for FURTHER INFORMATION AND APPLICATION MATERIALS. Ohio Wesleyan is an affirmative action/EEO employer and encourages women and minority applicants.

**Upcoming AWM PROGRAM APPLICATION DEADLINES** [ for CRITERIA & ELIGIBILITY program announcements -- see pages references ]

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| WORKSHOP AT SIAM ANNUAL MEETING | Deadline: January 26, 2000 | see page 13 |
| TRAVEL GRANTS FOR WOMEN | Deadline: February 1, May 1 & October 1, 2000 | see page 8 |
| MENTORING TRAVEL GRANTS FOR WOMEN | Deadline: February 1, 2000 | see page 9 |
| SONIA KOVALEVSKY HIGH SCHOOL MATH DAYS | Deadline: February 4, 2000 | see page 12 |

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## ADVERTISEMENTS

**PORTLAND STATE UNIVERSITY - DEPARTMENT OF MATHEMATICAL SCIENCES - Tenure-Track Assistant Professor Positions** - Applications are invited for assistant professor positions in applied mathematics, statistics, and a possible open position beginning September 16, 2000. Applicants are expected to have completed a doctoral degree in a mathematical science and show evidence of outstanding research potential and a strong commitment to excellence in teaching. Preference will be given to applicants with a commitment to interdisciplinary research and developing collaborations with industry. Further program information is available on our home page (http://www.mth.pdx.edu). Qualified applicant's applications materials should include (1) the *AMS Cover Sheet for Academic Employment*, (2) a curriculum vitae, and (3) three letters of recommendation. Send materials to: **Search Committee, Department of Mathematical Sciences, Portland State University, P.O. Box 751, Portland, OR 97207-0751.** Email: search@mth.pdx.edu. All materials should be received by December 31, 1999. Portland State University is an Affirmative Action/Equal Opportunity Institution. Applications from women and minorities are especially welcome.

**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, 1999, 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, 2000. 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 AA/EO 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.**

**RANDOLPH-MACON COLLEGE - DEPARTMENT OF MATHEMATICS** - Applications are invited for a tenure-track position in mathematics beginning in the Fall of 2000. The position is open to applicants in all fields of mathematics, though preference will be given to applicants in applied or computational mathematics, including statistics. ABD required, Ph.D. preferred. Essential characteristics are a commitment to excellence in teaching at a residential liberal arts college and a strong interest in continued scholarship. Duties include teaching seven 3-hour courses per academic year (typically 3-1-3) and maintaining an appropriate level of professional activity and service to the college. Randolph-Macon College, founded in 1830, is a small, selective, liberal arts college located in Ashland, VA (90 miles south of Washington, DC and 15 miles north of Richmond). The department consists of six full-time faculty, and maintains a computer classroom with 25 workstations. Scholarly activity, curriculum development, and collaborative student/faculty research are encouraged and supported. To apply, send a letter of application, a vita, 3 letters of recommendation, statements of teaching philosophy and scholarship goals, and graduate transcripts to: **Dr. Bruce Torrence, Chair, Mathematics Search Committee, Randolph-Macon College, P.O. Box 5005, Ashland, VA 23005-5505.** Applications received before Dec. 31 will be given first consideration; preliminary interviews will be given at the Joint Meetings. Applications from women and minorities are encouraged. EOE.

**RICE UNIVERSITY - DEPARTMENT OF MATHEMATICS** - Applications are invited for a tenure-track position in the Department of Mathematics at the rank of assistant professor. Duties will include research, teaching and service. Candidates should have extremely strong research potential and very good teaching skills. Send a curriculum vitae to: **Appointments Committee, Department of Mathematics, Rice University, P.O. Box 1892, Houston, TX 77251-1892.** In addition, solicit at least 3 letters of reference and ask that they be sent directly to the address above. Submitting the *AMS Application Cover Sheet* would be greatly appreciated. Applications which are complete by January 1, 2000 will be assured full consideration. Rice University is an Equal Opportunity/Affirmative Action Employer and strongly encourages applications from women and minority group members.

**ROCHESTER INSTITUTE OF TECHNOLOGY - DEPARTMENT OF MATHEMATICS AND STATISTICS** - Applications are invited for a tenure-track position at the Assistant Professor level, starting September, 2000. Candidates should have a Ph.D. in Mathematics or Statistics. The primary focus is a strong commitment to and proven ability in undergraduate teaching although we expect continued scholarly activity and professional development. Preference will be given to candidates in the areas of applied mathematics, modeling, operations research or statistics with an interest in innovative instructional methods using current technology. The Department offers Bachelors degrees in Applied Mathematics, Computational Mathematics and Applied Statistics as well as a Masters degree in Industrial and Applied Mathematics. Applicants should send a letter of application, vita, a statement of teaching philosophy, a description of teaching experience, a statement of research activities and plans, and direct three letters of recommendation to: **Dr. S. Kumar, Chair, Faculty Search Committee, Department of Mathematics and Statistics, Rochester Institute of Technology, 85 Lomb Memorial Drive, Rochester, NY 14623-5603.** For more information about RIT and our Department, please visit our web page at www.rit.edu/~673www/mathstat.html. Review of applications begins on December 1,1999 and will continue until the position is filled. RIT is an Equal Opportunity/Affirmative Action Employer and members of protected classes are particularly encouraged to apply.

**SAINT JOSEPH'S UNIVERSITY - DEPARTMENT OF MATHEMATICS** - The Department of Mathematics at St. Joesph's University invites applications for a tenure track position in Operations Research or Statistics. A second position also in Operations Research or Statistics is possible subject to final approval by the Board. Candidates should submit a hard copy application, including 3 reference letters and an email address for contact purposes to: **Dr. Jonathan Hodgson, Chair of the Search Committee, Department of Mathematics and Computer Science, Saint Joseph's University, 5600 City Avenue, Philadelphia, PA 19131.** Further information is available on the department's website at: http://wwwmacs.sju.edu/position2000.html. Consideration of applications will begin 15 December 1999. Applications will be accepted until the position is filled. St. Joseph's University is an Equal Opportunity Employer. M/W/D/V.

**SIMON FRASER UNIVERSITY - DEPARTMENT OF MATHEMATICS AND STATISTICS - Faculty Appointment in Mathematics** - The Department of Mathematics and Statistics of Simon Fraser University has two positions in mathematics to be filled over the next two years. One position will start September 1, 2000, the second a year later. Applicants will be expected to have completed a Ph.D. degree at the time of appointment and to have demonstrated a strong teaching and research potential. The appointments will most likely be made at the level of Assistant Professor although the department is seeking authorization to appoint at higher rank. The department's first priority is discrete mathematics; the second priority is for algebra or number theory. However, specialists in other areas may apply. Applications, including a curriculum vitae and descriptive statements on research plans and teaching activities, should be sent by 10 January, 2000 to: **Dr. J.L. Berggren, Chair, Department of Mathematics and Statistics, Simon Fraser University, Burnaby, British Columbia V5A 1S6, Canada.** Please arrange for three letters of reference to be sent, in 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>. These positions are 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.

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## ADVERTISEMENTS

**SOUTHERN ILLINOIS UNIVERSITY, EDWARDSVILLE - DEPARTMENT OF MATHEMATICS AND STATISTICS** - Southern Illinois University Edwardsville, a comprehensive state university 20 miles from downtown St. Louis, Missouri, invites applications for two tenure-track positions in Mathematics at the rank of assistant professor beginning August 2000; higher ranks may be considered for outstanding candidates. Applicants should have a Ph.D. or Ed.D. in various areas of mathematics or mathematical education. A strong commitment to teaching and a demonstrated capacity to perform research will be necessary for promotion and tenure. The successful candidates will teach precalculus, calculus, differential equations, and some upper level courses in mathematics and applied mathematics. One applicant will be expected to work with teacher education by sharing responsibility for methods courses, advisement, and supervision of student teachers. Participation in Office of Science and Mathematics Education activities, including outreach to K-12 sector, is expected. The Department of Mathematics and Statistics has 17 full time faculty members and offers undergraduate programs in mathematics, applied mathematics, statistics, actuarial science, and secondary education, and master's programs in mathematics, statistics and operations research, and computational mathematics. Send a letter of application, curriculum vita, transcripts (unofficial transcripts are acceptable for now), and three letters of recommendation to: **Chair of Search Committee, Department of Mathematics and Statistics, Campus Box 1653A, Southern Illinois University, Edwardsville, IL 62026.** Review of applications will begin on December 15, 1999 and continue until the position is filled. As an affirmative action employer, SIUE offers equal employment opportunity without regard to race, color, creed or religion, age, sex, national origin, or disability.

**SOUTHERN METHODIST UNIVERSITY - DEPARTMENT OF MATHEMATICS** - Applications are invited for one position at either the assistant professor (tenure-track) or associate professor (tenured) level, to begin in the Fall semester of 2000. Applicants must provide evidence of outstanding research and a strong commitment to teaching at all levels. The Department of Mathematics has an active doctoral program in computational and applied mathematics, specializing in physical applied mathematics, numerical mathematics, and scientific computation. Preference will be given to candidates whose research focuses on one of these areas. To apply, send a letter of application with a curriculum vita, a list of publications, and a research 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 3, 2000. To ensure full consideration for the position, the application must be postmarked on or before January 3, 2000. SMU will not discriminate on the basis of race, color, religion, national origin, sex, age, disability or veteran status. Visit the department's home page at http://ww.smu.edu~math for more information. The Search Committee can be contacted by sending email to math search@mail.smu.edu. [Tel: (214) 768-2506; Fax: (214) 768-2355].

