AWM

ASSOCIATION FOR WOMEN IN MATHEMATICS

Volume 34, Number 5 NEWSLETTER September–October 2004

PRESIDENT'S REPORT

As the new academic year begins, we would like to bring several AWM programs to the attention of students. You will find more information about all these programs at the AWM website www.awm-math.org.

The AWM Student Chapters Program is up and running with chapters at Hood College, University of Utah, University of Kansas, University of Illinois at Chicago, Texas A&M University, and Duke University. The goal of the chapters is to mentor and encourage women students in mathematics. We invite you to start a chapter at your institution.

The AWM Essay Contest, supported by Sandia National Labs, will accept submissions until October 29 from students in middle school through college undergraduate. Contestants interview and write biographies of current women mathematicians or statisticians. In recent years, the Essay Contest has attracted contestants from throughout the world.

The AWM Mentor Net matches women and girls from grade school through postdocs with mathematical mentors. You may sign up for a mentor or to be a mentor at http://www.awm-math.org/mentornetwork.html.

Childcare at the Joint Mathematics Meetings in Atlanta!

The Joint Meetings Committee of the AMS and MAA has announced that there will be onsite childcare for children six months to twelve years of age at the Joint Mathematics Meetings in Atlanta. See http://www.ams.org/amsmtgs/2091_daycare.html for information and registration (deadline December 8; see also page 12). The Joint Meetings Committee has researched childcare extensively over the past few years and has chosen a very highly regarded professional childcare provider, KiddieCorp. Kiddie Corp is a premier provider of childcare services at conventions, trade shows and corporate meetings. The AWM applauds the Joint Meetings Committee and encourages parents to use the service. Speaking on a personal level, I would have full confidence using KiddieCorp for a child of any age and in fact plan to enroll my daughter in the program in Atlanta. Children were

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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 and girls to study and to have active careers in the mathematical sciences. Equal opportunity and the equal treatment of women and girls in the mathematical sciences are promoted.

The *Newsletter* is published bi-monthly.

The Editor welcomes articles, letters, and announcements.

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everywhere present at the Joint Mathematics Meetings this past January; the childcare service to be offered in Atlanta is a wonderful option! The high quality services are being offered at a very affordable rate due to the generosity of the American Mathematical Society and Mathematical Association of America. Please help spread the word to your colleagues and graduate students who are parents. This year's program is a trial; the response of the mathematical community is important to the future of the program.

Last year we held what was to be a special one-year program of Michler Collaborative Research Grants, dedicated to the memory of Ruth Michler. In view of the interest this program attracted, we are extending the program, although on a somewhat smaller scale. We will be able to offer a small number of awards this year. Applications will be due in February; the precise deadline will be announced in a later issue of this *Newsletter* and at www.awm-math.org. These grants are for women who already hold tenure in an academic institution or are at a similar stage in a non-academic setting. The awards provide travel funds to visit a research collaborator. This program complements the AWM Mentoring Grants program, funded by NSF, which provides travel funds for untenured women mathematicians to work with a mentor. Both tenured and untenured women are also eligible for the NSF-funded AWM Travel Grants to attend mathematical research conferences.

We again thank all of you who filled out questionnaires last fall to inform our strategic planning initiative. With the support of consultant Nancy Moore, the AWM Executive Committee has embarked on a three-year initiative to strengthen the infrastructure of the AWM so that we can expand our programming, more actively involve our membership in all aspects of the organization, and increase our collaborative activities with other organizations. You will be hearing more about structural changes as they develop and may be asked to vote on adjustments in the bylaws over the coming months.

We invite you to share ideas with us at "Focus: Future," moderated by Helen Moore, member of the AWM Executive Committee and chair of the Long Range Planning Committee. "Focus: Future" is an opportunity to discuss ideas for programs, suggest issues that you would like to see the AWM address, or bring up anything else that you think should be considered in our long range planning.

In order to diversify our volunteer base, we recently established a Committee on Committees to recommend appointments to the various AWM committees. We also encourage you to let us know ways in which you would like to get more involved in the organization. Feel free to contact me directly to volunteer.

Best wishes for an enjoyable and successful academic year.

Carolyn Gordon

Carolyn Gordon
Dartmouth College
July 25, 2004

AMS ELECTION

Maura Mast, AWM Clerk

All persons standing for election for contested office (other than President, for whom supporting statements written by other mathematicians are published in the AMS *Notices*) in the American Mathematical Society (AMS) were asked to submit statements for this issue of the *Newsletter*. The 2004 AMS Elections Special Section in the September *Notices* is also worth reading before you cast your ballot; it contains biographical information on the candidates, photographs of most of them, and statements (which in many cases are identical to those appearing in the following pages).

MEMBERSHIP AND NEWSLETTER INFORMATION

Membership dues

Individual: $50 Family (no newsletter): $30
Contributing: $100 Retired, part-time: $25
Student, unemployed, developing nations: $15
Friend: $1000 Benefactor: $2500
All foreign memberships: $8 additional for postage
Dues in excess of $15 and all contributions are deductible from federal taxable income.
Institutional Members:
Level 1: $250
Level 2a: $125
Level 2b: $125
See http://www.awm-math.org for details on free ads, free student memberships, and ad discounts.
Affiliate Members: $250
Institutional Sponsors:
Friend: $1000+ Patron: $2500+
Benefactor: $5000+Program Sponsor: $10,000+
See the AWM website for details.

Subscriptions and back orders

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

Payment

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

Newsletter ad information

AWM will accept advertisements for the *Newsletter* for positions available, programs in any of the mathematical sciences, professional activities and opportunities of interest to the AWM membership and other appropriate subjects. The Director of Marketing, in consultation with the President and the Newsletter Editor when necessary, will determine whether a proposed ad is acceptable under these guidelines. *All institutions and programs advertising in the* Newsletter *must be Affirmative Action/Equal Opportunity designated.* Institutional members receive discounts on ads; see the AWM website for details. For non-members, the rate is $100 for a basic four-line ad. Additional lines are $12 each. See the AWM website for *Newsletter* display ad rates.

Newsletter deadlines

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

Addresses

Send all **Newsletter** material **except ads and material for book review and education columns** to Anne Leggett, Math Dept., Loyola University, 6525 N. Sheridan Road, Chicago, IL 60626; email: leggett@math.luc.edu; phone: 773-508-3554; fax: 773-508-2123. Send all **book review** material to Marge Bayer, Math Dept., University of Kansas, 405 Snow Hall, 1460 Jayhawk Boulevard, Lawrence, KS 66045-7523; email: bayer@math.ukans.edu; fax: 785-864-5255 and all **education column** material to Ginger Warfield, Math Department, University of Washington, Seattle, WA 98195; email: warfield@math.washington.edu. Send everything else, **including ads and address changes**, to Dawn V. Wheeler, 4114 CSS Building, University of Maryland, College Park, MD 20742-2461; phone: 301-405-7892; email: awm@math.umd.edu.

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Online Ads Info

Classified and job link ads may be placed at the AWM website. Detailed information may be found there.

Website and Online Forums

http://www.awm-math.org

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AWM-Net

To subscribe, send mail to awm-net-request@ cs.umd.edu and include your email address; AWM members only.

AWM DEADLINES

NSF-AWM Travel Grant: October 1, 2004 and February 1, 2005

Schafer Prize, January 2005: October 1, 2004

Hay Award, January 2005: October 1, 2004

Noether Lecturer nominations for 2006: October 15, 2004

Kovalevsky Prize Lecturer nominations for 2005: November 1, 2004

AWM Essay Contest: October 29, 2004

SIAM Workshop, July 2005: January 26, 2005

Sonia Kovalevsky High School Mathematics Days: February 4, 2005

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VICE-PRESIDENT

Haim Brezis, Professor, Université Pierre et Marie Curie (Paris 6) and Visiting Distinguished Professor, Rutgers University

The past fifty years have seen broad advances on a world-wide level on the issue of women in mathematics. I have encouraged initiatives intended to give higher visibility to distinguished women in sciences (by means of Honorary degrees, Prizes at the Academie des Sciences, etc.). Thus, I am extremely proud that one of my mathematical great-grandchildren, Sylvia Serfaty, a former student of the prestigious Ecole Normale Supérieure (in Paris), in her twenties, has a tenure position at the Courant Institute and has just won one of the much coveted prizes of the European Mathematical Society (awarded at the Stockholm meeting this summer). One can only regret that out of ten recipients, there is just one woman. In many countries, it is quite disturbing to see that, while comparable numbers of men and women start mathematical studies, very few women reach the Ph.D. level. It is urgent to address this issue.

Fan Chung Graham, Professor, University of California, San Diego

We are today in the midst of technological revolution. Mathematics will play a vital role both in laying the foùndation for this process and in making crucial contributions throughout the whole spectrum of this development. The AMS, as the major organization for fostering mathematics research, has a special responsibility to maximize the impact of mathematicians and to attract the best talent, including, in particular, women and minorities.

TRUSTEE

Eric Friedlander, Professor, Northwestern University

The AMS contributes a great deal to the mathematical community. Its primary focus has always been to foster research mathematics, and over the years this has been constructively interpreted quite broadly. Activities of the AMS further the dissemination of mathematics through various publications, the generation of mathematics through meetings and conferences, and the funding of mathematics through its visible presence in Washington, In addition, the AMS encourages mathematics through efforts to promote diversity of both the research community and the students we serve, through efforts to constructively influence mathematical education, and through prizes which recognize outstanding contributions. The excellent professional leadership of the AMS has greatly solidified the financial status of the society during this period of expanding activities.

As a member of the Board of Trustees, I have nudged the AMS towards further efforts at recognition of excellence and I have raised

concerns facing mathematics as an activity that knows no bounds of nationality or personal differences. I have also scrutinized AMS finances in order to try to relieve members of cost increases without jeopardizing the long-term health of the society. I would be honored to continue to serve the mathematical community as a member of the Board of Trustees with the goal of promoting mathematics and its role in the world at large.

Philippe Tondeur, Professor, University of Illinois, Urbana-Champaign

The AMS is a membership organization dedicated to the advancement of research and scholarship in mathematics. I consider this to include research at all frontiers of the discipline, as well as the interplay with other disciplines where mathematical thinking has proved or promises to be effective. As Trustee, I would feel responsible for the intellectual and financial integrity of the AMS in this mission. I would draw on my experiences in research, teaching, professional and public service, as well as my active interest in science education, science policy, governance and leadership development to serve the AMS.

MEMBER-AT-LARGE OF COUNCIL

Sara C. Billey, Associate Professor, University of Washington

As mathematicians, our work encompasses many tasks including research, teaching, mentoring, and connecting to other scientific pursuits. One of my greatest pleasures with this job is sharing the joy understanding mathematics with others, both the mathophiles and mathophobes. I do this through teaching, mentoring graduate students and undergraduates in research, and several outreach events, including F.A.S.T. at the MIT Museum and Mathday at the University of Washington.

The AMS plays a critical role in the life of our community by working with the government and private sector to obtain funding, disseminate publications, identify jobs for recent graduates, and reward achievements. The success of this role is inherently related to improving the image of mathematics in our society. By working with the AMS, I hope to extend my outreach efforts beyond my local community and contribute to the increasing appreciation of mathematics in our country.

Younger mathematicians face new challenges today than they did thirty years ago. We have been through many difficult years with a slow job market. As a member of the Council, I would be an advocate for recent graduates and work to find better ways to connect mathematicians with job opportunities both inside and outside of academia.

Christian H. Borgs, Manager, Theory Group, Microsoft Research

Mathematics is in a period of tremendous growth, fueled both by breakthroughs in core areas and by interactions with more applied disciplines. It is the role of the AMS to support core mathematical research, to lead the way in building interdisciplinary bridges, and to recognize and foster the interplay between pure and applied sciences. In particular, the AMS should continue to partner with other professional societies to increase support for all scientific research endeavors, for education of future scientists, and for outreach to the general public. The AMS should continue to represent all mathematicians. In particular, it should actively encourage the participation of women and underrepresented minorities. It should also continue to support immigration policies which allow students and more senior mathematicians of all nationalities to visit universities and research institutes in the United States.

As an interdisciplinary mathematician with experience in both academia and industry, both in the US and abroad, I would be delighted to have the opportunity to serve on the AMS Council.

Carolyn S. Gordon, Professor, Dartmouth College

The AMS plays essential roles both in promoting the research of the mathematical community and in advocating for federal support of mathematical research. Two important aspects of promoting the long-term health of the profession are: strengthening the full participation and visibility of women and minorities at all levels and educating the public about the vitality of mathematics.

The AWM enjoys a longstanding positive relationship with the AMS. My term as President of the AWM expires in February '05, after which I will serve one additional year on the AWM Executive Committee as Past-President. If elected to the AMS Council, my first year on the Council will coincide with my final year on the AWM Executive Committee, enabling me to bring a broader perspective to both positions.

Sheldon H. Katz, Professor, University of Illinois, Urbana-Champaign

The AMS does important work to promote mathematics and mathematicians. I would consider it a privilege to serve on the AMS Council and help in this effort on behalf of our profession. I am especially interested in bolstering the long-term health of the research enterprise, including encouraging excellent research, encouraging young mathematicians, and promoting mathematics both in and out of academic institutions.

Felix Lazebnik, Professor, University of Delaware

Most of the challenges that face the AMS today remain the same ... how to help its members to follow changes in the discipline, how to attract the young and talented to the profession, how to communicate mathematics and its importance to the public, how to improve the academic job market, how to inculcate and sustain a passion for mathematics in the members it serves,.... Nowadays, new areas of applications, changes in the American society (and in the world at large), all offer new challenges. The AMS provides a crucial forum for the promulgation of mathematical knowledge through its conferences, workshops and publications. I am indebted to the AMS in my own professional life, not only for its assistance to me in an official capacity, but also for the kindness and expertise displayed to me by many of its members. I would be honored to have the opportunity to show my gratitude by helping the AMS to state and accomplish its goals.

Rafe Mazzeo, Professor, Stanford University

The AMS must continue its important work: its advocacy of young mathematicians, its outreach to the larger scientific and intellectual communities, its role as a publisher, and its recognition through prizes of outstanding mathematical achievement. I support and would work toward all these goals.

Henri Moscovici, Professor, Ohio State University

Along with the mathematical truths, many of the issues now facing the mathematical community transcend geographical and political boundaries. Through my international professional experience, supplementing twenty four years of work in a national public university, I hope to bring to the Council a distinct and worthwhile point of view.

Michael Singer, Professor, North Carolina State University

I see the AMS (working with SIAM and the MAA) as the representative of the mathematical community in our society. As such, its role is to make people aware of the ubiquity and importance of mathematics, work to insure that society provides resources to support

CALL FOR NOMINATIONS: THE 2006 NOETHER LECTURE

AWM established the Emmy Noether Lectures to honor women who have made fundamental and sustained contributions to the mathematical sciences. This one-hour expository lecture is presented at the Joint Mathematics Meetings each January. Emmy Noether was one of the great mathematicians of her time, someone who worked and struggled for what she loved and believed in. Her life and work remain a tremendous inspiration.

The mathematicians who have given the Noether lectures in the past are: Jessie MacWilliams, Olga Taussky Todd, Julia Robinson, Cathleen Morawetz, Mary Ellen Rudin, Jane Cronin Scanlon, Yvonne Choquet-Bruhat, Joan Birman, Karen Uhlenbeck, Mary Wheeler, Bhama Srinivasan, Alexandra Bellow, Nancy Kopell, Linda Keen, Lesley Sibner, Ol'ga Ladyzhenskaya, Judith Sally, Olga Oleinik, Linda Rothschild, Dusa McDuff, Krystyna Kuperberg, Margaret Wright, Sun-Yung Alice Chang, Lenore Blum, Jean Taylor, and Svetlana Katok.

The letter of nomination should include a one-page outline of the nominee's contribution to mathematics, giving four of her most important papers and other relevant information. *Five* copies of nominations should be sent by **October 15, 2004** to: The Noether Lecture Committee, Association for Women in Mathematics, 4114 Computer & Space Sciences Building, University of Maryland, College Park, MD 20742-2461; phone: 301-405-7892; email: awm@math.umd.edu.

mathematical research and teaching, and work to attract the best minds from all parts of society into our profession. As Deputy Director and Acting Director at MSRI, I was involved in and led successful activities with precisely these goals. In addition, these positions have given me the opportunity to listen to many people in academia, government and industry about their concerns and hopes for the future of mathematics. I feel it would be a privilege to serve on the Council and work with our community to make these goals a reality.

Catherine H. Yan, Associate Professor, Texas A&M University

Mathematics offers many excellent and exciting career opportunities for women. Throughout the years as a graduate student and as junior faculty, I have always been inspired by the significant role played by female mathematicians in different areas of mathematics, science, and technology. I would appreciate the opportunity to encourage more female students to participate in mathematical research, help those who want to pursue a career in mathematics, and promote leadership among women in the broad mathematics community.