**ST. CLOUD STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Mathematics tenure track positions** - The Department of Mathematics invites applications for one or more tenure-track assistant professor positions, contingent on funding, to begin in August, 2000. The successful candidate will primarily teach undergraduate courses in the Mathematics Department and contribute to the vitality of the mathematics programs. The normal teaching load is 12 hours per week. Expectations include the ability to teach and/or perform effectively, scholarly achievement or research, continued preparation and study, contribution to student growth and development, and service to the university and community. A doctorate in mathematics or mathematics education by the appointment date is required. Recent doctorates will be preferred. Doctorates in mathematics education must have an extensive background in mathematics (at a minimum, the equivalent of a masters degree in mathematics). Candidates must demonstrate a strong commitment to undergraduate education, including the roles of service courses and general education courses emphasizing mathematical literacy, and to programs in the department. Candidates must also possess excellent communication skills, be able to demonstrate teaching effectiveness, and have a record of or strong potential for scholarly and professional activity. The successful candidate will have demonstrated ability to teach and work with persons from culturally diverse backgrounds. To assure full consideration of your application, all required materials should be postmarked by January 20, 2000. Write to: **Dr. Dale R. Buske, Chair, Mathematics Search Committee, St. Cloud State University, 720 Fourth Ave. S., St. Cloud, MN 56301,** or send an email inquiry to mathsearch@stcloudstate.edu. SCSU is committed to excellence and actively supports cultural diversity. To promote this endeavor, we invite individuals who contribute to such diversity to apply, including women, minorities, GLBT, persons with disabilities and veterans.

**SUNY COLLEGE AT CORTLAND - DEPARTMENT OF MATHEMATICS** - The Mathematics Department invites applications for a tenure-track position as Coordinator, Secondary Mathematics Education at the assistant or associate professor level to begin Fall 2000. Responsibilities include overseeing the department's bachelor's and master's degree programs in secondary education, supervising student teachers, and teaching a broad spectrum of courses. Requirements include a Ph.D. in mathematics or mathematics education, excellent teaching skills, and experience in teacher preparation. Send vita, unofficial transcripts, statement of teaching and learning philosophy, and three letters of reference to: **Mathematics Search Committee, SUNY College at Cortland, P.O. Box 2000, Cortland, NY 13045.** Deadline for applications is January 7, 2000 or until the position is filled. We plan to conduct interviews at the Joint Mathematics Meetings in Washington, D.C. SUNY Cortland is an AA/EEO/ADA employer. We have a strong commitment to the affirmation of diversity and have interdisciplinary degree programs in the areas of multicultural studies.

**SWARTHMORE COLLEGE - DEPARTMENT OF MATHEMATICS AND STATISTICS** - The Department of Mathematics and Statistics invites applications for a tenure track position at the beginning assistant professor level beginning fall 2000. The position is pending administrative approval which is anticipated fall 1999. The department is looking for candidates in areas that support our existing curriculum and complement existing expertise in our faculty. For more information about our department and program, please see http://www.swarthmore.edu/natsci/math/jobs/. 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. Faculty are eligible to apply for sabbatical leave after every three years of teaching. Please send a cover letter, resume, research summary, teaching statement, and three letters of recommendation to: **Mathematics Search Committee, Department of Mathematics and Statistics, Swarthmore College, 500 College Ave, Swarthmore PA 19081.** The cover letter should include a statement about how the candidate complements the department. All applications should be sent in paper form. No email or fax applications will be considered. Email inquiries can be sent to msdept@swarthmore.edu. All applications received by December 10 will receive full consideration. Later applications may be considered until the position is filled. Swarthmore is an Equal Opportunity employer. Women and minority candidates are encouraged to apply.

**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 50** 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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## ADVERTISEMENTS

**SYRACUSE UNIVERSITY - DEPARTMENT OF MATHEMATICS** - Applications are invited for two tenure-track positions at the Assistant Professor level beginning August, 2000. Candidates should have a Ph.D. in mathematics or mathematical statistics, a strong research record and potential, and a strong teaching record and potential. Preference given to candidates whose research interests are in one of the following areas: applicable mathematics (including applicable/applied algebra, approximation theory/signal processing, combinatorics, mathematical biology, the mathematics of finance, and mathematical statistics), several complex variables, differential equations (ordinary, partial and/or stochastic), algebra, algebraic geometry, and algebraic topology. Preference will also be given to candidates whose research accomplishments and potential overlap or complement those of existing faculty and/or display a serious engagement with or interest in the applications of core mathematics. Postdoctoral experience is desirable. See our homepage (http://math.syr.edu) for more information. Applications should include a cover letter, CV, three letters of recommendation about the applicant's research, and at least one letter of recommendation about the applicant's teaching. Address applications to: **Chair, Department of Mathematics, Syracuse University, Syracuse, NY 13244.** To be assured of full consideration, applications must be received by January 1, 2000. Syracuse University is an Equal Opportunity/Affirmative Action Employer committed to fostering a diverse faculty; women and minority candidates are especially encouraged to apply.

**TEXAS TECH UNIVERSITY - DEPARTMENT OF MATHEMATICS AND STATISTICS** - Applications are invited for at least two tenure-track assistant professor positions beginning fall 2000. All areas of mathematics will be considered, but priority will be given to candidates in 1) Computational Mathematics, and 2) Algebra, Geometry, or Topology. The successful candidate will show strong promise or accomplishment in research and teaching. Please send a resume, a completed *AMS standard cover sheet*, and have three letters of recommendation sent to: **Alex Wang, Hiring Chair, Department of Mathematics and Statistics, Texas Tech University, Lubbock, TX 79409-1042.** Review of applications will begin immediately. Texas Tech is an AA/EO employer. Additional information is available at http://ttmath.ttu.edu/~awang/employ/employ.html.

**TRINITY COLLEGE, CONNECTICUT - DEPARTMENT OF MATHEMATICS** - The Department of Mathematics solicits applications for the first Harold L. Dorwart Visiting Assistant Professorship. This is a three-year non-renewable position, carrying with it an extremely competitive salary, plus start-up and travel money. The normal course load is 5 semester courses/year ("3/2"), one of which will be a research seminar to be co-taught with a senior member of the faculty. We are seeking applicants with a specialization in functional analysis. Please send a letter of application, c.v., a statement of teaching philosophy, and three letters of reference **at least one of which speaks to teaching** to: **Search Committee, Department of Mathematics, Trinity College, 300 Summit St., Hartford, CT 06106.** Be sure to include email contact information. There is no closing date for applications; however, the Department will begin to read applications in early December, and applications received by December 1, 1999 will receive full consideration. Members of the Search Committee will be at the Joint Mathematics Meetings in Washington, D.C., to participate in The Employment Center. Trinity College is an Affirmative Action/Equal Opportunity employer. Women and members of minority groups are encouraged to apply. Applicants with disabilities should request, in writing, any needed accommodation in order to participate more fully in the application process.

**UNITED STATES MILITARY ACADEMY - DEPARTMENT OF MATHEMATICAL SCIENCES** - expects several assistant professor positions starting 1 July 2000. This three-year, non-renewable (non-tenured track) appointments requires a Ph.D. in mathematics, applied mathematics, operations research, statistics or mathematics education. Applications (due January 15, 2000) must contain a curriculum vitae, transcripts, a statement of teaching philosophy and career goals, and three letters of recommendation. Women and minorities are encouraged to apply (U.S. Citizenship is required). Visit our website at http://www.dean.usma.edu/math/ Send required information to: **United State Military Academy, CPO Attn: Mr. Martin Nolan, West Point, NY 10996-1995.**

**UNIVERSITY OF ALASKA, ANCHORAGE - DEPARTMENT OF MATHEMATICS** - The University of Alaska Anchorage invites applications for a tenure-track position at the rank of Assistant Professor, beginning Fall 2000. Requirements include a Ph.D. in mathematics and a commitment to teaching a variety of mathematics courses. For more information on the vacancy announcement and application procedures, please contact the **University of Alaska Anchorage, Human Resource Services, Administration Building, Suite 245, 3211 Providence Drive, Anchorage, AK 99508-8136**, phone: 907-786-4608, www.finsys.uaa.alaska.edu/uaahrs. UAA is an AA/EO Employer and Educational Institution.

**UNIVERSITY OF ARIZONA - DEPARTMENT OF MATHEMATICS - Academic Year 2000-2001** -The Mathematics Department at the University of Arizona may have tenure-track and postdoctoral positions, including the Hanno Rund Visiting Assistant Professorship, subject to availability of funding beginning fall 2000. **TENURE TRACK POSITIONS:** Ph.D. and excellent research record or potential, and strong commitment to teaching required. Fields should complement but not duplicate existing department research strengths in algebraic and differential geometry, computational science, probability and statistics, dynamical systems, mathematical physics, nonlinear science, mathematics education, algebra and number theory. **POSTDOCTORAL VISITING POSITIONS:** Applicants with strengths in all areas compatible with department interests are encouraged to respond. Ph.D. required. The Mathematics Department may also have other waiting positions for next year. Ph.D. required. We encourage early application. Application review begins November 1, 1999, with applications accepted until December 15, 1999, or as long as positions remain unfilled. Send *AMS Cover sheet*, a letter of interest (please specify which position(s) you are applying for), curriculum vitae with a list of publications, and a minimum of three (3) letters of recommendation (enclose or arrange to be sent), to: **Personnel Committee, Department of Mathematics, University of Arizona, P.O. Box 21008, Tucson, Arizona 85721-0089.** The AMS form can be downloaded from http://www.ams.org/employment/coversheet-info.html. The University of Arizona is an EEO/AA Employer. M/W/D/V

**UNIVERSITY OF CALIFORNIA, DAVIS - DEPARTMENT OF MATHEMATICS - Regular and Visiting Faculty Positions in Mathematics** - The Department of Mathematics at the University of California, Davis, is soliciting applications for a tenure-track/tenured position and several Visiting Research Assistant Professor (VRAP) positions starting July 1, 2000, These positions and appointments are contingent upon budgetary and administrative approval. Appointment of the tenure-track/tenured position will be made commensurate with qualifications, It will normally be made at the level of Assistant Professor, but exceptional candidates will be considered for Associate Professorship with tenure. The Department of Mathematics plans to fill the tenure-track/tenured position in the area of Applied Mathematics. However, applications from exceptionally strong candidates with demonstrated excellence in the following areas are also considered: **1)** Analysis and Partial Differential Equations; **2)** Discrete Mathematics; **3)** Geometry and Topology, **4)** Mathematical Physics; and **5)** Numerical Analysis and Scientific Computation. Minimum qualifications for this position include a Ph.D. degree in mathematical sciences and great promise in research and teaching. Duties include mathematical research, undergraduate and graduate teaching (4.0 quarter courses per year), and departmental and university service. Candidates for the Associate Professor position must have demonstrated outstanding attainment in research and teaching. The VRAP positions are renewable for a total of three years with satisfactory performance in research and teaching. The VRAP applicants are required to have completed their Ph.D. no earlier than 1996. The Department is interested in applicants in [→]

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## ADVERTISEMENTS

[ ← ] **1)** Analysis and Partial Differential Equations; **2)** Applied Mathematics; **3)** Discrete Mathematics; **4)** Geometry and Topology; **5)** Mathematical Physics; and **6)** Numerical Analysis and Scientific Computation. Applications will be accepted until the positions are filled, but to receive full consideration, the application should be received by November 30, 1999. To initiate the application process, please request an application package by either sending an email message to forms@math.ucdavis.edu, or, by writing to: **Chair of Search Committee, Department of Mathematics, University of California, One Shields Avenue, Davis, CA 95616-8633.** Our Application Form is identical to the *AMS Standard Cover Sheet.* Additional Information on the Department may be found on the World Wide Web at http://math.ucdavis.edu/. The University of California, Davis, is an affirmative action/equal opportunity employer. The University undertakes affirmative, action to assure equal employment opportunity for minorities and women, for persons with disabilities, and for special disabled veterans, Vietnam era veterans, and any other veterans who served on active duty during a war or in a campaign or expedition for which a campaign badge has been authorized.

**UNIVERSITY OF CALIFORNIA, LOS ANGELES - DEPARTMENT OF MATHEMATICS - 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. Under Federal law, the University of California may employ only individuals who are legally authorized to work in the United States as established by providing documents specified in the Immigration Reform and Control Act of 1986.

**UNIVERSITY OF CALIFORNIA, LOS ANGELES - DEPARTMENT OF MATHEMATICS** - TEMPORARY POSITIONS - Subject to availability of resources and administrative approval. Preference will be given to applications completed by January 7, 2000. **(1) Several E.R. Hedrick Assistant Professorships.** Applicants must show very strong promise in research and teaching. Salary $49,300. Three year appointment. Teaching load: four quarter courses per year, which may include one advanced course in the candidate's field. **(2) One or two Research Assistant Professorships in Computational and Applied Mathematics (CAM).** Applicants must show very strong promise in research and teaching. Salary $49,300. 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. **(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 $52,900. 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 $42,300 or more, depending on experience. **(4) An Adjunct Assistant Professorship.** One year appointment, probably renewable once. Strong research and teaching background required. Salary $45,500-$48,000. Teaching load: five quarter courses per year. **(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. Under Federal law, the University of California may employ only individuals who are legally authorized to work in the United States as established by providing documents specified in the Immigration Reform and Control Act of 1986.

**UNIVERSITY OF CALIFORNIA, SANTA BARBARA - DEPARTMENT OF MATHEMATICS - Faculty Positions** - The University of California, Santa Barbara invites applications for the following positions in the Department of Mathematics, beginning Fall 2000. **(1) ONE TENURE TRACK POSITION:** A tenure track position in numerical analysis/applied mathematics at the assistant professor level. Appointment is effective July 1, 2000 and candidates must possess a Ph.D. by September 2000. The department is particularly interested in individuals with expertise in development, analysis and numerical resolution of nonlinear models from applied science. Demonstrated research excellence and potential to become an effective teacher are required. Candidates who best enhance the long term research plans of the department will be given preference. **(2) SPECIAL VISITING POSITIONS:** Subject to availability of funds, one or more special one-year visiting assistant professorship, with possibility of a second year, carrying a teaching load of 5 one quarter courses per year. Excellence in research, potential for interaction with faculty at UC Santa Barbara and evidence of good teaching required. Candidates must possess a Ph.D. by September 2000. Applicants should send the following materials to the **NUMERICAL/APPLIED COMMITTEE**, or the **VISITING APPOINTMENTS COMMITTEE, as appropriate, 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 online at http://www.ams.org). Include an email address if available. Applicants should also arrange to have at least four letters of recommendation sent to the appropriate committee. Applicants for the tenure track positions will automatically be considered for any visiting positions upon request, so duplicate applications are unnecessary. Applications which are complete by January 3, 2000, will be given full consideration. UCSB is an affirmative action/equal opportunity employer.

**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, 2000. Require Ph.D. in Statistics and demonstrated potential for excellence in research and teaching. Applications for anticipated visiting positions are also invited. Current resume, papers and three reference letters to: **Search Committee, Department of Statistics and Applied Probability, University of California, Santa Barbara, CA 93106-3110, USA.** Deadline December 10, 1999. The University of California is an Equal Opportunity and Affirmative Action employer. Women and minorities are encouraged to apply.

**UNIVERSITY OF COLORADO AT BOULDER - DEPARTMENT OF APPLIED MATHEMATICS - Assistant Professor** - Applications are invited for a tenure-track assistant professorship to begin August 2000. Preference will be given to those candidates whose research emphasis is in statistics, stochastic partial differential equations or other areas of applied probability. The teaching load is three courses per year. Areas of research expertise within the Department include computational mathematics, nonlinear waves and dynamics, analysis of differential equations, physical applied mathematics, and applied probability. Further information can be found on the Department's web page: http://amath.colorado.edu/appm/ Applicants should send a letter of application, a current curriculum vitae, a statement of research interests, an *AMS Standard Cover Sheet* (see http://www.ams.org/employment/cover-template.doc) and three letters of recommendation (sent directly) to: **Chair, Search Committee, Department of Applied Mathematics, Campus Box 526, University of Colorado at Boulder, Boulder, CO 80309.** Review of applications will begin November 15, 1999 and will continue until the position is filled. The University of Colorado at Boulder is committed to diversity and equality in education and employment.

**DO YOU HAVE A NEW ADDRESS?** Please use the **form on the BACK COVER** or drop us an **EMAIL**: awm@math.umd.edu

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## ADVERTISEMENTS

**UNIVERSITY OF DAYTON - DEPARTMENT OF MATHEMATICS** - Applications are invited for a tenure track position at the assistant professor level starting in August 2000. A Ph.D. in mathematics is required with preference given to those working in the area of combinatorics. Applicants must have a strong commitment to research and the potential to become an effective teacher. Responsibilities include developing and maintaining a research agenda, teaching a broad range of courses, advising, and curriculum development in the undergraduate program. The applicant will also be expected to participate in mentoring students working on undergraduate research projects. The selection process will begin on December 6, 1999. To receive full consideration, all materials must be received by January 22, 2000. Please send a resume, three letters of recommendation, a statement of research plans and a statement of teaching philosophy to: **Dr. Paul Eloe, Chair of the Combinatorics Search Committee, Department of Mathematics, University of Dayton, Dayton, OH 45469-2316.** Both teaching and research abilities should be addressed in the letters. Please include an email address in your correspondence. Further information can be obtained on our web site: http://www.udayton.edu/~mathdept. The University of Dayton is an Equal Opportunity and Affirmative Action Employer.

**UNIVERSITY OF FLORIDA - DEPARTMENT OF MATHEMATICS** - Applications are invited for three tenure-track positions at the assistant professor level in: (i) Applied Mathematics/PDE, (ii) Differential Geometry, (iii) Algebraic/Arithmetic Geometry. Priority is given to candidates who can interact with existing groups in the department. Appointments commence August 2000. Applicants must show strong research promise and are expected to excel in teaching as well. Applicants must forward vitae and list of publications to: **Chair of Search Committee, Department of Mathematics University of Florida, 358 Little Hall, P.O. Box 118105, Gainesville, FL 32611-8105.** Applicants should ask referees to send three letters of recommendation directly to the address above. Completed applications are due by December 13, 1999. 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. For more information about the positions or institution/company: http://www.math.ufl.edu

**UNIVERSITY OF HAWAII - DEPARTMENT OF MATHEMATICS** - The Department of Mathematics invites applications for an assistant professor, tenure-track position to begin August 1, 2000. Candidates should have significant promise or achievements in research in some field of pure or applied mathematics. Evidence of effective teaching is essential as duties include undergraduate and graduate teaching. To apply, send your curriculum vitae, and arrange for four letters of recommendation to be sent to: **The Hiring Committee, Department of Mathematics, University of Hawaii, Honolulu, HI 96822-2273.** At least one of the letters of recommendation should concern the candidate's experience and abilities as a teacher. All application materials including letters of reference must be postmarked by December 29, 1999. Information concerning the department and the position can be found at http://www.math.hawaii.edu. The University of Hawaii encourages applications from members of racial or ethnic minorities and from women.