NOMINATING COMMITTEE:

Karen Collins, Professor, Wesleyan University

The Nominating Committee of the AMS is charged with the important responsibility of finding mathematicians who are willing to volunteer their time and energy to make this immensely important mathematical organization run. Their efforts make a better mathematical life for us all. Finding the right people for each committee is crucial to the running of the AMS, and it is extremely important to find a slate of candidates with views and experiences that represent the whole mathematical community. Working with other mathematicians, whether to prove theorems, or, as in the case of this committee, to forward the mathematical enterprise, is what I like best about my life as a professional mathematician. I am honored to be considered for this committee.

Robin Forman, Professor, Rice University

We are in the midst of an exciting, and very challenging, time for mathematics. It is crucial that at the very top the AMS have leaders that have earned the respect and admiration of the mathematics community, have a clear vision for the mathematical community, and the ability to effectively articulate and act upon that vision. Just as important, the leadership of the AMS should reflect the diversity, in all its forms, of the mathematical sciences community. As a member of the nominating committee I would work energetically to help the Society achieve these goals.

Phillip Griffith, Director of Graduate Studies, University of Illinois, Urbana-Champaign

In my lifetime I would never have thought it possible that the classification of simple groups, the proof of Fermat's "Last Theorem" and the apparent resolution of the Poincaré Conjecture were possible. That these remarkable achievements have all reached fruition in the last 30 to 50 years is even more astonishing. The importance of problem solving and theory building in the highly artistic endeavor known as mathematical research cannot be overvalued. As all who have even a passing interest in mathematics know, it is not just the subtle and inventive solutions to far reaching classical problems that have made mathematics ever more in the lime light (read making news in the *New York Times* but it is also the emerging interdisciplinary trends that lead to breakthroughs in such fields as software security, biology and financial mathematics. In my opinion, the role of the Nominating Committee should be to ensure, by its selection of participants, that the message of successes in mathematical research continues to receive national and international attention.

David Jerison, Professor, Massachusetts Institute of Technology

As a member of the Nominating Committee, I will do my best to find energetic, imaginative, and thoughtful candidates for the many positions in the Society. For three years, I was a member of the Editorial Boards Committee, whose main task was to select and recruit members of the AMS editorial boards. I also participated in the 1999 search for the Editor of the *Notices*, which resulted in the selection of Harold Boas. These experiences showed me that finding excellent people who are willing to serve requires concerted effort and that the effort is worthwhile.

Mathematics has grown very large—I do not pretend

to understand more than a corner of what is going on in mathematics as a profession or as a discipline. I look forward to learning from my colleagues on the committee and elsewhere. Our aim must be to adapt to changes, both good and bad, to promote access to mathematics at all levels and in cooperation with other countries, and to promote the health of the profession in general.

Linda Keen, Professor, Herbert H. Lehman College (CUNY)

The AMS is a multifaceted organization whose primary mission is to foster good mathematics. It does this primarily as a publisher and as a sponsor for meetings and conferences. Another very important responsibility is to deal with the recognition of mathematics as a profession by giving prizes, and by reaching outside the profession to get support. Finally, the AMS has a responsibility for encouraging all those who want to do mathematics to take part. This includes presenting ourselves and our work to the broadest possible audience.

I have been involved with the Society in many different roles over the years: as a Council member, as a member of committees such as that on professional ethics, and as an editor. I have worked hard to make the AMS effective on all fronts. As an active mathematician and AMS member for many years, I have had the opportunity to get to know many mathematicians. In my various capacities for AMS, I have learned what skills different jobs require. As a member and former President of AWM, I am well attuned to the desirability and necessity of including women, underrepresented minorities and mathematicians from a broad spectrum of colleges and universities in the activities of AMS. As a member of the Nominating Committee, I will bring this knowledge and perspective to guide me in finding nominees for various AMS elected positions.

Robert E. Megginson, Professor, University of Michigan

As the challenges and opportunities that face the AMS continue to grow, the challenges and opportunities that face the Nominating Committee grow proportionately. The Nominating Committee must seek candidates who have shown the creativity and flexibility needed to deal with issues that our profession will face that might not even be anticipated now. The Nominating Committee also needs to seek candidate pools that are representative of the increasing diversity in personal and institutional background found among those practicing our profession or studying to enter it. As a member of AWM, the National Association of Mathematicians, and the Society for the Advancement of Chicanos and Native Americans in Science, I have been impressed with the impact that these associations have had on making our

CALL FOR NOMINATIONS: ALICE T. SCHAFER MATHEMATICS PRIZE

The Executive Committee of the Association for Women in Mathematics calls for nominations for the Alice T. Schafer Mathematics Prize to be awarded to an undergraduate woman for excellence in mathematics. All members of the mathematical community are invited to submit nominations for the Prize. The nominee may be at any level in her undergraduate career, but must be an undergraduate as of October 1, 2004. She must either be a US citizen or have a school address in the US. The fifteenth annual Schafer Prize will be awarded at the Joint Prize Session at the Joint Mathematics Meetings in Atlanta, Georgia, January 2005.

The letter of nomination should include, but is not limited to, an evaluation of the nominee on the following criteria: quality of performance in advanced mathematics courses and special programs, demonstration of real interest in mathematics, ability for independent work in mathematics, and performance in mathematical competitions at the local or national level, if any.

With letter of nomination, please include a copy of transcripts and indicate undergraduate level. Any additional supporting materials (e.g., reports from summer work using math, copies of talks given by members of student chapters, recommendation letters from professors, colleagues, etc.) should be enclosed with the nomination. Send *five* complete copies of nominations for this award to: The Alice T. Schafer Award Selection Committee, Association for Women in Mathematics, 4114 Computer & Space Sciences Building, University of Maryland, College Park, MD 20742-2461. Nominations must be received by **October 1, 2004**. If you have questions, phone 301-405-7892, email awm@math.umd.edu, or visit www.awm-math.org. Nominations via email or fax will not be accepted.

profession more inclusive, and will be particularly interested in finding candidates who can strengthen cross-organizational ties between the AMS and these organizations.

EDITORIAL BOARDS COMMITTEE

Margaret Cheney, Professor, Rensselaer Polytechnic Institute

I believe my main role on the Editorial Boards Committee will be to suggest names of applied mathematicians. Naturally I will also keep in mind the goal of including women and underrepresented minorities.

Fritz Gesztesy, Professor, University of Missouri

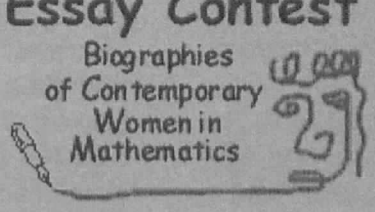
Dynamic and knowledgeable editors help define the success of journals and book series. As a member of the Editorial Board I would work to ensure that the AMS maintains its fundamental role in producing top-quality publications at affordable prices to promote a wide dissemination of important mathematics. The selection of fair-minded and well-organized individuals with extensive and broad expertise of the relevant subject areas, representative of the mathematics community, would be one of my principal concerns.

Kailash Misra, Professor, North Carolina State University

AMS publications serve an important role for the mathematical community worldwide as a major source of communication on the recent developments in mathematics at a relatively low cost. Maintaining the quality and breadth of these publications is the primary responsibility of its editorial boards. As a member of the Editorial Boards Committee, I shall work to enhance the quality and breadth of the AMS publications by nominating conscientious, fair, well organized and knowledgeable representatives of the mathematical community to serve on suitable editorial committees.

Abigail Thompson, Professor, University of California, Davis

The principal obligation of the Editorial Boards Committee is to ensure the continued high quality of the Society's publications by appointing excellent and well-organized mathematicians to be editors. In addition to seeking editors with these qualities, I would work to introduce some of the successful electronic practices from other journals designed to speed the time to decision on papers. AMS journals need to remain competitive both in quality and efficiency with on-line archives



To increase awareness of women's ongoing contributions to the mathematical sciences, the AWM is (*pending funding*) sponsoring an essay contest for biographies of contemporary women mathematicians and statisticians in academic, industrial, and government careers.

The essays will be based primarily on an interview with a woman currently working in a mathematical career. This contest is open to students in the following categories: **grades 6–8**, **grades 9–12**, and **undergraduate**. At least one winning entry will be chosen from each category. Winners will receive a prize, and their essays will be published online at the AWM website. Additionally, a grand prize winner will have his or her entry published in the AWM *Newsletter*. For more information, contact Dr. Victoria Howle (the contest organizer) at vehowle@sandia.gov or see the contest web page: www.awm-math.org/biographies/contest.html. The deadline for receipt of entries is **October 29, 2004**. (*To volunteer as an interview subject, contact Howle at the email address given.*)

and journals. Finally, since I am specifically addressing the membership of the AWM, I'll add that, while the goal of having a woman on every committee (and editorial board) in existence is possibly laudable in principle, the relatively small number of women in the profession can make it exhausting in practice. The best way to ensure a broad representation on all such boards is to work to increase the size of the pool of highly qualified candidates.

CHILD CARE AT THE JMM

The American Mathematical Society and the Mathematical Association of America will be offering child care services for the Atlanta Joint Mathematics Meetings to registered participants.

The child care will be offered through KiddieCorp Children's Program. KiddieCorp has been providing high quality programs for children of all ages at meetings throughout the United States and Canada since 1986. Read all about them at http://www.kiddiecorp.com/.

The childcare services provided at the JMM are for children ages six months through twelve years old. Space per day will be limited and is on a space-available basis. The dates and times for the program are January 5–8, 2005, 8:00 A.M. to 5:00 P.M. each day. It will be located at the Hyatt Regency Atlanta in Atlanta, GA. KiddieCorp can arrange meals for a fee, or parents can be responsible for meals for their children.

Registration starts in September. The registration fee is $25 per family (nonrefundable). This additional cost will be $8 per hour per child or $6 per hour per child for graduate students. These reduced child care rates are made possible to the meeting participant by the AMS and the MAA. Parents must be registered for the JMM to participate. Full payment is due at the time of registration with KiddieCorp. The deadline for registering is **December 8, 2004**.

This program is being offered on an experimental basis for the 2005 Atlanta meetings. Its reception at this meeting will help determine the possibility of future programs.

For further information and to register, go to http://www.ams.org/amsmtgs/2091_daycare.html .

BOOK REVIEW

by Book Review Editor Margaret Bayer, University of Kansas, Lawrence, KS 66045, bayer@math.ukans.edu

Women, Minorities, and Persons with Disabilities in Science and Engineering 2002, National Science Foundation, Division of Science Resources Statistics, 2002 edition, NSF 03-312 (Arlington, VA 2003), 291+xv pages; 2004 edition, NSF 04-084 (available on the web at www.nsf.gov)

Every year the AMS *Notices* publishes statistics on math Ph.D.'s and employment. This gives a partial view of progress for women in mathematics. The whole story has many more facets, however. The AWM *Newsletter*, and the book review column in particular (I hope), give us a broader picture. This month I will try to fill out the statistical picture, with an emphasis on statistics in education up through graduate enrollment and master's degrees.

The NSF reports give statistics for various levels of education, college, and master's programs, as well as the Ph.D. and employment. (The older reports include K–12; this year's only gives a link to the National Center for Education Statistics.) Some of the data are aggregated over all fields of science and engineering. Much, however, is broken down by field, showing us how mathematics compares with other disciplines. One can spend hours poring over the figures, speculating about the how and the why, and musing about where to go from here. I'll report here on information I found most surprising or interesting, as well as information that supported my preconceptions. The choice of what to discuss is idiosyncratic. But you can order or download the publication from NSF and forage in the statistics yourself.

These reports are the 11th and 12th in a biennial series. The 2002 report (publication date 2003) is in traditional book format (also available on the web), with commentary as well as data. For 2004 it has become a website of downloadable figures and tables, but without any summaries or commentary. This review is based on a reading of the 2002 report, updated with data from the 2004 report. The 2000 report looked back at changes since the first report in 1982. A summary appeared in the July/August 2001 AWM *Newsletter*. Only the reports since 1998 look specifically at persons with disabilities. I will say little about statistics concerning this group

because the data are hard to interpret. Operational definitions of disability vary greatly, the data are frequently not maintained in comprehensive institutional records, and many sources rely on self-reporting, and hence are inconsistent. I hope that the government commitment to collect this data will lead to more consistency in the future.

I will use the racial and ethnic group identifiers of the text: white, non-Hispanic (abbreviated as white); black, non-Hispanic (abbreviated as black); Hispanic; Asian or Pacific Islander (abbreviated as Asian); and American Indian. Citations of particular tables in the NSF reports appear at the ends of the paragraphs.

At the pre-college level there is little difference between boys and girls in participation and performance in mathematics courses. Of 1998 high school graduates, 11.2% of the males and 10.6% of the females had taken calculus. The biggest differences in participation were in the physical sciences: 63.5% of the females versus 57.1% of the males had taken chemistry; 26.2% of the females versus 31.7% of the males had taken physics. In spite of similar participation rates in mathematics, there is a difference in perception of math. In the 2000 National Assessment of Educational Progress (NAEP), 44% of female and 49% of male 12th graders agreed with the statement "I like mathematics"; 47% of female and 58% of male 12th graders agreed with the statement "I am good at mathematics." (2002 Appendix Tables 1-1, 1-14)

In the 1999 Third International Mathematics and Science Study – Repeat (TIMSS-R), the US and most other nations showed no statistically significant difference between eighth grade boys and girls in math. Only four countries (Czech Republic, Iran, Israel, and Tunisia) showed differences between boys and girls in math achievement. (The situation was worse for the science part of the assessment.) (2002, page 7)

However, mathematics gaps persist by race and economic status. "Socioeconomic status (parental occupation, education and income) is highly correlated with mathematics achievement." [2002, p. 10] One factor is simply the gap in high school graduation rates. In 1999, 93% of whites ages 25–29 had completed high school, compared with 89% of blacks and 62% of Hispanics in this age range. In schools with high and schools with low minority enrollment, the same proportion of teachers has regular or advanced teaching certification. Most math teachers do not feel well prepared to address the needs of students with disabilities, with limited English, or with diverse cultural backgrounds; math instruction may suffer at schools with many students with these needs. In 2000 only about 60% of public and private high schools in the US offered advanced placement courses. (2002, pages 8–10, Appendix Table 1-19)

Among college students, blacks, Hispanics, American Indians and whites are about equally likely to major in science and engineering (S&E) and about equally likely to graduate. (A total of 51 American Indians received a bachelor's degree in mathematics in 2001; 23 of these are women.) Male Asians are much more likely to major in S&E, especially in computer science, biological sciences and engineering. Women are less likely to major in S&E, with the most pronounced differences in computer science and engineering. But women in S&E majors do not have a higher attrition rate than men in those majors, and compared with men, a higher percentage of the women S&E majors graduate within 5 years. (2002 Appendix Tables 2-10, 2-15, 3-6, 3-9, 3-14; 2004 Tables C-12 and C-13)

The percentage of mathematics bachelor's degrees awarded to women held steady in the 1990s, at around 46–48%. During that time women's share of bachelor's degrees grew in all other areas of S&E except computer science. The share of computer science bachelor's degrees awarded to women dropped from 37% in 1985 to 28% in 2001. I am curious whether there are significant differences in percentages of women majoring in computer science between those computer science programs within engineering schools and those in arts and sciences colleges. Within engineering there are big differences by discipline: in 2001 33.8% of bachelor's degrees in chemical engineering, but only 13.2% of bachelor's degrees in mechanical engineering, went to women. (2004 Table C-5)

The percentage of all bachelor's degrees and of S&E bachelor's degrees going to blacks increased gradually in the 1990s. In mathematics, there seemed to be a similar increase, but the 2001 figure (7.3% of all math bachelor's degrees went to blacks) was almost identical to that in 1994 and 1995 (7.2%). For Hispanics there was a steady increase: the percentage of mathematics bachelor's degrees that were earned by Hispanics was 3.9% in 1994 and 5.7% in 2001, still significantly lower than the 7.4% of all S&E degrees that went to Hispanics in 2001. (2004 Table C-7)

The 2002 NSF report includes some data from other

countries. Within Europe there is great variation in women's share of first university degrees in mathematics: 24.4% in Germany, 52.1% in Italy. In South Korea women earn 41.2% of all first university degrees and 47.3% of first university degrees in mathematics. (All data for 1998; 2002 Appendix Table 3-7)

Among S&E bachelor's degree recipients, a higher percentage of women continue as full-time students in graduate or other educational programs. But women constitute a smaller percentage of S&E graduate students than of S&E bachelor's recipients. One reason for this discrepancy is the lower percentages of women among S&E graduate students coming from other countries; more than one quarter of S&E graduate students are in the US on temporary visas. Also, men presumably stay in graduate school longer, since women's share of Ph.D.'s is lower than their share of master's degrees. Finally, the text speculates that more women switch out of S&E to attend professional school or graduate school in other fields. (2002 Text Tables 4-1, 4-2)

Overall graduate S&E enrollment peaked in 1993 at about 436,000, while female enrollment continued to grow through the nineties. In math and physics the numbers of women enrolled in graduate programs declined in the 1990s (with slight increases in the early 2000s), but in the other S&E fields, female enrollments have increased steadily. As a percentage of all math graduate enrollment, women's enrollment grew from 30.1% to 36% in the 1990s. In 2001, 37.7% of the enrolled mathematics and statistics graduate students were women, 42.3% of the master's degrees in mathematics and statistics were awarded to women, and 27.4% of the Ph.D. degrees were awarded to women. The comparable figures in computer science were 29.3%, 33.7% and 18.8%. Computer science awarded almost five times the number of master's degrees that math awarded in 2001 (16,341 versus 3820), but only 82% of the Ph.D.'s (826 versus 1006). The share of graduate enrollment in computer science by women increased in the late 1990s, after holding steady in the early 1990s. This is remarkable, considering the decline at the bachelor's level. (2002 Appendix Tables 4-1, 4-2, 5-1, 5-2, 5-6, 5-7; 2004 Tables D-1, D-2, E-1, E-2, F-1, F-2)

Percentages of S&E bachelor's recipients entering graduate school do not differ much overall by racial/ethnic group. There is some drop among blacks and Hispanics, most dramatically in computer science. And each subsequent degree has lower representation from non-Asian minorities. In 2001, 8.3% of S&E bachelor's degrees, 6.2% of S&E master's degrees, and 3.4% of S&E Ph.D.'s were earned by blacks. (2002 Appendix Tables 3-9, 5-3, 5-11; 2004 Tables C-6, E-3, and F-5)

The chapter on employment says little about academic employment. Where statistics are broken down by field, mathematics and computer science are often lumped together. In general, employment in S&E is difficult to define. Table H-31 (2004) describes demographic characteristics (in 2001) of employed S&E doctorate holders. Among the 574,890 such scientists and engineers, 25.6% are women. Compared with the men, these women are less likely to be 50 or older (35.8% versus 48.5%), more likely to be black (3.9% versus 2.2%), less likely to be married (67.2% versus 83.2%), if married more likely to have a spouse who works full time (84.4% versus 45.9%), more likely to have a working spouse in engineering, computer science or natural sciences (50.2% versus 31.1%), more likely to have been born in the US (80.9% versus 75.2%), and less likely to have children living at home (44.8% versus 51.6%).

If you have read this far, what I have said raised for you more questions than it answered. So browse in this NSF publication yourself. Unfortunately, you will not find there answers to the questions: Why? How will it change? Where do we go from here?

A note from the editor

I agree with Marge that *Women, Minorities, and Persons with Disabilities in Science and Engineering* is a fascinating publication. Especially for new Ph.D.s in the mathematical sciences, the AMS-IMS-MAA Annual Surveys in the *Notices* are remarkably thorough. There are many other interesting compilations of data currently available online. For example, NSF has also published *Characteristics of Doctoral Scientists and Engineers in the United States: 2001*, http://www.nsf.gov/sbe/srs/nsf03310/start.htm and *Science and Engineering Indicators—2002*. http://www.nsf.gov/sbe/srs/seind02/pdfstart.htm. The National Center for Educational Statistics has published *The Condition of Education 2002,* http://www.nces.ed.gov/pubs2002/2002025.pdf.

If you poke around at www.nsf.gov, www.nces.ed.gov, www.nap.gov and the like, there are lots of other interesting documents to be found.

WHERE ARE THE WOMEN PROFESSORS?

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I always felt liberated. I was never discouraged from following my dream—studying mathematics—and my professors provided positive reinforcement. While I realized that I was not surrounded by a bevy of other women in graduate school, I did not feel that I was unusual. Recently, I discovered that I was one of the 242 women who earned a Ph.D. in engineering in the U.S. in 1987; our group comprised 6.5% of all engineering doctorates that year.

In my engineering department, there were no women faculty members. (My last year at the university one woman was hired, who eventually left without getting tenure.) While I noted this clear lack of female faculty power as a graduate student, I never considered the sacrifices of those women who *were* able to persevere and obtain tenure in a scientific discipline. Now that I am a faculty member, I find myself indebted to those female academics who preceded us: the pioneers, who shattered the academic icy tower by surviving an intimidating academic climate and demonstrating that women can be productive and prolific professors.

With the anti-discrimination laws that have been passed in the U.S. over the last few decades, it is true that inequities have been reduced and more women than ever before are obtaining doctorates and pursuing academic careers. How much progress have women really made? Consider the following statistics from *The Survey of Earned Doctorates* conducted by the National Opinion Research Center and sponsored by the National Science Foundation:

- Women received 45% of all doctorates granted in 2002. This is the highest percentage ever and represents a continued increase since 1992 when this percentage was 37%. In 1977, this percentage was 25%.
- Of all U.S. citizens, women comprised 51% of the doctorates granted in 2002. This is the first time that U.S. women were awarded more doctorates than U.S. men.

NSF-AWM TRAVEL GRANTS FOR WOMEN

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

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

Eligibility. These travel funds are provided by the Division of Mathematical Sciences of NSF, and the research conference must be in an area supported by DMS. (See http://www.nsf.gov/od/lpa/news/publicat/nsf03009/mps/dms.htm#1 for the list of supported areas.) Applicants must be women holding a doctorate (or equivalent experience) and having a work address in the US (or home address, in the case of unemployed mathematicians). Anyone who has been awarded an AWM-NSF travel grant in the past two years is ineligible. Anyone receiving significant external governmental funding (more than $1000 yearly) for travel is ineligible. Partial travel support from the applicant's institution or from a non-governmental agency does not, however, make the applicant ineligible.

Target dates. There are three award periods per year. An applicant should send *five* copies of 1) a cover letter, including the conference name, conference dates and location (city/state/country), and amount of support requested, 2) a description of her current research and of how the proposed travel would benefit her research program, 3) her curriculum vitae, 4) a budget for the proposed travel, and 5) a list of all current and pending travel funding (governmental and non-governmental) and the amounts available for your proposed trip to: Travel Grant Selection Committee, Association for Women in Mathematics, 4114 Computer & Space Sciences Building, University of Maryland, College Park, MD 20742-2461. If you have questions, contact AWM by phone (301-405-7892) or email (awm@math.umd.edu). Applications via email or fax will not be accepted. The next two deadlines for receipt of applications are **October 1, 2004** and **February 1, 2005**.

- Although there was a 2% decrease in overall doctorates awarded between 2001 and 2002, there was a 4.5% decline for men and a 1.1% increase for women.

There is little doubt that the educational climate for women is improving. However, are these statistics as positive in the specific disciplines of the physical sciences (physics, chemistry, earth and marine sciences, mathematics, and computer science) and engineering? According to Terry Speed, the current Institute of Mathematical Statistics (IMS) President, "I estimate that at most 15% of IMS members are women. The barriers may be down, but we are almost as far from equal representation as we ever were."[1] Again, the recent *Survey of Earned Doctorates* reported:

- Women earned 27% of the doctorates in the physical sciences in 2002—up from 20% in 1992 and only 13% in 1982.
- Women earned 29% of the doctorates in the mathematical sciences in 2002—up from 20% in 1992.[2]
- Women earned 18% of the doctorates in engineering in 2002—up from 9% in 1992 and only 5% in 1982.

While the percentage increases in women earning science doctorates have been enormous (greater than 100% growth from 1982 to 2002 in the physical sciences and engineering), the proportion of women earning Ph.D.'s in the sciences still trails far behind that of men. In addition, what happens to these women after they earn their degree? According to the 2002 *Survey*, a similar percentage of men and women reported commitments for employment following their doctorates (74% and 71%, respectively). Of the women students that reported employment commitments, 58% reported a commitment in academe—compared to 48% of men. (This figure has remained relatively constant since 1982.)

More specifically, in the fields of mathematics, a higher percentage of women than men reported employment commitments (59% compared to 53%) and more women than men reported this commitment to be in academe (42% compared to 30%). Given that 20% of the mathematical science doctorates in 1992 were granted to women, and in 1992 a greater percentage of women reported employment commitments in an educational environment, we might expect the percentage of women mathematical science faculty to exceed 20% ten years later. Have we met expectations? Similar to athletics and Title IX, the answer depends on the type of institution we look at—is it a top-tier doctorate institution, or a smaller college that grants only baccalaureates?

In a recent article, Gerhard Sonnert (Harvard University) and I examined women's representation on the faculty of mathematical science departments and found that gender proportions vary across ranks and institutional settings.[3] Data from the *Annual AMS-IMS-MAA Survey* revealed that during the 1990s the greatest proportion of full-time women faculty were in mathematical science departments at baccalaureate institutions (schools that grant a B.A. or B.S. as their highest degree) and the departments with the lowest proportion of full-time women faculty were at doctoral institutions.

Furthermore, during the 1990s the top-tier doctoral institutions reported the lowest percentage of tenure-track mathematics faculty who were women (average of 9%), while this percentage was highest (greater than 25%) for baccalaureate institutions. In addition, the percentage of tenured mathematics faculty who were women was only 4% for the top-tier doctoral programs during the early and mid-1990s, while it was 15% for the baccalaureate programs.

A more recent study conducted by Donna Nelson at the University of Oklahoma examined faculty representation in 2002 at the top 50 research universities (determined by research money) and found the following:

- Only 8% of the entire mathematics faculty in this elite group of 50 institutions were women.
- Approximately 20% of assistant professors and 13% of associate professors in mathematics at these 50 institutions were women.
- Less than 5% of the full professors in mathematics at these 50 institutions were women.

While it may not be surprising that the representation of women within mathematics departments correlates inversely with institutional prestige, it is nonetheless alarming. Moreover, the representation of women also

[1] IMS *Bulletin*, President's Column, Vol. 33, p. 4.

[2] Women earned 43% of the doctorates in statistics in 2002, which is included under the social sciences, not the physical sciences.

[3] Radke Sharpe, N. and G. Sonnert (1999), "Women Mathematics Faculty: Recen trends in academic rank and institutional representation," *Journal of Women and Minorities in Science and Engineering*, Vol. 5, p. 207.

correlates inversely with academic rank; women are most severely underrepresented among the most respected rank: tenured faculty. While there has been growth in the representation of women at the top institutions, this gain is not due to a rise in women's share of tenure-track or tenured positions. In fact, the rise is largely caused by the increasing numbers of women in non-tenure-track positions—a type of position that has become more common and is associated with marginal professional involvement and prospects.

Consider also the relative earning differential across women and men faculty. According to the American Association of University Professors (AAUP) and based on the 2000–2001 edition of the *Annual Report on the Economic Status of the Profession*:

- Across all ranks and all institutional types, women earn 91% of what men earn on average.
- At the rank of full professor women earn on average 88% of what men earn at the same rank.
- At the ten highest-paying private institutions, the salary advantage for men averages 10%.[4]

In fact, this salary gap between men and women has remained relatively constant for the past decade. It is true that many institutions have formed gender-equity committees and investigated the situation, yet the gap remains and the news from the latest 2002–2003 AAUP survey is no different: women's salaries lag behind men's at every institutional rank.

The most well-known gender-equity study was conducted in 1999 at the MIT's School of Science, which revealed that the treatment of tenured women faculty varied across individual disciplines. However, in general, the tenured science women were paid less and provided less research opportunities and resources than men—resulting in the perception of exclusion and discrimination. This study concluded with a set of clear recommendations, which focused on improving the status and equity of senior women faculty; improving the professional lives of junior women faculty; and increasing the overall number of women faculty at MIT. More recent follow-up reports to the original study, however, continue to cite issues of women faculty at MIT being marginalized and omitted from decision-making processes.

Some argue that the reasons women faculty are paid less (on average) are subtle; women are expected to spend more time on items that are less rewarded. Thus women spend time on university teaching and service and less time on research, thereby getting fewer grants and smaller pay increases.

Others point out that this pay gap has less to do with expectations and more with choices; women choose to study underpaid disciplines; women are less willing to make a career change requiring a move; and women choose teaching over research.

Still others reason that the existence of a family and children severely impact the ability of women faculty to progress through the ranks. Mary Ann Mason and Marc Goulden have recently examined the impact of family on academic careers and uncovered the following statistics:[5]

- Women faculty who have babies early in their careers (within five years after earning the Ph.D.) lag behind men with early babies in achieving tenure.
- For faculty with early babies in the sciences and engineering, women's tenure rate is 24 percent behind men's.

Most likely both factions—those that believe the disparity is due to external constraints and those that believe it is due to internal choices—are correct. Each of the factors mentioned above are partly to blame for the lower pay—whether it's hard- or soft-money—for women faculty. The issue is complex, and often intangible factors are difficult to control for in a statistical analysis. However, if the focus is on improvement, then energies should be spent on finding solutions—not just causes.

While many institutions are hiring more women; placing more women on search committees; and settling out-of-court salary battles, is the situation for women faculty improving? As an example of a top-tier doctorate institution and a smaller baccalaureate/masters level institution, consider the following statistics for 2001–2002:

[4] The ten highest paying private institutions in 2000–2001 were: Rockefeller University, Harvard, Stanford, Princeton, Yale, University of Chicago, University of Pennsylvania, Babson College, Columbia University, and New York University.

[5] Mason, M.A. and M. Goulden (2002), "Do babies matter: The effect of family formation on the lifelong careers of academic men and women," *Academe* (Vol. 88, No. 6).

CALL FOR NOMINATIONS: THE 2005 KOVALEVSKY PRIZE LECTURE

AWM and SIAM established the annual Sonia Kovalevsky Prize Lecture to highlight significant contributions of women to applied or computational mathematics. This lecture is given annually at the SIAM Annual Meeting. Sonia Kovalevsky, whose too-brief life spanned the second half of the nineteenth century, did path-breaking work in the then-emerging field of partial differential equations. She struggled against barriers to higher education for women, both in Russia and in Western Europe. In her lifetime, she won the Prix Bourdin for her solution of a problem in mechanics, and her name is memorialized in the Cauchy-Kovalevsky theorem, which establishes existence in the analytic category for general nonlinear partial differential equations and develops the fundamental concept of characteristic surfaces. The first award of the Kovalevsky Prize was made in 2003 to Linda R. Petzold. In 2004, Joyce R. McLaughlin won the prize.

The lectureship may be awarded to anyone in the scientific or engineering community whose work highlights the achievements of women in applied or computational mathematics. The nomination must be accompanied by a written justification and a citation of about 100 words that can be read when introducing the speaker. Nominations should be sent to the AWM office (five copies to: Kovalevsky Selection Committee, Association for Women in Mathematics, 4114 Computer & Space Sciences Building, University of Maryland, College Park, MD 20742-2461; phone: 301-405-7892) or electronically to awm@math.umd.edu, to arrive by **November 1, 2004**. The awardee will be chosen by a selection committee consisting of two members of AWM and two members of SIAM. Please consult the award web page http://www.siam.org/prizes/kovalevsky.htm for more details.

- At Yale University 17% of all tenured faculty were women; 5% of all tenured faculty in the physical sciences were women and none of the 17 tenured faculty in mathematics and operations research were women.[6]
- At Babson College, 25% of tenured faculty were women; out of 11 tenured faculty in mathematics, statistics, and operations research, one was a woman.

Clearly faculty percentages at the tenured rank will lag behind the percentage of doctorates that are granted to women. However, recall that the percentage of women earning math doctorates was 20% a decade ago; traditionally assistant professors come up for tenure after seven years in the profession.

Despite the bleak picture painted above, there are also bright spots: At Wellesley College 42% of the full-time mathematics professors are women and 40% of the tenured math faculty are women.

How can colleges and universities hire and retain more women in the academic pipeline? While I have earned a doctorate from only one university and have taught in only two mathematics departments, I have experienced both blatant and subtle sources of inequitable treatment. Based on my experiences of teaching and conducting research for 17 years, my observations are that department chairs and university administrators are not implementing sufficient strategies that ensure objective hiring, promotion, and pay-raise practices.

Women need to be involved in decision-making and clear criteria need to be applied equally across candidates; pay-raises and promotions should be commensurate with performance and contributions to the college. A mentoring framework should be in place for all faculty members—both men and women—as they develop their teaching and research profiles; equitable expectations should be maintained for all faculty across teaching, research, committee load, and college service contributions.

While these policies may seem obvious to most faculty, and the attempts at developing these equitable policies by current administrators is noble, reality may not measure up to intentions and expectations. We would like to believe that whatever internal choices women faculty make, the consequences of their choices will be viewed objectively, without inequities in external opportunities.

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[6] Office for Institutional Research at Yale, Fall 2001, Headcounts by Gender and FAS Dept./Prof. School

LEADERSHIP WORKSHOP

Raymond Johnson, University of Maryland

The AWM Leadership Workshop was held in March 2004 at the University of Maryland. Johnson spoke in the panel "The challenges of chairing a department." His report on his remarks is structured as a series of answers to questions posed by Magnhild Lien, California State University, Northridge, moderator.