**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, 2000. 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 2000-2001 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. 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.** No email applications will be accepted. To ensure full consideration, materials must be received by December 21, 1999. Minorities, persons with disabilities, and women are particularly encouraged to apply. UIC is an AA/EOE.

**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 a **TENURE TRACK OR TENURED POSITION**, effective August 21, 2000, in **Computer Science, broadly defined.** Current areas of interest include algorithms, coding theory, combinatorial optimization,, combinatorics, complexity, computational mathematics, computational statistics, cryptography, data mining, graph theory, language design, learning theory, logic, numerical analysis, and universal algebra. 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, or a related field, an outstanding research record, and evidence of strong teaching ability, with particular interest in programming and algorithms. Salary negotiable. 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.** No email applications will be accepted. To ensure full consideration, materials must be received by December 21, 1999. Minorities, persons with disabilities, and women are particularly encouraged to apply. UIC is an AA/EOE.

**UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN - DEPARTMENT OF MATHEMATICS - Posdoctoral Positions as J.L. Doob Research Assistant Professor** - The Department of Mathematics of the University of Illinois at Urbana-Champaign is soliciting applications for postdoctoral positions. Three appointments will be made starting August 21, 2000; each appointment is for 3 years and is not renewable. These positions are for recent Ph.D. recipients (with a strong preference for those not more than one year past the Ph.D. degree). The Department of Mathematics will provide an excellent scientific environment to pursue research in pure and applied mathematics. The position carries a salary of $41,000 per year. Applicants should send a letter of application, a curriculum vitae and publication list, (please provide hard copies of your application and supporting documents), and arrange to have three letters of reference sent directly to: **Postdoctoral Search Committee, Department of Mathematics, University of Illinois at Urbana-Champaign, 1409 West Green Street, Urbana, IL 61801-2975.** Email: postdocs@math.uiuc.edu. To insure full consideration, all materials, including letters of reference, should be received by November 30, 1999. We will review later applications, until the search is closed. We encourage use of the application cover sheet provided by the American Mathematical Society and the indication of the subject area using the AMS subject classification number. Applications from women and minority candidates are especially encouraged. The University of Illinois is an Affirmative Action/Equal Opportunity Employer.

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# ADVERTISEMENTS

**UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN - DEPARTMENT OF MATHEMATICS - Tenure-Track Position** - Applications are invited for one or more full time faculty positions to commence August 21, 2000, at the tenure-track (assistant professor) level. Those faculty will be expected to pursue a vigorous research program, and teach graduate as well as undergraduate students. The department will consider applicants in all fields of mathematics, but we intend to show preference in applied mathematics, computational mathematics, mathematical physics, partial differential equations and global analysis, probability theory, algebraic geometry and number theory. Salary and teaching load are competitive. Applicants should have completed the Ph.D. (or equivalent) by the time the appointment begins and are expected to present evidence of excellence in research and teaching. Applicants should send a letter of application, a curriculum vitae and publication list, and also arrange to have three letters of reference sent directly to: **Joseph Rosenblatt, Chair, Department of Mathematics, University of Illinois at Urbana-Champaign, 1409 West Green Street, Urbana, IL 61801**, Tel. (217) 333-3352, email: search@math.uiuc.edu. It is the responsibility of the tenure-track applicants to make sure that letters of recommendation are sent. For fullest consideration, all materials, including letters of reference, should be received by November 30, 1999; however, applications will be accepted, and interviews conducted, until the positions are filled. We encourage use of the application *cover sheet* provided by the American Mathematical Society. Applications from women and minority candidates are especially encouraged. The University of Illinois is an Affirmative Action/Equal Opportunity Employer.

**THE UNIVERSITY OF IOWA - DEPARTMENT OF MATHEMATICS** - The Department of Mathematics of The University of Iowa invites applications for the following positions: **1.** Tenure-track assistant professorship, starting in August 2000, in the areas of algebra, geometric analysis, and quantization. Exceptional candidates in other areas are also encouraged to apply. Selection will be based on evidence of outstanding research accomplishments or potential, and excellent teaching. A Ph.D. or equivalent is required. **2.** Pending availability of funds, one or more visiting positions for all or part of the 2000-2001 academic year. Selection will be based on research expertise and teaching ability. Assignment to rank will be commensurate with qualification. Preference will be given to applicants whose scholarly activity is of particular interest to members of the current faculty. A Ph.D. or equivalent is required. Women and minority candidates are especially urged to apply for the above positions. Although formal screening will begin December 1, 1999; applications will be accepted until the positions are filled. 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, IA 52242.** The University of Iowa is an Equal Employment Opportunity & Affirmative Action Employer. For current information on the department, see http://www.math.uiowa.edu/

**UNIVERSITY OF KANSAS - DEPARTMENT OF MATHEMATICS** - Applications are invited for two tenure-track positions at the assistant professor level beginning August 18, 2000, or January 1, 2001, or as negotiated. (This position is contingent on final budgetary approval.) First preference will be given to candidates in statistics, the second to candidates in computational mathematics, and otherwise to candidates in pure or applied mathematics whose specialties mesh well with those already represented in the department. Candidates must have a Ph.D. or its requirements completed by August 15, 2000. Postdoctoral experience is preferred. Letter of application, detailed resume with description of research, completed *AMS standardized application form*, and three recommendation letters should be sent to: **Jack Porter, Chair, Department of Mathematics, 405 Snow Hall, University of Kansas, Lawrence, KS 66045-2142.** Deadlines: Review of applications will begin on January 1, 2000 and will continue until the positions are filled. EO/AA Employer.

**UNIVERSITY OF KANSAS - DEPARTMENT OF MATHEMATICS** - Applications are invited for two temporary positions at the assistant professor level beginning August 18, 2000 or as negotiated. (These positions are contingent on final budgetary approval.) These positions are normally renewable for a second and third year. First preference will be given to candidates in commutative algebra, the second in numerical partial differential equations, 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 18, 2000. Letter of application, detailed resume with description of research, completed *AMS standardized application form* and three letters of recommendation should be sent to: **Jack Porter, Chair, Department of Mathematics, 405 Snow, University of Kansas, Lawrence, KS 66045-2142.** Deadlines: Review of applications will begin on January 1, 2000 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 three tenure-track assistant professorships to begin Fall 1999 (subject to budgetary approval). We seek applicants in the areas of algebra/number theory, computational mathematics, and discrete mathematics/combinatorial optimization. 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 December 1999. UK is an Equal Opportunity Affirmative Action Employer.

**UNIVERSITY OF LOUISVILLE - DEPARTMENT OF MATHEMATICS** - The Department of Mathematics at the University of Louisville invites applications for one tenure-track (Assistant Professor) position in combinatorial optimization or in operations research. This appointment will begin July 1, 2000. Consideration for this position will be limited to candidates with a strong ongoing research program. Preference will be given to candidates whose research interests include problems in logistics and distribution. A Ph.D. in mathematics or in operations research is required, and the successful candidate must show strong potential in research and teaching. In addition, candidates should demonstrate effective communication skills. Applications should include: (1) **the** *American Mathematical Society's standard cover sheet*, (2) curriculum vitae, (3) summary of research interests, (4) statement of teaching qualifications, and (5) at least four letters of recommendation including one which discusses in some detail the candidate's teaching qualifications. Applications should be sent to: **Search Committee, Department of Mathematics, University of Louisville, Louisville, KY 40292.** Review of applications will begin on January 15, 2000. For full consideration, applications must be completed by this date. The University of Louisville is an Affirmative Action/Equal Opportunity Employer and encourages women and underrepresented minorities to apply. Applicants must comply with the provisions of the Immigration Reform and Control Act.

**UNIVERSITY OF MARYLAND, BALTIMORE COUNTY - DEPARTMENT OF MATHEMATICS AND STATISTICS** - The department invites applications for a tenure-track faculty position in the area of Scientific Computation, at the rank of assistant professor, starting in the fall of 2000. The successful candidate should have a Ph.D. in mathematics or a related field, an active, independent research program, strong potential for obtaining external funding, and a commitment to excellence in teaching. Preference will be given to candidates able to conduct interdisciplinary research, as well as those able to interact with existing groups in the department. Current areas represented in the department include numerical analysis, PDEs, optimization and systems theory. The department offers B.S., MS, and Ph.D. degrees in applied mathematics and statistics. Refer to the Web page at http://www.math.umbc.edu for more information. Applicants should send a vita, three letters of reference, and a summary of their current research program to: **Scientific Computation Recruiting Committee, Department of Mathematics and Statistics, University of Maryland Baltimore County, Baltimore, MD 21250.** Screening of applications will commence November 1, 1999 and will continue until the position is filled. UMBC is an Affirmative Action, Equal Opportunity Employer.

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## ADVERTISEMENTS

**UNIVERSITY OF MARYLAND, BALTIMORE COUNTY - DEPARTMENT OF MATHEMATICS AND STATISTICS - Chairperson** - The University of Maryland, Baltimore County (UMBC) invites applications for the position of the Chair of the Department of Mathematics and Statistics. The Chair is expected to lead the faculty in the development of the department's instructional and research programs, including the anticipated filling of several open faculty positions over the next few years. Candidates should have an earned doctorate in mathematics, statistics, or a closely related field, and be qualified for appointment at the rank of full professor. Commitment to excellence in undergraduate and graduate education, possession of superior leadership and communication skills, and a strong and active research program are required. The department offers programs leading to the BA, BS, MS and Ph.D. degrees in applied mathematics and MS and Ph.D. in statistics. Currently there are 22 full-time faculty members, 25 full-time and 30 part-time graduate students, and 150 undergraduate majors. Further details can be obtained from the department's website at http://www.math.umbc.edu. UMBC is located just outside Baltimore and about 30 minutes from Washington D.C., near major industries, federal laboratories and sponsoring agencies. It has a faculty of over 400 and a student body of approximately 10,000. The campus is in a growth mode and has several facilities under construction. The campus's total research funding is approaching $50 million. Candidates should submit a CV, a statement of professional goals, and the names, addresses and telephone numbers of four references to: **Dr. Geoffrey Summers, Chair of Math/Stat Search Committee, c/o Department of Mathematics and Statistics, University of Maryland-Baltimore County, Baltimore, MD 21250.** Screening of the candidates will begin in November 1999 and will continue until the position is filled. UMBC is an EOE/AA employer.