My broad overview was that I thought of the Chair's office as a place where ideas and information about things we could be doing, or should be doing, or should be concerned about came in from the faculty, the Dean, the upper level administrators, etc., and then decisions had to be made about what was to be done with the information—someone asked to lead an activity, someone assigned to an activity, appointments had to be made, reports had to be written. The output was only as good as the information I had; I eventually came to believe that there was no such thing as bad news (I had heard it all before). Whatever it was, this information was something I needed to act on or decide.

In your view, what qualifications and/or background did you have that made you a good candidate for being a department chair? As a follow up to this question, what do you think are necessary attributes for a department chair?

I think one skill I had was that I listened well. It was something I learned as grad chair, where I learned to hear not only what was said, but sometimes to hear what was only implied. For example a student once came with a complaint about her teaching assignment, which are very routine in the department. When I questioned her a bit, it turned out that she was really concerned about her interactions with her advisor. We changed her advisor and her concern about her assignment went away. My administrative experience as Associate Chair for Graduate Studies helped prepare me to serve as Chair since many of the issues facing the chair are versions of issues facing the graduate chair.

In your institution, what are the three most important duties of the department chair? How did these duties mesh with your vision of what a chair should do?

The most important duties are recruiting and retaining faculty, managing the department's budget, and developing the courses to be offered. The duties are very much like those of the Associate for Graduate Studies who has to recruit students, manage the graduate student pool of money, and develop graduate courses.

A chair has to have sufficient attention to detail to get necessary things done, and enough willingness to think about big issues without getting totally lost in the minutiae.

How long do you think a chair term should be? Should the same person serve more than one term?

The term at Maryland is five years. I think that is better than three years because the first year is a learning year and with a five-year term, you get four years of effective service. I did not run for a second term; part of the reason was that I felt it had become kind of routine and familiar. Everyone's problem is unique, but you have heard similar stories. You don't want to start finishing people's presentations for them. (See the part above about needing to listen.) I thought it was good for someone else with new ideas to try it.

What kind of administrative help did you have? Do you have associate chairs, vice chair, etc.?

Maryland is a large department; there are Associate Chairs for Undergraduate Studies and Graduate Studies who manage the development of courses, and control their own budgets once the Chair has made the allocation of resources. There is also an Associate Chair for Faculty Affairs who helps with the faculty hiring/promotion process. Since I left, the person responsible for faculty computational resources has also been promoted to Associate Chair.

Was your appointment as chair an academic year appointment or a 12-month appointment?

The Chair's appointment is a twelve-month appointment; reports and planning for the next year as well as academic appointments that are dragging on frequently spill over into the summer.

What was the biggest surprise (good or bad) you had once you started as chair?

My biggest surprise was a budget cut of $100,000 during my first two weeks on the job. Since they were followed by even larger budget cuts, it didn't seem so bad in retrospect, but it was quite a shock when you

haven't even gotten the seat warm.

Another unusual thing happened later that year; I didn't place too much emphasis on the social aspects of the job, but late in my first term, I was at some social event chatting with a colleague from another end of campus when I learned that the Deans on that end of campus had returned half of a recent budget cut to their departments. He was quite happy and relieved; I was shocked because we had not heard any such thing. Shortly after that chance social event, heat was applied (you can't make them see the light, but you can make them feel the heat) and our Dean also agreed to not only return, but hard budget (return it to our budget base) the corresponding amounts to our College.

Did you find time for your own research or scholarly activities while you were chair?

The chair has traditionally had an open door policy at Maryland, which means that you are constantly fielding various issues. I found it very difficult to keep my research going. As Associate Chair for Graduate Studies I had found it possible to stay home one or two (usually one) day a week and keep some research going. There were always problems, reports, issues as Chair; I was not able to stay home and do research.

List the biggest challenges you encountered while being chair and how you dealt with them.

The biggest issue I faced as Chair was losing hundreds of thousands of dollars every year. How do you keep up faculty morale and keep your good faculty, with limited money for salary increases? How do you address inequities that have arisen? One thing I had to do was keep up my own morale, so I cheerfully faced the problems and gradually came to realize that I could apply baling wire fast enough to keep things together until times improved. I actually said to one of my colleagues who had an outside offer, "I can't raise your salary enough to keep you, but I think I can raise it enough to rent you until my successor can make the necessary raise to keep you." That was the way it played out.

What advice would you give to a colleague who is thinking about being a department chair?

Only one colleague has asked me about becoming Chair. I recommended that he do it. I did have to warn him that he would not necessarily be seeing the better side of human nature, nor would he be participating in a rigorous scientific process, but I told him it was a job he could enjoy if he took the right attitude towards it. He eventually had a problem with one of the faculty (like those that others have already talked about) and asked me if there was any way he could punish the faculty member. I told him that punishment was something I left for God and their partners; it was not a role of the Chair.

I always took the job seriously, but never took myself seriously. That was the right balance for me, which let me enjoy some of the shenanigans and never be surprised by anything.

In your experience, did keeping up with all the bureaucracy make it difficult to be a proactive chair?

Yes, keeping up with all the bureaucracy definitely made it more difficult to be chair. The associate chairs handled reports in their areas, which was a great help, but the University had just discovered the wonders of strategic planning. It seemed that every year we were writing our strategic plans or commenting on the University's plan. One of my administrative colleagues called it something like doing a rain dance and then crediting the rain to the dance. That is the way I felt about the process at Maryland. What happened occurred despite, not because of, any strategic planning process. I felt it was a huge waste of time, which happened to be the fad du jour. I am sure there are places that can use strategic planning in a good way; Maryland did not happen to be one.

WOOD BREAKS GLASS

Melanie Wood will be delivering a talk at American University (cosponsored by American and the MAA) on October 26, 2004, at 8:00 P.M. in Ward Room 1, to be followed by a reception open to the public (RSVP solarz@american.edu). Now a graduate student, she has already won many awards for her undergraduate work, including AWM's Schafer Prize. Her title will be "The Creative Process of Mathematics." She says: "Insight. Originality. Inspiration. New perspectives. Opening your mind. Finding a different way. Playing around. That is mathematics."

EDUCATION COLUMN

by Column Editor Ginger Warfield, Department of Mathematics, University of Washington, Seattle, WA 98195; warfield@math.washington.edu.

Quantitative Literacy and Interdepartmental Collaboration

The process of putting together this column has once again caused me to see that two elements of my multi-module life have a heavy overlap and a lot to contribute to each other. I'll describe the two separately, which may look disjointed—hang in for the bridge at the end!

The first element is quantitative literacy. This is an issue about which most of us have muttered for most of our mathematical lives, but now it is being addressed directly, nationally and very specifically. I became conscious of the movement first through a report at one conference and then through a call to arms at another. The examples used were largely the ones that are familiar to us all, and amusing in a slightly painful way: newspaper articles reporting that 300% of the people present responded in some way; advertisements pointing out that 3/4 of the people suffering from disease X have symptom Y, so if you have symptom Y, you had better buy medication Z (to the tune of $N); total lack of concern over situations exhibiting unambiguous and disastrous exponential growth, etc. What's new is the response. Always before it has seemed to me to be split between a collective guilt trip and a discussion about which (other) level of teaching should be responsible for dealing with the situation. Myself, I have been working diligently on including some elements of quantitative literacy in various of my courses, but the courses in which I have been able to focus such efforts consist in general of "liberal arts" courses and developmental courses, which together reach some 150 of the University of Washington's 30,000 undergraduates—a discouragingly small proportion.

Then came Jan Ray's call to arms. First she presented a stellar array of examples of lack of quantitative literacy. Then, just as I was expecting a "go make sure you teach this stuff" message, she came up with an unexpected and absolutely valid observation: our courses are not, in fact, the best places to address the issue. Getting students to use in the outside world (a.k.a. "real life"!) what they learn in mathematics class has been a struggle for generations. On the other hand, a professor of, say, sociology would have far greater credibility from a student's eye view in pointing out a mangled percentage or a distorted statistic. Furthermore the context could make it much more memorable than it would be if viewed as an abstract mathematical glitch.

With that in mind, the strategy shifts radically. The central focus becomes work with colleagues in other departments. Jan has an entire set of tactics for making the mathematical aspects of non-mathematical fields intriguing rather than threatening to colleagues in those fields, and she cited several instances where such tactics have resulted in co-taught courses. It's a lovely idea—but for sheer reasons of scale a good deal more feasible in a community college or a four-year college than in a massive state university. I finished the conference a little envious, but feeling no closer than before to being able to make a serious contribution.

Meanwhile, in another part of my life, I was being invited to take part in a teaching project. On the Olympic Peninsula, right across Puget Sound from Seattle, there are a number of school districts where factors like the collapse of the logging industry have produced an economic downturn which in turn has jeopardized the educational system. Since teaching math in context is currently much encouraged, a member of the College of Forestry set up an outreach project intended to use the natural local interest in trees and logging to motivate the learning of some mathematics. At the two year renewal point he realized that although some of his goals had been met, teaching mathematics is harder than he had realized, and a lot that he had hoped for hadn't transpired. As a result, when the renewal application began to get rolling, I got a phone call. It was a very persuasive call. The project sounded intriguing, and the need was high, and the combination succeeded in demolishing my resolve to add nothing to my schedule.

I have had no cause to regret that decision. In fact, the process of planning has been such fun that it was my original intention to write this column simply on the joys of interdepartmental collaboration. My appetite has been thoroughly whetted for next month's workshop, where I will learn about tree growth and soil absorption and fire hazards, not to mention doing an orienteering exercise and taking a field trip to the Rain Forest. Our planning sessions, which included a mathematics education specialist from the College of Education in addition to my forestry colleague and myself, had an ongoing theme of

"Hey, when you teach the teachers that, count me in!"

It was only as I began marshalling the reasons for recommending that any mathematician snap up any opportunity for such a collaboration that I bumped into echoes of Jan Ray's call to arms. "Just get a good conversation going with a colleague in another field," she said, "and then watch for opportunities to bring in the topics where math gets mangled in his field." I've gotten into the midst of a splendid conversation. I'm not sure how many of those topics I'll find, but I'm now totally geared up to watch for them, and I look forward with great pleasure to whatever discussion ensues.

I know that this, too, constitutes just one more drop in the Quantitative Literacy bucket—but it's a drop that arrives with a particularly cheery "plink"!

THE NOETHER DAYS AT TEXAS TECH UNIVERSITY

Mara D. Neusel

In Spring 2003 the Department of Mathematics and Statistics at Texas Tech University implemented the Emmy Noether High School Mathematics Day (ENHD). This was a sincere effort by a group of faculty members to expand the department's outreach efforts to enhance the educational and life experiences of our high school graduates.

The first two ENHDs on May 15, 2003, and a year later on May 4, 2004, were overwhelmingly successful. These last two years have made it clear that our region needs this event. Feedback shows that although this is just a one-day event, it has a significant impact on the lives of our participants. It truly does make a difference. We are planning to offer the ENHD every spring and look forward to many more years to come.

We believe that our concept is suitable for many other universities and colleges around the country and would like to take this opportunity to report on our experiences and our goals.

Usually around 160 students from local and area high schools and junior high schools (grades 9-12) and their teachers follow the invitation to participate at the ENHD. Our goal is to generate high school graduates who are strong in the areas of science, mathematics, communication, and problem solving. We also hope to provide the opportunity for participants to discover and be enlightened about possible careers in mathematics.

More specifically the mission of the program is:

- to provide women students with a unique, high-quality experience designed to foster interest in mathematics and careers in mathematics, engineering and science,
- to provide women students the opportunity to experience a university environment,
- to give insight into women professors' experiences and educational opportunities associated with mathematics, and
- to provide women students the opportunity to learn that careers in mathematics, science, and engineering are attainable.

Our diverse program addresses each of these objectives. After registration and an official welcome by Dr. Jane Winer, Dean of the College of Arts and Sciences, and Dr. Lawrence Schovanec, Head of the Department of Mathematics and Statistics, the students enter a competition.

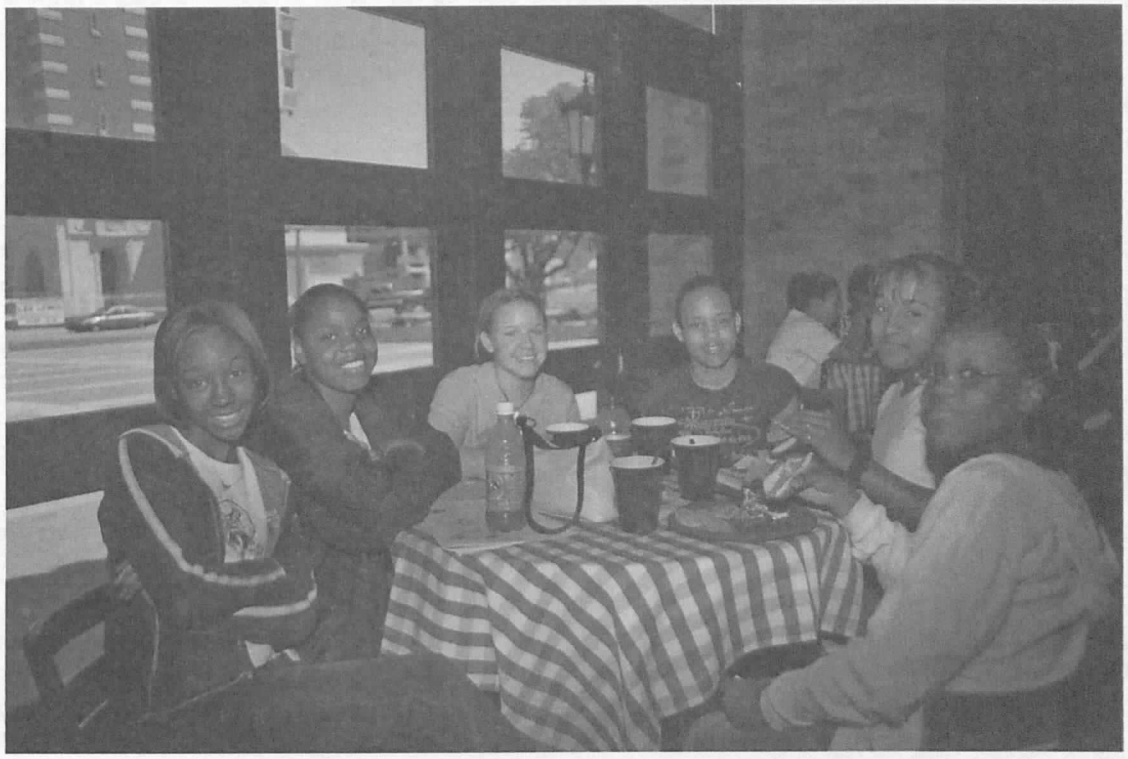
The problems are designed so that a general high school background suffices to solve them. Nevertheless, they are challenging and require serious logical thinking. For example:

What angle do the hands of a clock make at 7:38?

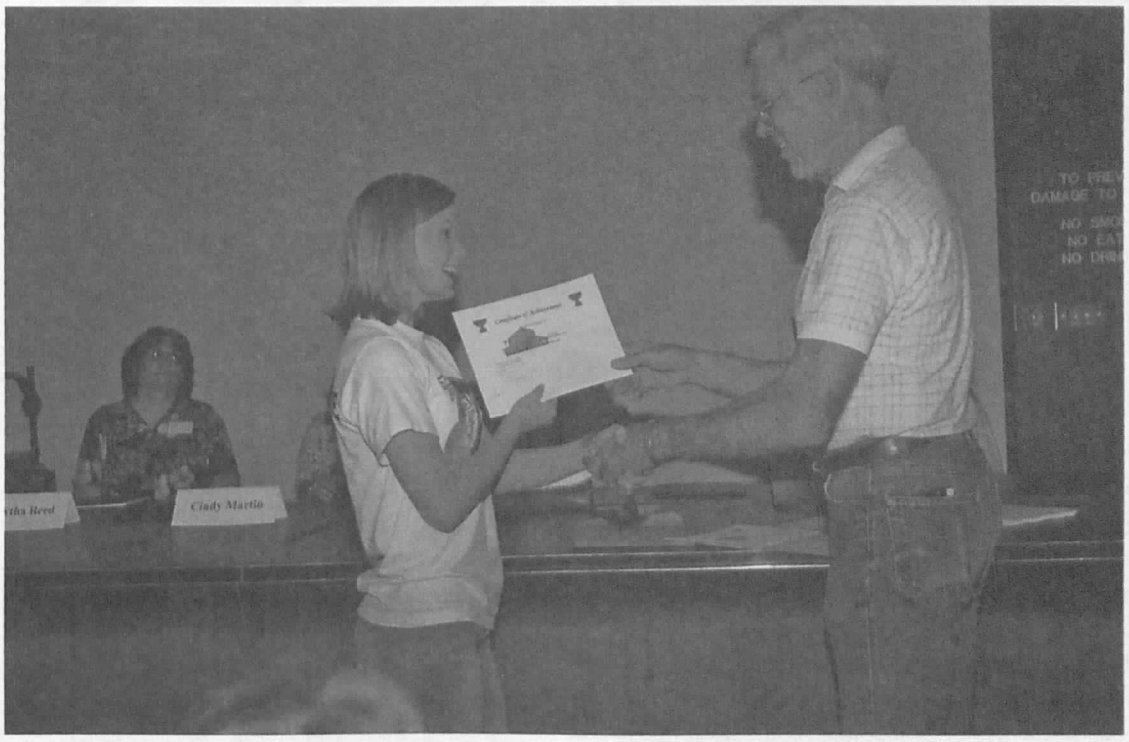
Or:

A person intends to withdraw X dollars and Y cents from an account. By mistake, Y dollars and X cents are withdrawn. The mistake is realized only when, after spending exactly $10.00, the person observes that the remaining money is exactly twice the amount originally intended to be withdrawn. How much did the person intend to withdraw from the account and how much was withdrawn instead?

The competition is conducted in the morning so the rest of the day can be used for grading. Consequently, we can announce the winners at the end of the day. We award the best exam in each grade, the best exam in each school, the best school in Divisions 1A and 2A, and the best school in Divisions 3A and 4A. Our awardees are highly gifted young women. One of our awardees in the first ENHD has been accepted to MIT, and two others



Lunchtime at ENHD, Texas Tech Photo credit: Dustin Love



Award Ceremony at ENHD, Texas Tech Photo credit: Dustin Love

received the highly prestigious Clark Scholarship.

After the exam, the students participate in workshops presented by faculty members. We intend to present a broad variety of mathematics and its applications to diverse disciplines in a playful but challenging way. We do not teach mathematics in these workshops, but rather want to advertise for mathematics and show that mathematics is used extensively in our lives and is interesting, important, and fun.

We prefer that research mathematicians discuss problems and questions arising in their research, which is, of course, not an easy task for the lecturers. For example, biomathematicians Dr. Linda Allen and Dr. Lih-Ing Roeger played the Disease Game with their group and geometer Dr. Magdalena Toda had them tile 2D and 3D dream houses. Other workshops focused on coding theory, cryptography, traffic accident statistics, modeling of physical systems, or fun things like the algebra of juggling or seemingly very dry things like binomial coefficients (but the girls loved it!). The success of these workshops lies partly in the personality of the lecturer.

We want to emphasize that the ENHD is not only meant to foster exceptionally talented students. These students absorb the mathematical material presented to them very quickly, and they are grateful for being exposed to mathematical ideas and applications they had never before seen. Surprisingly, these girls still feel awkward in their male-dominated mathematics and science classes. The ENHD helps them by presenting many successful female mathematicians to overcome this feeling of not fitting or being misplaced.

We also want to help the less talented or even weak mathematics students. We hope to make them understand that even if they want to major in something like English history, they need some basic knowledge of mathematics and should strive to finish their college algebra courses with a decent grade. More importantly, we want them to overcome their fear or even hatred for mathematics and learn to appreciate it.

Experiences in high school can have far-reaching social effects on students. For example, some of our students come from tiny little country schools; Lubbock is "the big city" to them, and Texas Tech is considerably larger than many of their communities. Some have never been on a university campus. Some girls were afraid of entering the large auditorium. Their teachers had to literally take them by the hand and guide them into the room.

However, West Texas provides a unique opportunity for diversity. Our students are varied in their racial and socio-economic backgrounds and come from both the city and the country. These cultural clashes indeed cause some tension, which is sometimes difficult to deal with, but is in the long run advantageous for the kids to be exposed to each other.

Accompanying teachers can also take advantage of workshops while their students are involved in ENHD. Topics range from classroom material to information that broadens their mathematical background.

A career panel follows the workshops. We present young successful women with a degree in mathematics from our university. We believe it is important that we invite our own graduates because the kids can relate to them easily. We also invite women from diverse professions, not only mathematics teachers or professors, to show the myriad of options available with a degree in mathematics. These women share their experiences as mathematics students and working mathematicians with the audience. Since they have already graduated from Texas Tech and gone on into "the real world," they can convince the students that careers in mathematics and related fields are attainable, interesting, and fun.

At the end of the day, as mentioned above, we hand out prizes for the best exams. This usually turns the students into a loud and noisy cheering crowd. Each participant also receives a souvenir in the form of a booklet that consists of the entire day's events, so that everybody will have a chance to look back on this wonderful day.

Our ENHD is free of charge for everyone and includes lunch and refreshments. We do not select the students; that choice is left to the teachers.

This event would not be possible without the many people who help in various ways to make it happen: the faculty members in the organizing committee, those who present workshops or grade the exam, the many faculty and student volunteers who help throughout the day, the moderator of the panel and the panelists, the photographer, the administrative support we obtain from our department and the entire College of Arts and Sciences, and, of course, the many sponsors, among others our local SIAM and MAA Student Chapters. It truly became an event which brought together the entire department, creating a strong bond between our university and the city of Lubbock and the surrounding areas.

Please visit our website at http://www.math.ttu.edu/~mneusel/enhd2.htm.

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

supported by the Office of Naval Research, the National Security Agency, and the Association for Women in Mathematics

Over the past sixteen 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 July 11–12, 2005 in conjunction with the Society for Industrial and Applied Mathematics (SIAM) 2005 Annual Meeting at the Hilton New Orleans Riverside Hotel, July 11–15, 2005.

FORMAT: The workshop will consist of a poster session by graduate students and two or three minisymposia featuring selected recent Ph.D.'s, plus an informational minisymposium directed at starting a career. The graduate student poster sessions will include all areas of research, but each research minisymposium will have a definite focus selected from the areas of Mathematical Biology, Modeling, Control, Optimization, Scientific Computing, and PDEs and Applications. AWM will offer funding for travel and two days subsistence for as many as twenty participants. Departments are urged to help graduate students and recent Ph.D.'s obtain supplementary institutional support to attend the workshop presentations and the associated meetings. All mathematicians (female and male) are invited to attend the 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, a graduate student must have begun work on her thesis problem, and a recent Ph.D. must have received her degree within approximately the last five years, whether or not she currently holds a postdoctoral or other academic or non-academic position. All non-US citizens must have a current US address. All applications should include a cover letter, a summary of research work (one or two pages), a title and abstract (75 words or less) of the proposed poster or talk, and a curriculum vitae. A supporting letter of recommendation from a faculty member or research mathematician who knows their research is required for graduate student applicants and recommended but not required for recent Ph.D.'s. Additional letters of support are encouraged. 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 final title and abstract with name, affiliation, address, etc. by mid-February to SIAM for the meeting program; AWM will provide instructions with the notification. For some advice on the application process from some of the conference organizers see the AWM website.

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

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

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

APPLICATION DEADLINE: Applications must be received by **January 26, 2005**. Applications via email or fax will not be accepted.

SONIA KOVALEVSKY HIGH SCHOOL MATHEMATICS DAYS

Funded through grants from the National Security Agency and Coppin State College. Thanks to our funding agencies!

The organizers of each program are asked to submit an activity report, to provide a valuable resource for others to consider when setting up their own programs.

St. John's University

Rora Iacobacci (iacobacr@stjohns.edu) and Anne Hughes (hughesa@stjohns.edu.)

In October 2003, a letter was sent to the teachers in the schools that had participated in our past Sonia Kovalevsky Days. In it, we noted that mathematics has many beautiful ideas, theorems and applications that are already present in the high school math curriculum, such as the Pythagorean theorem, the quadratic formula, how the ancient Greeks determined a formula for the area of a circle, etc. Likewise, in discussions with high school students, we were impressed with their insights and poetic reactions to many of the math concepts they had studied, and felt this deserved to be shared with other students as well. Consequently, we requested that the teachers ask their students to write briefly about which part of mathematics they really enjoyed and why. The teachers were to send all entries to us by January 15th. The best ones would be printed in a brochure together with the student's name, teacher's name and school. The final nine-essay brochure was distributed to all the students and teachers who attended our SK Day on May 13th and, during lunch, the essays were read either by the author or by a representative of the school.

The brochure was entitled "In Their Own Words."

SONIA KOVALEVSKY HIGH SCHOOL MATHEMATICS DAYS

Through grants from Elizabeth City State University and the National Security Agency (NSA), the Association for Women in Mathematics will 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.

An additional selection cycle will be held in February 2005 for Spring 2005 using funds remaining after the August 2004 selection cycle. AWM anticipates awarding up to five additional grants ranging on average from $1500 to $2200 each ($3000 maximum per school) to universities and colleges. Historically Black colleges and universities are particularly encouraged to apply. Programs targeted toward inner city or rural high schools are especially welcome.

Applications, not to exceed six pages, should include: a) a cover letter including the proposed date of the SK Day, expected number of attendees (with ethnic background, if known), grade level the program is aimed toward (e.g., 9th and 10th grade only), total amount requested, and organizer(s) contact information, b) plans for activities, including specific speakers to the extent known; c) qualifications of the person(s) to be in charge; d) plans for recruitment, including the securing of diversity among participants; e) detailed itemized budget (i.e., food, room rental, advertising, copying, supplies, student giveaways, etc. Honoraria for speakers should be reasonable and should not, in total, exceed 20% of the overall budget. Stipends and personnel costs are not permitted for organizers. This grant does not permit reimbursement for indirect costs or fringe benefits. Please itemize direct costs in budget.); f) local resources in support of the project, if any; and g) tentative follow-up and evaluation plans.

The decision on funding will be made in late February for high school days to be held in Spring 2005. If selected, a report of the event along with receipts (originals or copies) for reimbursement must be submitted to AWM within 30 days of the event date or by May 25, 2005, whichever comes first. Reimbursements will be made in one disbursement; no funds can be disbursed prior to the event date.

Send *five* complete copies of the application materials to: Sonia Kovalevsky Days Selection Committee, Association for Women in Mathematics, 4114 Computer & Space Sciences Building, University of Maryland, College Park, Maryland 20742-2461. For further information: phone 301-405-7892, email awm@math.umd.edu, or visit www.awm-math.org. Applications must be received by **February 4, 2005**; applications via email or fax will not be accepted.

Two examples of the entries follow.

One of the things I most enjoy in relation to math is learning about various mathematicians and their philosophies. Each mathematician has his/her own theories that are unique and most impressive. One of my favorite mathematicians is Leonardo Pisano who is also known as Fibonacci. Fibonacci is well known for his theories and proven facts on how mathematics is so closely associated to nature. Who would think that something as beautiful and striking as a sunflower can also serve as a part of mathematics? One of Fibonacci's most renowned theories is Fibonacci Numbers and Nature. Fibonacci numbers can be seen within many areas in nature including something as simple and straightforward as the petals on a flower as well as something as intricate and meticulous as the arrangements of seeds on flower heads, and cones, and even the multiplying of rabbits, leaf arrangements and honeybees and their family units and many more. When most people look at something in nature, whether it be a flower or leaf, they just see the basic element of it; what they don't realize is that within it lives a whole other dimension full of phenomenon and trends.

– Emanuela Mannino

The fact that numbers can explain the universe so elegantly has always intrigued me and made math class the highlight of each school day. In math and science, there is always an answer to every question, as well as an infinite number of questions. I love how math can be applied to everyday activities and can be used in other subject areas such as genetics, psychology, astronomy, biology, and electronics. My favorite topic in math is algebra. I love how variables can be used to solve simple and complicated equations.

– Elizabeth Wai

Both students and teachers were impressed by the thoughts and, in some cases, the encouraging words in the essays. It was a worthwhile activity that brought students to reflect on the role of mathematics in their lives and come to a greater appreciation of its power.

OPPORTUNITIES

Sally Ride Fall Science Festivals

The Sally Ride Science Club is now presenting its Fall Science Festivals. They will be held on at: the University of Michigan, Ann Arbor, September 12; North Carolina State University, Raleigh, October 10; Stanford University, October 17; and UC Irvine, November 20. The Festivals are for girls in grades 5–8, with parents and teachers welcome to attend. The events will feature

CALL FOR NOMINATIONS: LOUISE HAY AWARD

The Executive Committee of the Association for Women in Mathematics has established the Louise Hay Award for Contributions to Mathematics Education, to be awarded annually to a woman at the Joint Prize Session at the Joint Mathematics Meetings in January. The purpose of this award is to recognize outstanding achievements in any area of mathematics education, to be interpreted in the broadest possible sense. The annual presentation of this award is intended to highlight the importance of mathematics education and to evoke the memory of all that Hay exemplified as a teacher, scholar, administrator, and human being.

The nomination documents should include: a one to three page letter of nomination highlighting the exceptional contributions of the candidate to be recognized, a curriculum vitae of the candidate not to exceed three pages, and three letters supporting the nomination. It is strongly recommended that the letters represent a range of constituents affected by the nominee's work. *Five* complete copies of nomination materials for this award should be sent to: The Hay Award Selection Committee, Association for Women in Mathematics, 4114 Computer & Space Sciences Building, University of Maryland, College Park, MD 20742-2461. Nominations must be received by **October 1, 2004** and will be kept active for three years. For more information, phone (301) 405-7892, email awm@math.umd.edu or visit www.awm-math.org. Nominations via email or fax will not be accepted. (*Please note that beginning next year the deadline for nominations for this award will be moved to April, so that nominations for the 2006 award will be due April 30, 2005.*)

a keynote by astronaut Sally Ride, Discovery Workshops given by women professionals from veterinarians to rocket scientists, and a Street Fair with booths, exhibits, food, music and a drawing. There are also workshops for parents and teachers on topics such as hands-on science and gender equity.

The Festivals begin at 11:30 with the Street Fair and registration and end at 4:15. The cost is $18 in advance ($25 at the door) and includes all festival events, lunch, snacks and materials. Girls attending the Festivals may also join the Sally Ride Science Club (www.SallyRideClub.com) for $5.00 for their first year.

Preregistration is available online at www.SallyRideFestivals.com and by calling 800-561-5161; it is strongly recommended, as most of last year's events sold out in advance.

TOYchallenge 2005 will be launched in Ann Arbor on September 12; see www.TOYchallenge.com.

Project NexT/YMN Poster Session

Project NExT and the Young Mathematician's Network invite submissions of abstracts for a poster session to be held Thursday, January 6, 2005 from 2:00 to 4:00 P.M. at the Joint Mathematics Meetings in Atlanta. The poster size will be 48" by 36"; it is best to have the posters 36" high. Posters and materials for posting pages on them will be provided on-site. We expect to accept about thirty posters from different areas within the mathematical sciences. Should you have a special requirement involving a computer hook-up, please let us know and we will check to see if it may be accommodated.

Our poster sessions the past eight years were great successes. Visitors to the sessions were numerous and included prospective employers. The sessions provide an excellent way to showcase one's work in a relaxed, informal environment.

If you are interested in participating, submit copies of your abstract to: Prof. Ken Ross, Department of Mathematics, University of Oregon, Eugene, OR 97403-1222; phone: (541) 346-4721, email: ross@math.uoregon.edu *and* Prof. Kevin Charlwood, Department of Math & Statistics, Morgan Hall, Washburn University, Topeka, KS 66621, phone: (785) 231-1010 ext. 1499, e-mail: kevin.charlwood@washburn.edu.

The deadline for final consideration is **December 10, 2004**. Preference will be given to those who did not earn a Ph.D. prior to 1999; please include with your submission when and where you received your Ph.D., or indicate when you expect to receive it. Please submit your abstract via email, but not as an attachment; if it includes mathematical formulas, use basic LaTeX or TeX. Submissions will be acknowledged quickly by email. Accepted abstracts will be posted at www.youngmath.net/Documents/2004/Posters/ before the Joint Meetings.

AWM GRANT RECIPIENTS

AWM has a variety of travel grant support available to serve its members. In this issue, we congratulate recent standard travel grant recipients. These grants are funded by the NSF.

October 2003 cycle: ELIANA S. ANTONIOU, William Paterson University; HYESUK LEE, Clemson University; BIYUE LIU, Monmouth University; WENDY MEIRING, UC Santa Barbara; NANCY ANN NEUDAUER, Pacific University; RACHEL PRIES, Colorado State; JULIE K. RAYE, Virginia Commonwealth University; KATHERINE THOMPSON, Carnegie-Mellon; HAOHAO WANG, Southeast Missouri State; PING ZHANG, Western Michigan University; and BARBARA ZUBIK-KOVAL, Boise State.