**UNIVERSITY OF MARYLAND, COLLEGE PARK - DEPARTMENT OF MATHEMATICS** – Applications are invited for tenured and tenure-track positions in the Department of Mathematics. Strong preference will be given to candidates in (1) Applied analysis, (2) Applied and computational statistics, and (3) Representation theory, but candidates from all areas will be considered. Candidates at all levels will be considered. Priority will be given to applications received by November 1, 1999. Appointments will commence in fall 2000. The University of Maryland is an Equal Opportunity and Affirmative Action employer that strongly encourages applications from female and minority candidates. Please send a curriculum vitae and *AMS Standard Cover Sheet*, and arrange for three letters of recommendation to be sent to: **The Hiring Committee, Department of Mathematics, University of Maryland, College Park, MD 20742.**

**UNIVERSITY OF MARYLAND, COLLEGE PARK - DEPARTMENT OF MATHEMATICS - Computational Nonlinear Dynamics Faculty Position** - A theoretical nonlinear dynamicist with strong interest in computation is sought for a tenured or tenure-track appointment in the Department of Mathematics, possibly joint with the Institute for Physical Science and Technology. An outstanding record of research accomplishments and a proven ability to attract research support are important for a senior position. Good teaching is a priority of the university. Applications should be sent to: **Chair's Office, Computational Nonlinear Dynamics, Department of Mathematics, University of Maryland, College Park, MD 20742-4015.** Priority will be given to applications received by December 31, 1999. The University of Maryland is an Equal Opportunity/Affirmative Action employer.

**UNIVERSITY OF MARYLAND, COLLEGE PARK - DEPARTMENT OF MATHEMATICS - Lectureships** - Applications are invited for Avron Douglis Lectureships, starting in Fall 2000. These positions are for recent Ph.D. recipients, with a preference for those not more than one year past the Ph.D. degree. The Lectureship is for two years and is non-renewable. Candidates must have superior research potential and a strong commitment to teaching. The Department of Mathematics provides an excellent scientific environment to foster the professional development of junior mathematicians. The teaching duties consist of three courses per year. The salary is $43,000 per academic year, supplemented by a $1,000 research stipend. Priority will be given to applications completed by December 15, 1999. The University of Maryland is an Equal Opportunity and Affirmative Action employer that strongly encourages applications from female and minority candidates. Please send a curriculum vitae and *AMS Standards Cover Sheet*, and arrange for three or more letters of recommendation, at least one of which speaks to the applicant's teaching credentials, to be sent to: **Douglis Lectureship Committee, Department of Mathematics, University of Maryland, College Park, MD 20742.**

**UNIVERSITY OF MICHIGAN - DEPARTMENT OF MATHEMATICS** - Expects to have **T.H. Hildebrandt Research Assistant Professorship,** three-year appointment, reduced teaching load. Also expect to have several 3-year term assistant professorships. Preference is given to persons of any age having the Ph.D. less than two years, with a research interest in common with senior faculty. Applicants should have a strong research program and serious commitment to teaching. Salary competitive. Non-discriminatory Affirmative Action Employer. Starting date: September 2000. Send application to: **Hiring Committee, Department of Mathematics, University of Michigan, Ann Arbor MI 48109-1109.** Applications due: December 17, 1999. <http://www.math.lsa.umich.edu>

**UNIVERSITY OF MISSOURI, COLUMBIA - DEPARTMENT OF MATHEMATICS** - Applications are invited for several tenure-track and postdoctoral positions to start in fall 2000. One position is in number theory with interest/publications in cryptography. A second position is in partial differential equations and stochastic calculus as applied to pricing theory of derivative products and risk management. For the second position, experience in catastrophe futures contracts is desirable. The remaining positions will be in the three areas of Modern Analysis/Harmonic Analysis, Algebra/Algebraic Geometry, and Mathematical Physics. For one of these remaining positions, we are looking for a person who has a strong interest in teacher education and in collaborating with our ongoing projects with mathematics education. All positions require a Ph.D. in Mathematics and a proven record and experience to warrant the hiring at a given rank. Send a curriculum vitae along with a letter of application, a completed *AMS Standard Cover Sheet*, and arrange for three letters of recommendation to be sent to: **Elias Saab, Chair, Department of Mathematics, University of Missouri, Columbia, MO 65211.** The application deadline is December 1, 1999, or until the positions are filled thereafter. AA/EEO. For more information visit our homepage: http://www.math.missouri.edu.

**UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL - DEPARTMENT OF MATHEMATICS** - Applications are invited for two tenure-track assistant professor positions in applied mathematics, with employment to begin July 1, 2000. A tenured appointment may be possible for an exceptional candidate. 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. These positions contribute 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.amath.unc.edu/jobs. Further information about the Applied Mathematics Program and the Mathematics Department may be found at the website http://www.math.unc.edu. Send curriculum vitae, abstract of current research and four letters of recommendation to: **Applied Search Committee, Department of Mathematics, CB #3250 Phillips Hall, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599-3250.** EO/AA Employer. Women and Minorities are encouraged to identify themselves voluntarily. Applicants are encouraged to submit a concise statement of current research plans and teaching goals. Completed applications received by December 1, 1999 are assured of full consideration.

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## ADVERTISEMENTS

**UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL - DEPARTMENT OF MATHEMATICS** - Applications are invited for a tenure track assistant professorship in pure mathematics effective July 1, 2000. Applicants must have demonstrated a strong research potential, normally including substantial work beyond the dissertation. High quality teaching, including interest and expertise in the use of instructional technology, is also expected. Strong preference will be shown to the areas of partial differential equations, representation theory, and geometry. Send a curriculum vitae, brief statement of current research, statement of teaching goals and four letters of recommendation to: **Pure Search Committee, Department of Mathematics, CB #3250 Phillips Hall, University of North Carolina at 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 Mathematics Department 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 December 1, 1999 are assured of full consideration.

**UNIVERSITY OF NORTH TEXAS - DEPARTMENT OF MATHEMATICS - Tenure-Track Position** - The Mathematics Department anticipates one position to fill at the rank of assistant professor for 2000-2001 pending administrative approval. Research areas to be considered include both pure and applied mathematics. The department seeks to appoint persons who will develop as both outstanding research mathematicians and outstanding teachers of mathematics. The teaching load is two classes per semester. Refer to our home page at: <http://www.math.unt.edu>. for more information on the position, the department and degrees offered. The committee will begin evaluation and ranking on December 1 and continue until the position is filled. Send vita and at least three letters of reference to: **Search Committee, Mathematics Department, P.O. Box 311430, University of North Texas, Denton, TX 76203-1430**. Please include your web URL if applicable. Postscript or Microsoft Word applications are welcome at: **mathposition@unt.edu.** The University of North Texas is an ADA/AA/EOE that encourages applications from minority group members and women.

**UNIVERSITY OF NORTHERN COLORADO - DEPARTMENT OF MATHEMATICAL SCIENCES - Assistant Professor of Mathematics Education (#20230)** - Tenure track position. Earned doctorate in Mathematics Education. Applications Deadiine and additional materials: December 15, 1999. Letter of application to include statement of teaching philosophy, vita, graduate transcripts, and 3 letters of recommendation. Submit materials to: **Dr. Robert Mayes, Department of Mathematical Sciences, University of Northern Colorado, Greeley, CO 80639.** Filling position contingent upon funding. UNC is an AA/EO employer and is committed to fostering diversity in its student body, faculty, and staff. AA/EO Office, Carter Hall 2011.

**UNIVERSITY OF NORTHERN IOWA - DEPARTMENT OF MATHEMATICS - Assistant Professor of Mathematics** - Seeking candidates for two tenure-track positions in mathematics. A Ph.D. in any field of pure mathematics, a superior teaching record, and an emerging record of research/ scholarship are required. The successful candidates will be expected to teach a broad spectrum of courses with a standard load of 9 hours per week. Applicants with recent collegiate teaching experience, interest in taking leadership in courses in history of mathematics, geometry, or general education, and an interest in innovative teaching methods are preferred. Appointment begins August 2000. Salary is competitive with excellent fringe benefits. A current application file must be received by January 1, 2000 for full consideration. Please read the complete announcement at http://www.math.uni.edu. Address correspondence to: **Search Committee Co-Chairs, Department of Mathematics, University of Northern Iowa, Cedar Falls, IA 50614-0506.** AA/EOE.