February 2004 cycle: AIHUA LI, Loyola University, New Orleans; JILLIAN E. MCLEOD, Mount Holyoke; MICHAELA PREDESCU, Bentley College; SVETLANA ROUDENKO, Duke University; MARIEL VÁZQUEZ, UC Berkeley; AISSA WADE, Penn State; MARIA AXENOVICH, Iowa State; SANDRA N. CATLIN, University of Nevada, Las Vegas; KATIE COUGHLIN, University of Washington; TAMAR FRIEDMAN, MIT; YULIA GEL, George Washington University; SILVIA HEUBACH, Cal State, Los Angeles; JOOYOUN HONG, Purdue; and ANITA LAYTON, University of North Carolina.

May 2004 cycle: OLGA BREZHNEVA, University of Minnesota; PAULA BUDU, Duke University; CHEN HONGQIU, University of Memphis; ALINA CHERTOCK, North Carolina State University; YEVGENIA KASHINA, Depaul University; RINAT KEDEM, University of Illinois; TANYA LEISE, Rose-Hulman Institute of Technology; TONG LI, University of Iowa; ANNA MAZZUCATO, Penn State; Liana Sega, Michigan State; and CHRISTINA TONNESEN-FRIEDMAN, Union College.

Call for Proposals for the 2006 Joint Summer Research Conferences

The American Mathematical Society, the Institute of Mathematical Statistics, and the Society for Industrial and Applied Mathematics welcome proposals from mathematicians, either singly or in groups, for conferences to take place in the summer of 2006 as part of the Joint Summer Research Conferences, contingent upon a grant from the National Science Foundation. The conferences will take place at Snowbird Resort located in the beautiful Wasatch Mountains just outside Salt Lake City, Utah. For over twenty years these conferences have played a vital role in disseminating the latest research to more than 9,000 mathematicians whose research interests span the breadth of the mathematical sciences.

Individuals willing to serve as organizers should be aware that staff of the sponsoring societies handle the logistical details of the conferences, thus making it possible for the organizers to focus almost exclusively on the scientific aspects of their conference. In particular:

- Core funding for the conferences is provided by a grant from the National Science Foundation (pending for the 2006 series).
- The professional conference coordinators in the AMS office will provide full logistical support and assistance before, during, and after the conference, thereby freeing the organizers to concentrate on providing a high-quality scientific program.
- Organizers are strongly encouraged to publish conference proceedings with one of the sponsoring societies. The sponsoring societies are committed to the rapid and widest possible dissemination of these proceedings as a means of sharing the conference research with those unable to attend.
- The selected proposals will represent diverse areas of mathematical activity, with emphasis on areas currently especially active. Conferences typically run for one week with forty-five to sixty-five participants. However, there is some flexibility in structure; for example, conferences of longer duration may be permitted.
- Proposals for conferences designed specifically for very recent Ph.D.s in a focused area are especially welcome.

Proposal Preparation

Proposals will be evaluated by the AMS-IMS-SIAM Committee on Joint Summer Research Conferences in the Mathematical Sciences. Members of this committee (see www.ams.org/meetings/srcscomm.html for the member list and contact information) are willing to provide guidance on the preparation of proposals.

Proposal preparation is straightforward. All proposals must include:

(1) title of the proposed conference;

(2) the names and affiliations of proposed members and the chair(s) of the Organizing Committee. Please include the curriculum vitae of the chair(s); (compact version, no more than five pages);

(3) a three- to four-page narrative written for the nonspecialist, describing the focus of the topic, including the importance and timeliness of the topic. Keep in mind that the members of the Selection Committee are active research mathematicians from a variety of fields.

(4) a list of the recent conferences in the same or closely related areas;

(5) a list of the proposed principal speakers, the majority of whom have agreed to participate (denote with an asterisk those that have been contacted and have agreed to participate) and a description of how you plan to schedule the speakers (i.e., number and length of talks per day); and

(6) estimated total attendance and a tentative list of individuals to be invited to participate.

Organizers are expected to make a vigorous attempt to include qualified women, underrepresented minorities, and junior scientists (advanced graduate students and recent Ph.D.'s) as participants in their conference, and as part of the Organizing Committee where possible and appropriate.

Sample Proposals

Complete information on submitting a proposal, including examples of recent successful proposals for reference, is available at www.ams.org/meetings/topics.html. Samples may also be requested by contacting the Meetings and Conferences Department as indicated below.

Deadlines

There are three deadlines of which potential organizers should be aware.

Preproposal Submission: Members of the Selection Committee are willing to provide feedback on preproposals which address items (2) and (3) above and which include a tentative list of principal speakers who will be contacted IF a complete proposal is submitted. Preproposals should be submitted by **October 15, 2004**, to insure sufficient time for feedback from a member of the Selection Committee. Submission of preproposals is optional.

Intent to Submit a Proposal: A statement of intent to submit a proposal should be received by **December 17, 2004**. Submission of intent to submit a proposal is optional.

Formal Proposal: For conferences to be held in the summer of 2006, the deadline for the complete formal proposal submission deadline is **January 14, 2005.** Conference proposers will be notified of the committee's decisions in late February.

Submit preproposals and proposals to: **Joint Summer Research Conferences, AMS Meetings and Conferences Department, P.O. Box 6887, Providence, RI 02940; fax: 401-455-4004; e-mail: meet@ams.org.** Electronic submissions are preferred. For questions concerning the proposal evaluation process, contact Dr. Jim Maxwell, AMS Associate Executive Director, via email (jwm@ams.org) or phone (401-455-4101).

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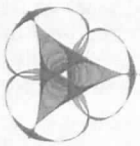

IMA INSTITUTE FOR MATHEMATICS AND ITS APPLICATIONS

Membership opportunities

in connection with the 2005-2006 thematic program on

IMAGING

IMA POSTDOCTORAL FELLOWSHIPS provide an excellent opportunity for mathematical scientists near the beginning of their career who have a background or an interest in imaging science and its mathematical underpinnings. IMA postdoctoral fellowships run one to two years, at the option of the holder, starting September 1, 2005.

IMA INDUSTRIAL POSTDOCTORAL FELLOWSHIPS are designed to prepare mathematicians for research careers in industry or involving industrial interaction. IMA industrial postdoctoral fellowships run two years starting September 1, 2005. Postdocs devote 50% effort to their own research and the IMA program and 50% effort working with industrial scientists.

IMA GENERAL MEMBERSHIPS provide an opportunity for mathematicians and scientists employed elsewhere to spend one month to one year in residence at the IMA, to participate in the 2005-2006 thematic program. Residency should fall in the period June 2005 through August 2006. Logistic support such as office space, computer facilities, and secretarial support will be provided, and local expenses may be provided.

IMA NEW DIRECTIONS VISITING PROFESSORSHIPS provide an extraordinary opportunity for established mathematicians to branch into new directions and increase the impact of their research by spending a year immersed in the 2005-2006 thematic program at the IMA. Visiting Professors will enjoy an excellent research environment and stimulating scientific program with broad mathematical connections including harmonic analysis, partial differential equations, and integral geometry, calculus of variations, probability theory, statistics, and learning theory. New Directions Visiting Professors are expected to be resident and active participants in the program but are not assigned formal duties.

For more information and application materials see
www.ima.umn.edu/docs/membership.html or phone 612-624-6066.

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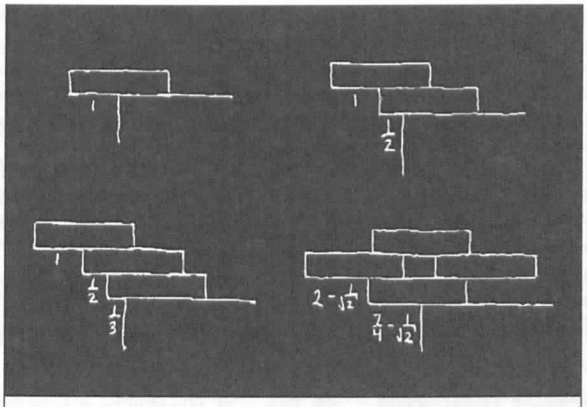

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Ready for the challenge? Contact: National Security Agency, Suite 6779, (LFK), 9800 Savage Road, Ft. George G. Meade, MD 20755-6779. Reasonable accommodation provided to applicants with disabilities during the application and hiring process where appropriate. Positions open to U.S. citizens only. NSA is an equal opportunity employer and abides by applicable employment laws and regulations.

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The Radcliffe Institute for Advanced Study at Harvard University awards fully funded fellowships each year. Radcliffe Institute fellowships are designed to support scientists of exceptional promise and demonstrated accomplishment, who wish to pursue work in academic fields. Scientists in any field with a doctorate in the area of the proposed project by December 2003 are eligible to apply. Only scientists who have published at least one article or monograph are eligible to apply. Please check the Web site for more information.

The stipend amount is $50,000. Fellows receive office space, computers and high speed links, and access to libraries and other resources of Harvard University during the fellowship year, which extends from early September 2005 through June 30, 2006. Residence in the Boston area is required as is participation in the Institute community. Fellows are expected to present their work-in-progress and to attend other fellows' events.

For more information, visit our Web site at www.radcliffe.edu. Write, call, or e-mail for an application: Radcliffe Application Office, 34 Concord Ave., Cambridge, MA 02138. ph: 617-496-3048; fax: 617-496-5299; science@radcliffe.edu

Applications from scientists must be postmarked by December 1, 2004.

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BROWN UNIVERSITY - DIVISION OF APPLIED MATHEMATICS - Position in Probability and Statistics - The Division of Applied Mathematics seeks applicants for a position at the tenure-track (Assistant Professor) or tenured (Associate or Full Professor) level, in the general areas of probability and statistics. The starting date for the position is July 1, 2005. Preference will be given to applicants who combine research in probability and statistical theory with important applications to science, who add distinct new dimensions to the Division's current research and who bridge current activities in the Division. At the Assistant Professor level, preference will be given to individuals with postdoctoral experience. Applicants at the Associate and Full Professor levels should have achieved international recognition for first-class contributions in their specialties. Additionally, candidates for Full Professor are expected to be acknowledged leaders and should be prepared to assume a leadership role in probability and/or statistics at Brown. Good communication and teaching skills are required. Applicants should submit curriculum vitae, representative preprints and reprints, and a concise description of research interests and goals to: **Attn: Probability and Statistics Search, Professor Chi-Wang Shu, Division of Applied Mathematics, Brown University, PO Box F, Providence, Rhode Island 02912 USA.** Applicants for Assistant Professor should arrange to have at least three letters of recommendation sent directly to the Search Committee at the same address. Applicants for Associate or Full Professor should arrange to have at least five letters of recommendation sent directly to the Search Committee and should provide the names and contact information for the references at the time of application. **To receive full consideration, complete applications should be received by November 30, 2004.** This position is being offered contingent upon the approval of the Brown University administration. Brown University is an affirmative-action/equal-opportunity employer. Women and minorities are encouraged to apply.

BROWN UNIVERSITY - DEPARTMENT OF MATHEMATICS - J. D. Tamarkin Assistant Professorship - One three-year non-tenured non-renewable appointment, beginning July 1, 2005. The teaching load is one course one semester, and two courses the other semester, and it consists of courses of more than routine interest. 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 prior academic and/or postdoctoral research experience. 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 vitæ, an AMS Standard Cover Sheet, and three letters of recommendation must be received by December 1, 2004. All inquiries and materials should be addressed to**: Junior Search Committee, Department of Mathematics, Brown University, Providence, RI 02912.** To access the AMS Standard Cover Sheet, visit our website: http://www.math.brown.edu/juniorsearch.shtml. Email inquiries should be addressed to juniorsearch@math.brown.edu. Brown University is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and minorities.

BROWN UNIVERSITY - DEPARTMENT OF MATHEMATICS – One professorship at the Associate Professor level with tenure, the appointment to begin July 1, 2005. [Exceptionally qualified candidates may be considered for appointment at the level of Professor.] This position is targeted in the area of **analysis,** broadly construed. Candidates should have a distinguished research record and a strong commitment to excellence in undergraduate and graduate teaching. Preference will be given to applicants with research interests consonant with those of the present members of the Department (for a list of faculty members and their fields, see **http://www.math.brown.edu/faculty/faculty.html**). Applicants who wish to be considered for this position should send a letter of application along with a curriculum vitae and arrange to have at least five letters of recommendation sent to: **Senior Search Committee, Department of Mathematics, Box 1917, Brown University, Providence, Rhode Island 02912.** Applications must be postmarked by **December 13, 2004**, in order to receive full consideration. Later applications will be accepted and considered to the extent feasible. Email inquiries can be addressed to srsearch@math.brown.edu. This position is Pending Approval. Brown University is an Equal Opportunity/Affirmative Action employer and encourages applications from women and minorities.

CALIFORNIA INSTITUTE OF TECHNOLOGY - DEPARTMENT OF MATHEMATICS - The Division of Physics, Mathematics and Astronomy at the California Institute of Technology invites applications for a possible tenure-track position in Mathematics at the assistant professor level. We are particularly interested in the following research areas: Algebraic Geometry/Number Theory, Analysis/Dynamics, Combinatorics, Finite and Algebraic Groups, Geometry/Topology, Logic/Set Theory, and Mathematical Physics, but other fields may be considered. The term of the initial appointment is normally four years for a tenure-track assistant professor (with a possible to extension to as much as seven years). Appointment is contingent upon completion of the Ph.D. Exceptional candidates may also be considered at the associate or full professor level. We are seeking highly qualified applicants who are committed to a career in research and teaching. Applicants should write promptly to: **SEARCH COMMITTEE, Mathematics 253-37, California Institute of Technology, Pasadena, CA 91125.** Please include curriculum vitae, list of publications with those publications appearing in refereed journals so noted, description of research, and ensure that at least three letters of recommendation be sent to the above address. Caltech is an Affirmative Action/Equal Opportunity Employer. Women, minorities, veterans, and disabled persons are encouraged to apply. www.math.caltech.edu

CLAREMONT GRADUATE UNIVERSITY - SCHOOL OF MATHEMATICAL SCIENCES - An applied mathematician with a strong background in mathematical finance and financial engineering is sought for a tenure-track or tenured appointment starting July 2005. The rank is open, depending on qualifications, and is subject to final budgetary approval. An outstanding record of research, the ability to develop grant support from government or industry sources, and willingness to assume a leadership role in the school are required for a senior appointment. The successful candidate will primarily support the MS and Ph.D. programs in Financial Engineering, operated jointly with the Peter F. Drucker and Masatoshi Ito Graduate School of Management. CGU is a member of the Claremont Colleges, a consortium of 7 private colleges that together employ over 45 mathematicians. The masters and Ph.D. programs emphasize applied mathematics, and the school operates an Engineering and Industrial Mathematics Clinic, in which faculty and students gain experience in industrial project work. The school also has a joint Ph.D. with CSU Long Beach in engineering / industrial applied mathematics, a joint Ph.D. with San Diego State University in computational science, and a Ph.D. program in computational and systems biology in collaboration with the Keck Graduate Institute. More information is available at www.cgu.edu/math and www.cgu.edu/fineng. Applicants should send a cover letter, statements of research interests and teaching philosophy, CV, evidence of teaching ability, and a list of names of at least 3 references to **Search, School of Mathematical Sciences, 710 N. College Avenue, Claremont, CA 91711**. Claremont Graduate University is an Equal Opportunity / Affirmative Action Employer. Review of applications will begin immediately and continue until the position is filled.

CORNELL UNIVERSITY - SCHOOL OF OPERATIONS RESEARCH AND INDUSTRIAL ENGINEERING - The School of Operations Research and Industrial Engineering at Cornell University is initiating an external search for a senior faculty member to serve as its next Director. This individual should be of stature commensurate with the School's reputation, with the requisite skills to lead the School over the next several years, starting by the summer of 2005. Interested parties should contact current faculty of the School, the search committee's co-chairs, Professors Robin Roundy and David Shmoys, or send email to director-search@orie.cornell.edu. More information about the School can be found at **http://www.orie.cornell.edu.** Women and minority candidates are especially encouraged to apply. Cornell University is an AA/EOE.

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CORNELL UNIVERSITY - DEPARTMENT OF MATHEMATICS - Tenure-track Assistant Professor - The Department of Mathematics at Cornell University invites applications for the position of tenure-track Assistant Professor (or, in an exceptional case and pending administrative approval, at a higher rank). Start date July 1, 2005. For information about fields of interest and application instructions, see: **http://www.math.cornell.edu/Positions/facpositions.html.** Deadline November 1, 2004. Early applications will be regarded favorably. Cornell University is an Affirmative Action/Equal Opportunity Employer.

CORNELL UNIVERSITY - DEPARTMENT OF MATHEMATICS - The Department of Mathematics invites applications for the following positions beginning July 1, 2005: **(1)** One H.C. Wang Assistant Professor, non-renewable, 3-year term; **(2)** Three VIGRE Postdoctoral Associates (contingent upon funding), non-renewable, 3-year term; Beginning August 16, 2005: **(3)** Visiting positions, academic year or one semester teaching positions (any rank). For information about our positions and application instructions, see: **http://www.math.cornell.edu/Positions/facpositions.html.** Applicants will be automatically considered for all eligible positions. Deadline December 1, 2004. Early applications will be regarded favorably. Cornell University is an Affirmative Action/Equal Opportunity Employer.

CORNELL UNIVERSITY - DEPARTMENT OF MATHEMATICS - Teaching Program Visiting Faculty Positions - The Cornell University Department of Mathematics invites applications for our Teaching Program Visiting Faculty Positions beginning August 16, 2005. Two or more half-time visiting positions (any rank) for mathematics professors on sabbatical/other leaves from colleges, universities, and engineering schools. Candidates with substantial experience teaching undergraduate mathematics, and with teaching and research interests compatible with current faculty, are sought. Successful candidates are expected to pursue a program of study and/or research at Cornell. For information about these positions and application instructions, see: **http://www.math.cornell.edu/Positions/vp.html.** Deadline December 1, 2004.Cornell University is an Affirmative Action/Equal Opportunity Employer.

COURANT INSTITUTE OF MATHEMATICAL SCIENCES - DEPARTMENT OF MATHEMATICS - The Courant Institute is a center for advanced training and research in the mathematical sciences. It has long been an international leader in mathematical analysis, differential geometry, probability theory, applied mathematics, and scientific computation, with special emphasis on partial differential equations and their applications. Its scientific activities include an extensive array of research seminars and advanced graduate courses. Each year a limited number of Courant Institute Instructorships in the Department of Mathematics are awarded to postdoctoral scientists. These appointments carry a light teaching load of one course per semester and ordinarily are for a three-year term. These positions are primarily for recent Ph.D.'s and candidates must have a degree in mathematics or some affiliated field. For an application and further information write to: **Visiting Membership Committee, Courant Institute of Mathematical Sciences, 251 Mercer Street, New York, NY 10012-1185.** Forms may also be obtained directly from the web at http://www.cims.nyu.edu/information/brochure/visiting.html or by sending e-mail to vm-apply@cims.nyu.edu. Applications and supporting documents are due by December 15th for appointments to begin the following academic year. The Courant Institute at New York University is an Equal Opportunity/Affirmative Action Employer.

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 3 terms. Appointment for 26 months and is not renewable; monthly salary of $4,350.00 which includes two-month research stipend for Instructors in residence during 2 of 3 summer months in 2006 and 2007; if not in residence, salary adjusted accordingly. Applications may be obtained at **http://www.math.dartmouth.edu/recruiting/.** Or, send letter of application, curriculum vitae, graduate school transcript, thesis abstract, statement of research plans and interests, and at least three, preferably four, letters of recommendation to **Donna Black, Department of Mathematics, Dartmouth College, 6188 Bradley Hall, Hanover, New Hampshire 03755-3551.** Files complete by January 5, 2005 considered first. Dartmouth College is committed to diversity and strongly encourages applications from women and minorities.

DARTMOUTH COLLEGE - DEPARTMENT OF MATHEMATICS - Tenure-track Assistant Professorship with initial appointment in the 2005-2006 academic year, in Applied Mathematics. In extraordinary cases, an appointment at a higher rank is possible. Candidates need ability to work across disciplines, in particular, to strike up collaborations across campus with departments such as biology, physics or computer science. Current applied interests include (but are not limited to) imaging, signal processing, computational number theory, statistical physics, stochastic processes, quantum computing and computational biology and are receiving funding from various sources including NSF and NIH. Teaching responsibility is three courses spread over three of four ten-week terms. New faculty members offered grants for research-related expenses and a quarter of sabbatical leave for each three academic years in residence. Applications may be obtained at http://www.math.dartmouth.edu/recruiting/, or send letter of application, curriculum vita, and brief statement of research results and interests. Four letters of recommendation should be sent, at least one of which specifically addresses teaching and, if your native language is not English, on your ability to use English in a classroom, to **Donna Black, Recruiting Secretary, Department of Mathematics, Dartmouth College, 6188 Bradley Hall, Hanover, NH 03755-3551.** Applications received by December 15, 2004 considered first. Women and minorities are particularly encouraged to apply.

DARTMOUTH COLLEGE - DEPARTMENT OF MATHEMATICS - Tenure-track Mathematics Assistant Professorship beginning 2005-2006. In extraordinary cases, an appointment at a higher rank is possible. Candidates should be working in either set theory/logic or areas of algebra with connections to existing research interests in the department. Examples include computational algebra, algebraic and arithmetic geometry, algebraic combinatorics, representation theory, and coding theory. In exceptional circumstances, other research areas may be considered. Must have strong commitment to outstanding teaching and interaction with students at all levels of undergraduate and graduate study. Teaching responsibility is three courses spread over three of four ten-week terms. New faculty members offered grants for research-related expenses and a quarter of sabbatical leave for each three academic years in residence. Applications may be obtained at http://www.math.dartmouth.edu/recruiting/,or, send application letter, vita, research statement, four recommendation letters (one teaching), to **Donna Black, Department of Mathematics, Dartmouth College, 6188 Bradley Hall, Hanover, NH 03755-3551.** Applications completed by December 15, 2004 considered first. Women and minorities encouraged to apply.

HARVEY MUDD COLLEGE - DEPARTMENT OF MATHEMATICS - Harvey Mudd College invites applications for a tenure-track position in statistics, biostatistics, or related statistical fields. The rank will be at the assistant or associate professor level. Excellence in teaching is essential, as is evidence of a strong and ongoing research program. Preference will given to candidates familiar with modern data analysis techniques with cross-disciplinary interests. Candidates must be willing to supervise undergraduate research, and work with others in departmental programs, such as the recently created mathematical biology major or the industrial projects-based Clinic program. Harvey Mudd College is a highly selective undergraduate institution of science, engineering and mathematics; the median SAT score is about 1470, a quarter of our students are National Merit Scholars, and one year of high school calculus is required for admission. Each year there are about 25 graduates in mathematics, CS/math, and mathematical biology with approximately half going to graduate school. Over 40% of mathematics alumni from HMC have entered PhD programs. The College enrolls about 700 students and is a member of the Claremont College consortium, which consists of four other undergraduate colleges, the Claremont Graduate University, and the Keck Graduate Institute of Applied Life Sciences, forming together an academic community of **[continued →]**

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[← **continued**] about 5000 students. There is an active and vital research community of over 40 mathematicians and statisticians in the consortium. Claremont is situated approximately 35 miles east of downtown Los Angeles, at the foot of the San Gabriel mountains. The community is known for its tree-lined streets and village charm. It is an easy drive from Claremont to the cultural attractions of the greater Los Angeles area, as well as the ocean, mountains and deserts of Southern California. Applicants should send a curriculum vitae, a description of their teaching philosophy and experience, a description of their current research program, undergraduate and graduate transcripts, and arrange to have three letters of recommendation sent to the address that appears below. Further information about the college and department may be found at http://www.math.hmc.edu/. Preference will be given to applications completed by December 17, 2004. Harvey Mudd College is an equal opportunity employer and is committed to the recruitment of applicants historically underrepresented on college faculties. Address for applications: **Professor Francis E. Su, Chair, Search Committee, Department of Mathematics, Harvey Mudd College, Claremont, CA 91711-5990.**

INDIANA UNIVERSITY BLOOMINGTON - DEPARTMENT OF MATHEMATICS - Tenure-Track or Higher - The Department of Mathematics invites applications for tenure-track or higher-level positions beginning in the Fall of 2005. Outstanding candidates with a Ph.D. in any area of pure or applied mathematics or statistics and with postdoctoral or faculty-level experience are encouraged to apply. The teaching load for research-active faculty is three semester-courses per year. The Department maintains strong research groups in all principal fields of mathematics, and the Bloomington campus offers a rich variety of musical and cultural attractions. Interested applicants should send a letter of application, vita, and research and teaching statements, and should arrange to have at least four letters of recommendation, including one letter evaluating teaching experience, sent to: **Search Committee, Department of Mathematics, Indiana University, Rawles Hall, Bloomington, IN 47405-7106.** Applications should be received by November 15, 2004. Indiana University is an affirmative action and equal opportunity employer.

INDIANA UNIVERSITY BLOOMINGTON - DEPARTMENT OF MATHEMATICS - Zorn Research Postdoctoral Fellowships - The Department of Mathematics invites applications for Zorn Research Postdoctoral Fellowships beginning in the Fall of 2005. These are three-year, non-tenure track positions with reduced teaching loads. Outstanding candidates with a recent Ph.D. in any area of pure or applied mathematics or statistics are encouraged to apply. Zorn postdocs are paired with mentors with whom they have compatible research interests. The Department maintains strong research groups in all principal fields of mathematics, and the Bloomington campus offers a rich variety of musical and cultural attractions. Interested applicants should send a letter of application, vita, and research and teaching statements, and should arrange to have four letters of recommendation, including one letter evaluating teaching experience, sent to**: Zorn Postdoctoral Fellowships Search Committee, Department of Mathematics, Rawles Hall, Indiana University, Bloomington, IN 47405-7106.** Applications should be received by January 1, 2005. Indiana University is an affirmative action and equal opportunity employer.

INDIANA UNIVERSITY BLOOMINGTON - DEPARTMENT OF MATHEMATICS - Boucher Chair - The Department of Mathematics at Indiana University-Bloomington invites applications for the Boucher Chair, to begin in the Fall of 2005. This is an endowed Chair and is among the most prestigious appointments at Indiana University. Applicants should have outstanding research records, should be acknowledged leaders in their fields, and should have a commitment to excellence in teaching, including demonstrated success in supervising thesis research. The appointee will be expected to take a leadership role in advancing the research profile and the national reputation of the Department. Salary, teaching duties, and research support will be competitive and will be appropriate for an appointment at this level. Applicants should submit a vita and should have five supporting letters from experts in their fields sent to: **Boucher Chair Search Committee, Department of Mathematics, Rawles Hall, Indiana University, Bloomington, IN 47405-7106.** The selection process will begin in mid-October, 2004. Indiana University is an affirmative action and equal opportunity employer.

JOHNS HOPKINS UNIVERSITY - DEPARTMENT OF MATHEMATICS - Subject to availability of resources and administrative approval, the following positions are available for the 2005-06 academic year. 1.) One Tenure-track or tenured positions in all areas of pure mathematics. 2.) One non-tenure track J. J. Sylvester Assistant Professor. 3.) One FRG postdoc position: This is open to mathematicians who have recently completed or will soon complete a doctorate in mathematics and whose research interests concern Eigenfuncitons of the Laplacian. For questions, send an email to math@math.jhu.edu. 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 November 1, 2004 will be given priority. Johns Hopkins University is an Affirmative Action /Equal Opportunity Employer. Minorities and women candidates are encouraged to apply. See our ad online at http://www.mathematics.jhu.edu/mathnew/jobs.html

KANSAS STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Subject to budgetary approval, applications are invited for tenure-track and visiting positions commencing August 14, 2005; rank and salary commensurate with qualifications. The Department seeks candidates whose research interests mesh well with current faculty. The Department has research groups in the areas of analysis, algebra, geometry/topology, and differential equations. Applicants must have strong research credentials as well as strong accomplishment or promise in teaching. Letter of application, current vita, description of research, and at least three letters of reference evaluating research should be sent to: **Louis Pigno, Department of Mathematics, Cardwell Hall 138, Kansas State University, Manhattan, KS 66506.** The Department also requires that the candidate arrange for letters to be submitted evaluating teaching accomplishments and potential. Offers may begin by December 1, 2004, but applications for positions will be reviewed until February 1, 2005, or until positions are closed. AA/EOE

MICHIGAN STATE UNIVERSITY, - DEPARTMENT OF MATHEMATICS - Pending budgetary approval, the Department will have a tenure track position to begin Fall 2005. 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 may be considered, preference will be given to those with significant research accomplishments in interdisciplinary mathematics, especially in scientific computation as applied to nano-science, biological, optical/electromagnetic, or materials science. 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 learn more about the application process, please visit **http://www.mth.msu.edu/Hiring .** 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 15, 2004 are assured of consideration, but applications will be considered until the position is filled. Women and minorities are strongly encouraged to apply. MSU is an Affirmative Action/Equal Opportunity Institution. Handicappers have the right to request and receive reasonable accommodation. http://www.math.msu.edu.

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NORTHWESTERN UNIVERSITY - DEPARTMENT OF MATHEMATICS - Boas Assistant Professor - Applications are solicited for up to three Ralph Boas assistant professorships of three years each starting in September 2005. Fields of interest within the department include Algebra, Algebraic Geometry, Analysis, Dynamical Systems, Mathematical Physics, Probability, Partial Differential Equations and Topology. They are non-tenure track. Applications should be sent to the Boas Selection Committee at the department address and include: (1) the American Mathematical Society's Application Cover Sheet for Academic Employment, (2) a curriculum vitae, and (3) three letters of recommendation including one which discusses in some detail the candidate's teaching qualifications. Applications may also be made electronically at MathJobs.org: www.mathjobs.org. Inquiries may be sent via e-mail to: hiring@math.northwestern.edu. Applications are welcomed at any time, but the review process starts December 1, 2004. Northwestern University is an affirmative action, equal opportunity employer committed to fostering a diverse faculty; women and minority candidates are especially encouraged to apply. **Northwestern University, Department of Mathematics, 2033 Sheridan Road, Evanston, Illinois 60208-2730.** Applications are invited for an anticipated tenure-track position starting September 2005. Priority will be given to exceptionally promising research mathematicians. Fields of interest within the department include Algebra, Algebraic Geometry, Analysis, Dynamical Systems, Mathematical Physics, Probability, Partial Differential Equations, and Topology. Application material should be sent to Personnel Committee, at the department address and include: (1) the American Mathematical Society's Application Cover Sheet for Academic Employment, (2) a curriculum vitae, and (3) at least four letters of recommendation including one which discusses in some detail the candidate's teaching qualifications. Applications may also be made electronically at MathJobs.org: www.mathjobs.org. Inquiries may be sent via e-mail to: hiring@math.northwestern.edu. Applications are welcome at any time, but the review process starts in October 2004. Northwestern University is an affirmative action, equal opportunity employer committed to fostering a diverse faculty; women and minority candidates are especially encouraged to apply.

THE OHIO STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS - The Department of Mathematics in the College of Mathematical and Physical Sciences at The Ohio State University expects to have openings at both the **junior and senior level in the area of mathematical and computational biology**, effective Autumn Quarter 2005. Applicants should have a Ph.D. in mathematics or a related area, such as mathematical sciences, biomathematics, biology, chemistry, computer science, physics, and engineering, and show outstanding promise and/or accomplishments in both research and teaching. The successful candidate will be expected to teach courses in the Department of Mathematics and actively participate in the newly formed Mathematical Biosciences Institute (MBI). Further information on the department and the MBI can be found at http://www.math.ohio-state.edu and http://mbi.osu.edu. All candidates should apply online at https://www.math.ohio-state.edu/applications/ and have at least three letters of recommendation sent to: **Mathematical Biosciences Search, Department of Mathematics, The Ohio State University, 231 W. 18th Avenue, Columbus, OH 43210.** If you cannot apply online, please send vitae, research statement, and teaching statement to the above address. Applications are considered on a continuing basis but the annual review process begins November 15, 2004. Please direct inquiries to facultysearch@math.ohio-state.edu. To build a diverse workforce Ohio State encourages applications from individuals with disabilities, minorities, veterans, and women. EEO/AA Employer.

THE OHIO STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS - The Department of Mathematics in the College of Mathematical and Physical Sciences at The Ohio State University expects to have **tenure-track/tenured positions** and several visiting positions available, effective Autumn Quarter 2005. Candidates in all areas of pure and applied mathematics are invited to apply. A Ph.D. in mathematics, significant mathematical research accomplishment, and evidence of excellent teaching ability are required. The Department will also have several Hans J. Zassenhaus Assistant Professorships and VIGRE Arnold Ross Assistant Professorships available. These term positions are renewable annually for up to a total of three years. Candidates are expected to have a Ph.D. in mathematics and to present evidence of excellence in research and teaching. Further information on the department can be found at http://www.math.ohio-state.edu and http://mbi.osu.edu. All candidates should apply online at https://www.math.ohio-state.edu/applications/ and have at least three letters of recommendation sent to: **Advisory Committee, Department of Mathematics, The Ohio State University, 231 W. 18th Avenue, Columbus, OH 43210.** If you cannot apply online, please send vitae, research statement, and teaching statement to the above address. Applications are considered on a continuing basis but the annual review process begins November 15, 2004. Please direct inquiries to facultysearch@math.ohio-state.edu. To build a diverse workforce Ohio State encourages applications from individuals with disabilities, minorities, veterans, and women. EEO/AA Employer.