**UNIVERSITY OF NOTRE DAME - COLLEGE OF SCIENCE - Clare Boothe Luce Program Award - Junior Faculty Position for Women** - Applications are invited for the Clare Boothe Luce Professorship within the College of Science at the University of Notre Dame. The search for this tenure-track assistant or associate professor position is necessarily restricted by the Clare Boothe Luce bequest to the Henry Luce Foundation to women who are U.S. citizens and open to the areas present in our departments of Biological Sciences, Chemistry and Biochemistry, Mathematics, and Physics. Candidates should have a Ph.D. and a research record commensurate with the expectations of a chair position at this rank. The new faculty member will be appointed to one of the above departments. She will be expected to develop an independent research program and participate in the teaching of students at the graduate and undergraduate levels. Research space appropriate to need and competitive startup funds are available; additionally, the Clare Boothe Luce Professor will have an excellent starting salary and a discretionary fund. Interviewees will meet with members of the appropriate department and additionally with the Clare Boothe Luce Professor Selection Committee from the College of Science. Applications, including a curriculum vitae, a list of publications, a statement of research interests and plans, and three letters of reference should be received by **Professor Kathie E. Newman, Associate Dean, College of Science, University of Notre Dame, 229 Nieuwland Science Hall, Notre Dame, IN 46556** prior to January 7, 2000. University of Notre Dame is an Affirmative Action/Equal Opportunity Employer.

**UNIVERSITY OF OREGON - DEPARTMENT OF MATHEMATICS** - Applications are invited for tenure-track positions at all levels in mathematics or mathematical statistics beginning in September 2000. Qualifications are a Ph.D. in mathematics or statistics, an excellent record of research accomplishment, and evidence of teaching ability. Preference will be given to candidates with research interests that complement those currently represented. Competitive salary with good fringe benefits. Send complete resume and at least three letters of recommendation to: **Hiring Committee, Department of Mathematics, 1222 University of Oregon, Eugene, OR 97403-1222.** Closing date is January 6, 2000. Women and minorities are encouraged to apply. The University of Oregon is an EO/AA/ADA Institution committed to cultural diversity.

**UNIVERSITY OF PENNSYLVANIA - DEPARTMENT OF MATHEMATICS - Tenure Position in Mathematics** - We anticipate that commencing July 1, 2000, 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: **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, 2000. 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: **Personnel Committee, Department of Mathematics, University of Pennsylvania, Philadelphia, PA 19104-6395.** These are due by January 1, 2000. The University of Pennsylvania is an equal opportunity, affirmative action employer.

**ADVERTISING DEADLINE for the January/February 2000 issue is: December 1, 1999.**

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# ADVERTISEMENTS

**UNIVERSITY OF PITTSBURGH - DEPARTMENT OF MATHEMATICS - Two Assistant Professor Positions** - The Mathematics Department of the University of Pittsburgh invites applications for two tenure-track positions to begin with the Fall Term 2000 subject to budgetary approval. One position would be in Algebra with applications to Discrete Mathematics and one in Geometry/Topology. The appointments are at the starting Assistant Professor level. We seek excellence in teaching and research so applicants should demonstrate substantial research accomplishment and dedication to teaching. We particularly encourage applications from members of under-represented minority groups and women. The University of Pittsburgh is an affirmative action, equal opportunity employer. Send a vita, three letters of recommendation, a research statement and evidence of teaching accomplishments by December 13, 1999 to: **Search Committee, Department of Mathematics, University of Pittsburgh, Pittsburgh, PA 15260.**

**UNIVERSITY OF PITTSBURGH - DEPARTMENT OF MATHEMATICS - Endowed Mellon Chair** - The Mathematics Department of the University of Pittsburgh invites applications for an endowed Mellon Chair, to begin the Fall Term 2000 subject to budgetary approval. Mellon Chairs are intended to be the most prestigious academic appointments at the University of Pittsburgh. Applicants should have outstanding research records and be acknowledged leaders in their fields of expertise. We also seek excellence in teaching so applicants should demonstrate a dedication to teaching and supervising students. The applicant should be committed to taking a leadership role in advancing the research profile and national reputation of the Department. We particularly encourage applications from members of under-represented minority groups and women. The University of Pittsburgh is an affirmative action, equal opportunity employer. Send a vita, and the names and addresses of up to five experts who support your application to: **Mellon Search Committee, Department of Mathematics, University of Pittsburgh, PA 15260.** The Search Committee will begin the selection process on January 4, 2000.

**UNIVERSITY OF PITTSBURGH AT BRADFORD - NATURAL SCIENCES DIVISION - Mathematics** - Anticipated full-time, tenure-track assistant professor position to begin Fall 2000. Must be able to teach developmental, precalc, and applied calc level math courses. Ph.D. or Ed.D. required. Excellence in teaching and potential in scholarly work are essential. Applicants with computer or information science background will be given favorable consideration. Send application letter, vita, official transcripts, and three reference letters to: **Dr. Yong Zhuo Chen, Math Search Committee, University of Pittsburgh at Bradford, 300 Campus Dr., Bradford, PA 16701-2898.** Selection process will start on Jan. 1, 2000, and continue until the position is filled. Women and minorities are encouraged to apply. AA/EOE.

**UNIVERSITY OF PITTSBURGH AT JOHNSTOWN - DEPARTMENT OF MATHEMATICS - Faculty Position in Mathematics** - The University of Pittsburgh at Johnstown announces a full-time, tenure-track Assistant Professor position in Mathematics to begin Fall 2000. Ph.D. in Mathematics with specialization in Algebra, Analysis, Discrete Mathematics, Topology, Operations Research, or Applied Mathematics is required. RESPONSIBILITIES: professional development activities, University service, and a teaching load of 24 credit hours per year. ADDITIONAL REQUIREMENTS: strong commitment to excellence in teaching and professional development, ability to guide undergraduates in student research, and ability to use various teaching methods. Application deadline: December 1, 1999, or until the position is filled. Send a letter of application, current vita, transcripts of all degrees (photocopies acceptable),three letters of recommendation, a statement on teaching, a statement on professional development, other supporting documents, and email address (if available) to: **Dr. Stephen J. Curran, Search Committee Chair, Department of Mathematics, University of Pittsburgh at Johnstown, Johnstown, PA 15904.** Please indicate in your letter of application whether you plan to attend the Joint Mathematics Meetings in Washington, D.C. The University of Pittsburgh is an Affirmative Action, Equal Opportunity Employer. Women and Minority group members are invited and encouraged to apply.

**UNIVERSITY OF SAN DIEGO - DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE** - USD, an independent Catholic University of about 7,000 students, invites applications for a tenure-track Assistant Professor position in the Department of Mathematics and Computer Science, starting with the fall semester of 2000. Candidate must have a Ph.D. in mathematics. Some experience and interest either in the mathematical preparation of future elementary school teachers or in applied mathematics is desirable. The teaching load is effectively 6 three-hour undergraduate courses per year. Faculty are expected to have a strong commitment to excellence in teaching and to maintain active scholarly pursuits. Send resume, three letters of recommendation, and a summary of recent teaching evaluations to: **Math Search Committee, Department of Mathematics and Computer Science, University of San Diego, 5998 Alcala Park, San Diego, CA 92110.** USD is an AA/EOE employer. Priority will be given to applications which arrive by February 1, 2000.

**UNIVERSITY OF SOUTH ALABAMA - DEPARTMENT OF MATHEMATICS AND STATISTICS** - anticipates TWO tenure-track faculty positions at the Assistant Professor level to begin August 15, 2000. Details are available at <**http:/www/mathstat.usouthal.edu/Department/ads.html**>. EEO/M/F/D

**UNIVERSITY OF TENNESSEE, KNOXVILLE - DEPARTMENT OF MATHEMATICS** - Subject to university approval, the Mathematics Department of the University of Tennessee seeks to fill a tenure-track assistant professorship in algebraic geometry or geometric group theory. 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, 2000. 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, Geometry Search, Mathematics Department, University of Tennessee, Knoxville, TN 37996-1300.** Electronic applications are not acceptable. Use of the *AMS application form* is appreciated. Review of applications will begin December 1 and will continue until the position is filled. Information about the department can be found at http://www.math.utk.edu/. UTK Knoxville is an EEO/AA/Title VI/Title IX/Section 504/ADA/ADEA institution in the provision of its education and employment programs and services.

**UNIVERSITY OF TENNESSEE, KNOXVILLE - DEPARTMENT OF MATHEMATICS** - Subject to university approval, the Mathematics Department of The University of Tennessee (http://www.math.utk.edu) seeks to fill a tenure-track position with an Outreach Mathematician (OM). The duties of the OM will be to foster close relations between the University and the community colleges and/or high schools across the state, collaborate with faculty in the College of Education, as well as teach in the department. The appointment will be at a rank that is commensurate with experience. A Ph.D. in Mathematics or a doctoral degree in another discipline with a Masters of Science degree in Mathematics is required together with a clear commitment to outreach activities. Some postdoctoral experience is preferred, but not required. Dedication to teaching is paramount. Employment begins August 1, 2000. We seek a person who will participate in the education program of the department, actively pursue grants to foster these aims, carry out systematic school visits, become involved in state-wide mathematics education reform, and work with the appropriate faculty in the College of Education. Interested applicants should arrange to have a vita, three reference letters, a statement of accomplishments, qualifications, plans for outreach activities, and evidence of quality teaching sent to: **Professor John B. Conway, OM Search, Mathematics Department, University of Tennessee, Knoxville, TN 37996-1300.** Electronic applications are not acceptable. Use of the recent *AMS application form* is encouraged. Review of applications will begin December 1 and will continue until the position is filled. UTK Knoxville is an EEO/AA/Title VI/Title IX/Section 504/ADA/ADEA institution in the provision of its education and employment programs and services.

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# ADVERTISEMENTS

**UNIVERSITY OF TENNESSEE, KNOXVILLE - DEPARTMENT OF MATHEMATICS** - Subject to university approval, the Mathematics Department of the University of Tennessee seeks to fill a tenure-track assistant professorship in probability and stochastic processes with emphasis on stochastic analysis, stochastic differential equations, or non-deterministic modeling. Preference will be shown to candidates working in applied aspects of these areas such as communication networks, mathematical biology and genetics, and mathematical 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, 2000. 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, Mathematics Department, University of Tennessee, Knoxville, TN 37996-1300.** Electronic applications are not acceptable. Use of the *AMS application form* is appreciated. Review of applications will begin December 1 and will continue until the position is filled. Information about the department can be found at http://www.math.utk.edu. UTK Knoxville is an EEO/AA/Title VI/Title IX/Section 504/ADA/ADEA institution in the provision of its education and employment programs and services.

**THE UNIVERSITY OF TEXAS AT AUSTIN - DEPARTMENT OF MATHEMATICS** - Openings for Fall 2000 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, 2000. Other factors being equal, preference will be given to those whose doctorates were conferred in 1999 or 2000. 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, TX 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 be 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, TX 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, 1999. The University of Texas at Austin is an equal opportunity employer.

**UNIVERSITY OF WASHINGTON - DEPARTMENT OF MATHEMATICS** - Applications are invited for one assistant professor position, to begin in September 2000. Exceptional candidates at the associate or full professor rank may be considered if they also have a demonstrated record of mentoring students of underrepresented groups (students of color and women). Availability of the position is subject to budgetary approval. Applicants are required to have a Ph.D. by the starting date. Duties include undergraduate and graduating teaching and independent research. Applicants should send applications that 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 to: **Appointments Committee Chair, Department of Mathematics, Box 354350, University of Washington, Seattle, WA 98195-4350.** Priority will be given to applicants whose completed applications are received by December 1, 1999. The University of Washington is an affirmative action, equal opportunity employer. The university is building a culturally diverse faculty and strongly encourages applications from female and minority applicants.

**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, to begin in September 2000. Availability of these positions is subject to budgetary approval. Applicants are required to have a Ph.D. by the starting date and to be highly qualified for undergraduate and graduating teaching and independent research. Applicants should send applications that 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 to: **Appointments Committee Chair (AAP position), Department of Mathematics, Box 354350, University of Washington, Seattle, WA 98195-4350.** Priority will be given to applicants whose completed applications are received by December 1, 1999. The University of Washington is an affirmative action, equal opportunity employer. The university is building a culturally diverse faculty and strongly encourages applications from female and minority applicants.

**UNIVERSITY OF WASHINGTON - DEPARTMENT OF MATHEMATICS** - Applications are invited for non-tenure-track lecturer positions to begin in September 2000 or later. Availability of these positions is subject to budgetary approval. Duties include teaching two or three freshman/sophomore mathematics courses per quarter. Applicant must have a master's degree or a Ph.D. by the starting date. Preference will be given to applicants with evidence of an outstanding teaching record. Applicants should send applications that include a curriculum vitae, statement of teaching interests and experience, three letters of recommendation, and other evaluations of teaching ability, such as student evaluations, to: **Appointments Committee Chair (Lecturer position), Department of Mathematics, Box 354350, University of Washington, Seattle, WA 98195-4350.** Priority will be given to applicants whose completed applications are received by December 15, 1999. The University of Washington is an affirmative action, equal opportunity employer. The university is building a culturally diverse faculty and strongly encourages applications from female and minority applicants.

**UNIVERSITY OF WATERLOO - DEPARTMENT OF PURE MATHEMATICS** - The Department of Pure Mathematics at the University of Waterloo expects one or more tenure-track positions starting July 1, 2000. For one position, the Department is particularly interested in candidates whose research interests are related to Algebra or Number Theory, including their computational aspects. However candidates in any area of Pure Mathematics will be considered. In order to be considered for a position, a Ph.D. is required. Postdoctoral experience is preferred. An appointment will be offered only to someone with very strong research and teaching qualifications. The closing date for receipt of applications is January 14, 2000. Applicants should submit their curriculum vitae, together with the names of at least three referees, and should arrange for letters of reference to be sent directly from the referees. 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. This appointment is subject to the availability of funds. Please send applications to: **Dr. B. Forrest, Chair, Department of Pure Mathematics, University of Waterloo, Waterloo, Ontario, Canada N2L 3G1.** The department's Web page is at <http://math.uwaterloo.ca/PM_Dept/homepage.html/>

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# ADVERTISEMENTS

**UNIVERSITY OF WISCONSIN, LA CROSSE - DEPARTMENT OF MATHEMATICS** - One or more (depending on budget approval) tenure-track assistant professor position(s) in mathematics, beginning August 2000. Appointment at associate professor level possible depending on qualifications and experience. **RESPONSIBILITIES:** Teach both introductory and advanced mathematics or statistics courses (average 12 hours per semester); maintain a productive program of research in mathematics, statistics, or mathematics education; contribute to departmental, college, and university service activities. **QUALIFICATIONS:** Ph.D. in mathematics or statistics (anticipated by August 2000); evidence of successful college/university teaching; experience (or demonstrated potential) in directing undergraduate research/independent projects is desirable. For the first position, preference will be given to outstanding candidates with demonstrated interest/involvement in mathematics education. Applicants should submit an *AMS Cover Sheet*, a letter of application, a curriculum vitae, undergraduate and graduate transcripts, and arrange to have three letters of recommendation (at least one commenting on teaching) sent to: **Bruce Riley, Mathematics Department, University of Wisconsin-La Crosse, La Crosse, WI 54601.** All materials must be received by January 31, 2000. AA/EOE.

**UNIVERSITY OF WISCONSIN MEDICAL SCHOOL - DEPARTMENT OF PREVENTIVE MEDICINE** - The Department of Preventive Medicine is seeking to fill a tenure track position at the Assistant or Associate Professor level for a Biostatistician with interest and experience in the design and analysis of observational studies. Teaching responsibilities: a course in the statistics core sequence and advising students in an M.S./Ph.D. program in Population Health with tracks in both epidemiology and health services research. Research will involve both independent statistical methodologic investigation and collaboration with other investigators in the Department which has extensive research funding. A joint or affiliate appointment in the Department of Biostatistics and Medical Informatics is possible. Submit CV, letter describing research and teaching interests and 3 reference letters to: **Naomi Wells, Department of Preventive Medicine, University of Wisconsin-Madison, 707 WARF Building, 610 Walnut Street, Madison, WI 53705-2397.** UW-Madison is an EEO/AA employer. Unless confidentiality is requested in writing, information regarding the applicants must be released upon request. Finalists cannot be guaranteed confidentiality.

**UNIVERSITY OF WYOMING - DEPARTMENT OF MATHEMATICS - Tenure Track Position in Applied Mathematics** - The University of Wyoming Mathematics Department (Web site http://math.uwyo.edu) invites applications for a tenure-track Assistant Professorship in Applied Mathematics to begin August, 2000 pending budgetary approval. We seek candidates with an earned doctorate, proven teaching ability and strong research in areas of interest in the department. A strong commitment to undergraduate and graduate advising and service is also necessary. Areas of particular interest include computational mathematics, mathematical modeling, and numerical analysis. Applicants should arrange to send a vitae, research plan, teaching philosophy, and three letters of recommendation to: **Applied Search Committee, Department of Mathematics, University of Wyoming, P.O. Box 3036, Laramie, Wyoming 82071.** Review of applications begins February 1, 2000. The University of Wyoming is an affirmative action/equal opportunity employer, and encourages women and underrepresented minorities to apply.

**WASHINGTON STATE UNIVERSITY - DEPARTMENT OF PURE AND APPLIED MATHEMATICS** - A tenure-track assistant professor position is available beginning August 16, 2000 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 WSU; 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, 1999 and continues until position is filled. For additional information see our web site http://www.sci.wsu.edu/math/math.html. WSU is an EO/AA educator and employer. Protected group members are encouraged to apply.

**WASHINGTON UNIVERSITY IN ST. LOUIS - DEPARTMENT OF MATHEMATICS - Tenure or Tenure-Track Faculty** - Openings for two or more tenure-track faculty. These are regular faculty positions with possibility of tenure. Starting date: August 2000. Teaching load: about three courses per year. Applicants should have research interests that mesh with those of our permanent faculty. These interests include algebraic geometry, commutative algebra. differential geometry, dynamical systems, harmonic analysis and wavelets, low-dimensional topology, operator theory, partial differential equations, real and complex analysis, and statistics. This year we are particularly interested in applications in statistics and analysis. To apply, send a vita and a research plan. Ask up to six persons to send letters of recommendation directly to: **Steven G. Krantz, Chair, Department of Mathematics, Washington University in St. Louis, One Brookings Drive, Campus Box 1146, St. Louis, MO 63130**. Email Address: chairman@math.wustl.edu. At least one of these letters should report on the candidate's teaching abilities. We will begin reviewing applications on October 20. 1999, and continue reviewing applications until all positions are filled. Washington University is an affirmative action/equal opportunity employer and specifically invites and encourages women and minorities to apply. Employment eligibility verification required on hire. For more information about the position or institution/company: http://www.math.wustl.edu.

**WASHINGTON UNIVERSITY IN ST. LOUIS - DEPARTMENT OF MATHEMATICS - Non-Tenure-Track Faculty** - Openings for one or more William Chauvenet Assistant Professorships. These are two-year, nontenure track faculty positions; there is a possibility of third-year renewal if performance is satisfactory. Starting date: August 2000. Teaching load: two courses in one semester, one course in the other semester. Applicants should have research interests that mesh with those of our permanent faculty. These interests include algebraic geometry, commutative algebra, differential geometry, dynamical systems, harmonic analysis and wavelets low dimensional topology, operator theory, partial differential equations, real and complex analysis, and statistics. To apply, send a vita and a research plan. Ask three persons to send letters of recommendation directly to: **Steven G. Krantz, Chair, Department of Mathematics, Washington University in St. Louis, One Brookings Drive, Campus Box 1146, St. Louis, MO 63130.** Email address: chairman@math.wustl.edu. At least one of these letters should report on the candidate's teaching abilities. We will begin reviewing applications on December 1, 1999 and continue reviewing applications until all positions are filled. Washington University is an affirmative action/equal opportunity employer and specifically invites and encourages women and minorities to apply. Employment eligibility verification required on hire.

**YALE UNIVERSITY - DEPARTMENT OF MATHEMATICS** - Applications accepted for **Gibbs Instructorship/Assistant Professorships for Ph.D.'s** with outstanding promise in research. Two-year appointments starting July 2000. Applications and supporting material must be received by January 1, 2000. Offers will be made during February. Salary at least $45,000. Request applications from: **Teresa Bowen, Administrative Assistant, Gibbs Committee, Department of Mathematics, P.O. Box 208283, New Haven, CT 06520-8283.** Email address: tmb3@pantheon.yale.edu. Yale is an Affirmative Action/Equal Opportunity Employer.

**REMEMBER: ELECTION BALLOTS must be received by: DECEMBER 1, 1999**

AWM

# ASSOCIATION FOR WOMEN IN MATHEMATICS

## 1999/2000 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**

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

**Work Phone:**
❑ **do not** publish work number

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

**PROFESSIONAL INFORMATION:**
If student, GRADUATE or UNDERGRADUATE? (circle one)
**If not employed, leave position & institution blank**
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 (NO newsletter) Please indicate regular family member: | $ 30 | |
| CONTRIBUTING MEMBERSHIP | $100 | |
| RETIRED or PART-TIME EMPLOYED MEMBERSHIP (circle one) | $ 25 | |
| STUDENT or UNEMPLOYED MEMBERSHIP (circle one) | $ 15 | |
| ALL FOREIGN MEMBERSHIPS (INCLUDING CANADA & MEXICO)....**FOR ADDITIONAL POSTAGE ADD** | $ 8 | |
| **All payments must be in U.S. Funds** using cash, U.S. Postal orders, or checks drawn on U.S. Banks. | | |
| BENEFACTOR [$2,500] or FRIEND [$1,000] (circle one) | $ | |
| ❑ I am enclosing a DONATION to the **"AWM GENERAL FUND"** | $ | |
| ❑ I am also enclosing a DONATION to the **"AWM ANNIVERSARY ENDOWMENT FUND"** | $ | |

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

### INSTITUTIONAL DUES SCHEDULE

N/D99

| | U.S. | FOREIGN | |
|---|---|---|---|
| _____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 ONE 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) for each additional student add-on over initial 10 students for Category I; over initial 3 students for Category II]

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

# AWM Events

***AWM would like to invite you to our events to be held in conjunction with the Joint Mathematics Meetings at the Marriott Wardman Park Hotel and the Omni Shoreham Hotel -- Washington, D.C., January 19-22, 2000***

**Preliminary Schedule of AWM Events as of October 8, 1999**

**Wednesday, January 19th**

2:45 p.m.- 4:05 p.m. **Panel Discussion:** ***"How to increase the number of tenured women in mathematics departments"***
**Organizer:** AWM President **Jean E. Taylor,** Rutgers University. **Panelists:** **Millie Dresselhaus,** Institute Professor at the Massachusetts Institute of Technology; **Elaine Hansen,** Provost, Haverford College; **Maria Klawe,** Dean of Science at the University of British Columbia; **Jerry Ostriker,** Provost at Princeton University, and **Karen Uhlenbeck**, Professor at the University of Texas at Austin.
At the conclusion of the panel, AWM will recognize the **10th Annual Alice T. Schafer Prize honorees** (winner, runners-up & honorable mentions

4:05 p.m. - 4:25 p.m. **Business Meeting**

6:00 p.m. - 8:15 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. Has been a popular, well attended event in the past.

**Thursday, January 20th**

9:00 a.m. - 9:50 a.m. **21st Annual Emmy Noether Lecture: "*The Mathematics of Optimization*"** presented by **Margaret H. Wright,** Bell Labs, Lucent Tech.

1:00 p.m. - 3:30 p.m. **AMS-MAA-MER Special Session (tentative session title):** ***"How can we help? A look at some ways in which university faculty can contribute towards solving some of the problems that beset mathematics education from Kindergarten on up"***
The following speakers are co-sponsored by AWM. **Shirley Malcom** (member of President Clinton's Committee of Advisors on Science and Technology, and the Director of the AAAS Education & Human Resources Directorate), **Bernice Sandler** (author of the "Chilly Climate" studies), **Gail Burrill** (former president, NCTM), **& Virginia M. Warfield** (Senior Lecturer, University of Washington & Chair, AWM Education Committee).

4:00 p.m. - 5:15 p.m. **Presentation** to the winners of the **10th Annual Louise Hay Award** for Contributions to Mathematics Education and the **10th 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 21st**

8 - 11 a.m. and 1 - 6 p.m. **AMS-AWM-SIAM Special Session: Linear Algebra and Optimization I & II** (organized in conjunction with the Noether Lecture. Sessions co-organized by Margaret H. Wright, Bell Laboratories and Dianne P. O'Leary, University of Maryland at College Park.)

6:30 p.m. - 10:00 p.m. **AWM Workshop Dinner & Discussion Group** [for Workshop presenters, mentors and panelists and organizers]

**Saturday, January 22nd**

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.
**Organizers:** Gail Ratcliff, Univ. of Missouri in St. Louis, Catherine Roberts, Northern Arizona Univ. & Sue Geller, Texas A&M 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. | **Monique Chyba,** Princeton University | *"Sub-Riemannian Geometry: the Martinet Case"* |
| 9:00 a.m. - 9:20 a.m. | **Christina Sormani,** Lehman College, CUNY | *"Milnor's Conjecture on Fundamental Groups"* |
| 9:30 a.m. - 9:50 a.m. | **Eugenie Hunsicker,** Lawrence University | *"When is a noncompact manifold almost compact, an introduction to $L^2$-cohomology* |
| 9:30 a.m. - 9:50 a.m. | **Heather Johnston,** University of Massachusetts, Amherst | *Polygonal knot theory and stuck unknots"* |

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

| | |
|---|---|
| **Irina A. Berchenko,** University of Minnesota | *"Geometric Methods in Classical Invariant Theory"* |
| **Michelle L. Ghrist,** University of Colorado | *"High-Order Finite Difference Methods for Wave Equations"* |
| **Concetta Maria Gomez,** University of California, Berkeley | *"Definability of coefficients in solutions of linear systems over p-adic power series rings"* |
| **Diane Maclagan,** University of California, Berkeley | *"Combinatorics of the Toric Hilbert Scheme"* |
| **Oana Mocioalca,** University of Florida | *"Contact Processes on Trees in Random Environment"* |
| **Alexandra Smirnova,** Kansas State University | *"Continuous Methods for Solving Nonlinear Ill-Posed Operator Equations with Application to Gravitational Sounding Problem"* |
| **C-Y. Jean Chan,** University of Utah | *"An Intersection Multiplicity in Terms of Ext-modules"* |
| **Linda Eroh,** Western Michigan University | *"Existence of Rainbow Ramsey Numbers"* |
| **Sara Faridi,** University of Michigan | *"Normal Ideals of Graded Rings"* |
| **Susan Hollingsworth,** University of Wisconsin, Madison | *"Square Trees"* |
| **Rachel J. Pries,** University of Pennsylvania | *"Formal Patching and Deformation of Wildly Ramified Covers of Curves"* |
| **Victoria Sadovskaya,** The Pennsylvania State University | *"On Pointwise Dimension of Non-hyperbolic Measures"* |
| **Cynthia A. Spade,** Northwestern University | *"Making Gradient Materials: A Model for Interfacial Gel Polymerization"* |
| **Theresa A. Strei,** University of Nebraska, Lincoln | *"Nonlinear Wave Equations on the Two Dimensional Sphere"* |
| **Amelia Taylor,** University of Kansas | *"The Inverse Problem in Gröbner Basis Theory"* |
| **Jennifer Joy Ziebarth,** University of Wisconsin, Madison | *"Mod p Cohomology of Symplectic Groups"* |

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. | **Jennifer Courter,** The Colorado College | *"Construction of Orthonormal Wavelets in n Dimensions"* |
| 2:30 p.m. - 2:50 p.m. | **Laurie J. Heyer,** University of Southern California | *"Pattern Recognition in Gene Expression"* |
| 3:00 p.m. - 3:20 p.m. | **Tiziana Giorgi,** Towson University | *"Uniqueness of Symmetric Vortex Solutions in the Ginzburg-Landau Model of Superconductivity"* |
| 3:30 p.m. - 3:50 p.m. | **Judy L. Walker,** University of Nebraska, Lincoln | *"A categorical approach to the study of self-dual codes"* |

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** at the meeting

AWM

Volume 29, Number 6, November–December 1999

## ADDRESS CORRECTION FORM

❒ Please change my address to:

❒ Please send membership information to my colleague listed below:

❒ No forwarding address known for the individual listed below (enclosed copy of label):

*(Please Print)*

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Address_____

_____

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Country (if applicable)_____ E-mail Address_____

Position_____ Institution/Org._____

Telephone: Home_____ Work_____

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Database Corrections
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4114 Computer & Space Sciences Bldg., University of Maryland, College Park
Maryland 20742-2461

***or E-MAIL:***

awm@math.umd.edu

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