POMONA COLLEGE - DEPARTMENT OF MATHEMATICS - Tenure-track position in Algebra, Number Theory, Combinatorics, Geometry or a related field. Send applications to **Shahriar Shahriari, Chair, Mathematics Department, Pomona College, 610 North College Avenue, Claremont, CA 91711-6348**, or electronically to mathsrch@pomona.edu. Application includes a curriculum vitae, graduate transcripts, at least three letters of recommendation (at least one should evaluate teaching), a description, for the non-specialist, of research accomplishments and plans, and a statement of teaching philosophy. Will fully consider applications completed by December 1, 2004. Pomona College is an equal opportunity employer and especially invites applications from women and members of underrepresented groups.

PURDUE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Applications are invited for tenure-track Assistant Professor or three-year Research Assistant Professor appointments beginning August 2005. Ph.D. by August 15, 2005, exceptional research promise, and strong teaching record are required. Applications will also be accepted for possible appointments at the Associate Professor/Professor level. Ph.D. and excellence in research and teaching are required. Outstanding applicants from various mathematical research areas will be considered. Because the department has several openings in applied mathematics, candidates who have significant research accomplishments in applied mathematics or computational applied mathematics are especially encouraged to apply. Several positions will be available for terms ranging from one semester to two years beginning August 2005. All applicants should have research interests in common with Purdue faculty. Send vita, summary of research interests/plans, and arrange for three letters of recommendation (one addressing teaching) to be sent to: **Head, Department of Mathematics Purdue University, 150 N. University St., West Lafayette, IN 47907-2067.** Review of applications will begin November 15, 2004 and continue until available positions are filled. Offers for tenured and tenure-track positions may be made at any time; some offers for RAP and visiting positions will be made before the end of January 2005. The Mathematics Department is participating in the development of several interdisciplinary research clusters at Purdue. Please refer to http://www.science.purdue.edu/COALESCE/ for details about these positions and application procedures. Purdue University is an Affirmative Action/Equal Access/Equal Opportunity Employer.

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PURDUE UNIVERSITY - DEPARTMENT OF MATHEMATICS - The Purdue Mathematics Department invites applications for the position of Professor of Mathematics and Director, Center for Computational and Applied Mathematics. Applicants should have a strong research record in computational/applied mathematics; proven ability to work with graduate students, postdocs, and colleagues; and a record of funding success. Essential duties: Conduct research; direct graduate students. Coordinate the development of applied areas in the department, facilitate research contacts between mathematics faculty and faculty in other departments, oversee the computational/applied mathematics visitor and seminar programs, and help create an atmosphere in which the educational programs of graduate students and post-doctoral staff in computational/applied mathematics can flourish. Applications will be reviewed immediately upon receipt. The search will remain open until the position is filled. Send cover letter, CV, and the names of at least three references to: **CCAM Director Search Committee, Department of Mathematics, Purdue University, West Lafayette, IN 47907-2067.** Direct inquiries to: goeke@math.purdue.edu. Purdue University is an Affirmative Action/Equal Access/Equal Opportunity Employer.

RUTGERS UNIVERSITY - DEPARTMENT OF MATHEMATICS - The Rutgers University Mathematics Department invites applications for the following positions which may be available September 2005. **TENURE-TRACK OR TENURED POSITION.** The Department anticipates at least two appointments at the level of Assistant Professor or above. Candidates with interests in mathematical biology, numerical analysis/scientific computation, the mathematics of materials science, algebra/algebraic geometry, and differential geometry are especially encouraged to apply, although strong candidates in all fields will be considered. Applicants must have the Ph.D., outstanding research accomplishments in pure or applied mathematics, and concern for teaching. **HILL ASSISTANT PROFESSORSHIPS (non-tenure track).** These three-year non-renewable positions include reduced teaching load for research. Candidates should have received the Ph.D., show outstanding promise of research ability in pure or applied mathematics, and have concern for teaching. **NON-TENURE-TRACK ASSISTANT PROFESSORSHIPS.** These are three-year nonrenewable positions. Candidates should have a Ph.D., show evidence of superior teaching accomplishments, and show promise of research ability. Applicants should send a printed resume, with the AMS Application Cover Sheet attached, and have four letters of recommendation (one of which evaluates teaching) sent to: **SEARCH COMMITTEE, Dept of Math-Hill Center, Rutgers University, 110 Frelinghuysen Road, Piscataway NJ 08854-8019.** In addition, an electronic version of the AMS Application Cover Sheet should also be submitted at the web site https://www.mathjobs.org/jobs. It is essential you fill out this cover sheet completely, including specific position(s) applied for and the AMS Subject Classification number of your area(s) of specialization. RUTGERS IS AN AFFIRMATIVE ACTION/EQUAL OPPORTUNITY EMPLOYER and encourages applications from women and minority-group members. The Department will begin reviewing applications December 1, 2004 and will continue its review until the positions are filled. Updated details of these positions will appear on the Rutgers Mathematics Department web page at http://www.math.rutgers.edu.

SEATTLE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Faculty Positions for Academic Year 2005-2006 - Seattle University invites applications for three tenure-track positions in mathematics beginning September 2005. The positions are open to mathematicians in any area of pure or applied mathematics. The positions will be filled at the rank of assistant professor or, possibly, at the rank of associate professor for an exceptional applicant with qualifications and teaching experience appropriate to the associate professor level. Seattle University, founded in 1891, continues a four hundred and fifty year tradition of Jesuit higher education. The University's Jesuit Catholic ideals underscore its commitment to the centrality of teaching, learning and scholarship, of values-based education grounded in the Jesuit and Catholic traditions, of service and social justice, of lifelong learning, and of educating the whole person. Located in the heart of dynamic Seattle, the University enrolls approximately 6000 undergraduate and graduate students in eight colleges and schools. Students enjoy a university ethos characterized by small classes, individualized faculty attention, a strong sense of community, a commitment to diversity, and an outstanding faculty. The Mathematics Department is a vital component of the College of Science and Engineering, providing teaching support for all areas of the University as well as for mathematics majors. Requirements for the position include: a Ph.D. in mathematics; demonstrated excellence in teaching undergraduate mathematics; strong teaching recommendations; a commitment to continued scholarly growth, to the use of technology in teaching, and to contributing to the mission of Seattle University. A complete application must include an AMS Standard Cover Sheet, curriculum vitae, unofficial graduate transcripts, statements of your teaching philosophy and research plans, and three confidential letters of reference including phone numbers. Your application must also include a cover letter which addresses how you could contribute to the Mission of Seattle University. Please send to: **Mathematics Search Committee, Mathematics Department, Seattle University, 901 12th Avenue, P.O. Box 22200, Seattle, WA 98122-1090.** Closing date: Wednesday, December 1, 2004. Seattle University is an equal opportunity, affirmative action employer. For more information about the Mathematics Department at Seattle University as well as this position, visit our website at http://www.seattleu.edu/scieng/math

SOUTHERN ILLINOIS UNIVERSITY EDWARDSVILLE - DEPARTMENT OF MATHEMATICS AND STATISTICS - SIUE, a comprehensive state university 20 miles from downtown St. Louis, invites applications for two tenure track assistant professor positions beginning August 2005. For one position, the applicants should have a Ph.D. in mathematics with emphasis in applied mathematics. For the second position, applicants should have a Ph.D. in mathematics with experience in K—12 education, or a Ph.D. in mathematics education with a Master's degree in mathematics. For more information visit **http://www.siue.edu/MATH**

SYRACUSE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Pending budgetary approval, the department seeks to fill a **position in analysis**, without restriction on rank, beginning August, 2005. Ph.D. in mathematics required. Senior level candidates should have a record of outstanding accomplishment and potential in both research and teaching. Junior level candidates should have a record of strong accomplishment and potential in both research and teaching. Although preference will be given to candidates in analysis, exceptional candidates in all areas will be considered. Preference will also be given to candidates whose research interests overlap and/or complement those of existing faculty. Areas of analysis presently represented in the department include real analysis, PDE, several complex variables, and probability. See http://math.syr.edu for more information. Applications should include a cover letter, CV, three letters of recommendation addressing research qualifications, and at least one letter of recommendation addressing teaching. Send applications to **Chair, Department of Mathematics, Syracuse University, Syracuse, NY 13244.** Screening of senior level candidates is ongoing. Screening of junior level candidates begins November 15, 2004 and continues until the position is filled. Syracuse University is an Equal Opportunity/Affirmative Action Employer committed to fostering a diverse faculty; women and minority candidates are especially encouraged to apply.

NEW ADDRESS: Please inform us of any changes, so we can keep our database up-to-date. Mail changes using the **form on the BACK COVER** or drop us an **email, awm@math.umd.edu.** Thanks.

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SYRACUSE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Pending budgetary approval, the department seeks to fill a **tenure-track position in applicable mathematics beginning August, 2005**. Ph.D. in mathematics required. Candidates should have a record of strong accomplishment and potential in both research and teaching. Although preference will be given to candidates in applicable mathematics, exceptional candidates in all areas will be considered. Preference will also be given to candidates who have postdoctoral experience and whose research interests overlap and/or complement those of existing faculty. Areas of applicable mathematics presently represented in the department include applied mathematics/numerical analysis, combinatorics, and statistics. See http://math.syr.edu for more information. Applications should include a cover letter, CV, three letters of recommendation addressing research qualifications, and at least one letter of recommendation addressing teaching. Send applications to **Chair, Department of Mathematics, Syracuse University, Syracuse, NY 13244.** Screening of candidates begins November 15, 2004 and continues until the position is filled. 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 A&M UNIVERSITY - THE DEPARTMENT OF MATHEMATICS - The Department of Mathematics is in the second year of an aggressive hiring plan to increase its tenure and tenure-track faculty by 25% over the next several years. As part of this effort, we anticipate several openings for tenured, tenure-eligible, and visiting faculty positions beginning fall 2005. The field is open, but we particularly seek applications from individuals whose mathematical interests would augment and build upon existing strengths both within the Mathematics Department as well as other departments in the University. Salary, teaching loads and start-up funds are competitive. For a Tenured Position the applicant should have an outstanding research reputation and would be expected to fill a leadership role in the department. An established research program, including success in attracting external funding and supervision of graduate students, and a demonstrated ability and interest in teaching are required. Informal inquiries are welcome. For an Assistant Professorship, we seek strong research potential and evidence of excellence in teaching. Research productivity beyond the doctoral dissertation will normally be expected. We also have several visiting positions available. Our Visiting Assistant Professor positions are for a three year period and carry a three course per year teaching load. They are intended for those who have recently received their Ph.D. and preference will be given to mathematicians whose research interests are close to those of our regular faculty members. Senior Visiting Positions may be for a semester or one year period. For full consideration, the complete dossier should be received by December 15, 2004. Applicants should send the completed "AMS Application Cover Sheet", a vita, and arrange to have letters of recommendation sent to: **Faculty Hiring, Department of Mathematics, Texas A&M University, College Station, Texas 77843-3368.** Further information can be obtained from: http://www.math.tamu.edu/hiring. Texas A&M University is an equal opportunity employer. The University is dedicated to the goal of building a culturally diverse and pluralistic faculty and staff committed to teaching and working in a multicultural environment and strongly encourages applications from women, minorities, individuals with disabilities, veterans. The University is responsive to the needs of dual career couples.

UNITED STATES MILITARY ACADEMY - DEPARTMENT OF MATHEMATICS - Assistant Professor (Mathematics and Statistics) - Three positions. Three-year, non-renewable (non-tenured track) appointment, expected to begin July 2005. Applicants will be evaluated against the following factors (i) An advanced degree (PhD) in mathematics, applied mathematics, operations research, statistics or mathematics education, or closely related field, (ii) possess the ability to teach mathematics courses in the USMA core program (elementary discrete dynamical systems, calculus, differential equations, linear algebra, probability and statistics), (iii) have the desire and ability to participate in the Center for Faculty Development, a three-year teaching-research program, (iv) have the desire and ability support the personal growth and development of cadets in and out of the classroom, (v) have the desire and ability to advise junior faculty on teaching matters with an emphasis on scholarship. In order to receive full consideration, applications must contain a curriculum vitae, transcripts, a statement of teaching philosophy and career goals, Official academic transcripts, three letters of recommendation, and a DD214 (if claiming veterans preference).). For maximum consideration, above materials must be submitted as soon as possible. Send required information to: **Department of Mathematical Sciences, ATTN: Personnel Officer, Official Mail and Distribution Center, 646 Swift Rd, West Point, New York 10996, (845) 938-6308/8133,** USMA: http://www.usma.edu/, D/Math: http://www.dean.usma.edu/departments/math/. The positions are not restricted to U.S. Citizens, but non-citizens cannot be hired if qualified citizens are interested and available. Salary is commensurate with experience. The United States Military Academy is an Equal Opportunity, Affirmative Action Employer. Women and Minorities are encouraged to apply.

THE UNIVERSITY OF ARIZONA - DEPARTMENT OF MATHEMATICS - The Department of Mathematics is seeking applications for tenure-track positions at either the Assistant, Associate or Full Professor level, which will begin in Fall 2005. By the time of appointment, candidates are expected to have a Ph.D. and excellent research record or potential, as well as a strong commitment to teaching. Rank and salary depend on the qualifications of the selected candidate(s). The Department may also have postdoctoral or visiting positions for the 2005-2006 academic year (Ph.D. required). Further information about the full range of the Department's research and educational activities may be found at http://www.math.arizona.edu. Application review begins October 1, 2004 and continues as long as positions remain unfilled. Applications received before October 1, 2004 will receive the fullest consideration; applications received after January 2, 2005 are unlikely to be considered. Please send a letter of interest (specifying position(s) applied for), an AMS Cover Sheet (which can be downloaded from http://www.ams.org/coversheet), a curriculum vitae with a list of publications, a statement of research interests, a statement of teaching experiences/philosophy and a minimum of three (3) letters of recommendation (enclose or arrange to be sent) to: **Personnel Committee, Department of Mathematics, University of Arizona, P.O. BOX 210089, Tucson, Arizona 85721-0089.** The University of Arizona is an EEO/AA Employer-M/W/D/V

UNIVERSITY OF BUFFALO, SUNY - DEPARTMENT OF MATHEMATICS - The Department of Mathematics anticipates the appointment of several tenure-track assistant professors, effective August, 2005. Salary will be competitive. We seek candidates from all fields, particularly Algebra and Analysis. Applicants should have excellent research accomplishments and potential, a Ph.D. in the mathematical sciences and a strong commitment to teaching. A complete application consists of a curriculum vitae, a statement of research interests and four letters of recommendation. These materials should be sent to: **Search Committee, Department of Mathematics, University at Buffalo, SUNY, Mathematics Building 244, Buffalo, NY 14260-2900.** The deadline for applications is November 5, 2004. Late applications will be considered until the positions are filled. No electronic applications will be accepted. The University at Buffalo is an Equal Opportunity Employer/Recruiter. We are interested in identifying prospective minority and women candidates. No person, in whatever relationship with the University at Buffalo, shall be subject to discrimination on the basis of age, color, creed, handicap, marital status, national origin, race, religion, sex, sexual orientation or veteran status.

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UNIVERSITY OF CALIFORNIA, DAVIS - DEPARTMENT OF MATHEMATICS - Faculty Position in Mathematics - The Department of Mathematics at the University of California, Davis is soliciting applications for three to four tenure-track/tenured positions and a few Visiting Research Assistant Professor positions starting July 1, 2005. For the tenure-track/tenured positions, appointments may be made at the Assistant or Associate Professor level. Applications are encouraged in all areas of mathematics. We are particularly interested in Analysis/Partial Differential Equations, Applied Mathematics/Scientific Computation, and Mathematical Physics/Geometry. Other Davis Faculty research areas are: Mathematical Biology; Geometry and Topology; Numerical Analysis, and Discrete Mathematics. Minimum qualifications for the position include a Ph.D. degree, or its equivalent, in the Mathematical Sciences and great promise in research and teaching. Duties include mathematical research, undergraduate and graduate teaching (three to four quarter-courses per year), and departmental and university service. Candidates for an Associate Professorship must have demonstrated outstanding attainment in research and teaching. For the Visiting Research Assistant Professor (VRAP) positions, the Department is interested in applicants with excellent research potential in any of the research areas listed above and excellent teaching skills. VRAP applicants are required to have completed their Ph.D. by the time of their appointment, but no earlier than July 1, 2001. The positions are renewable for up to a total of three years, assuming satisfactory performance in research and teaching. Additional information on the Department may be found at http://math.ucdavis.edu/ . **Applications will be accepted until the positions are filled. To receive full consideration, the application should be received by December 1, 2004.** To apply, submit an application and supporting documentation electronically through http://www.mathjobs.org/ . No paper submission is needed unless a candidate is unable to submit electronically. Reference letters should be submitted online through Math Jobs. If they are unable to do so, they may send their letters to: the Chair of Search Committee, Department of Mathematics, University of California, One Shields Avenue, Davis, CA 95616-8633. The University of California, Davis, is an affirmative action/equal opportunity employer.

UNIVERSITY OF CALIFORNIA, LOS ANGELES - DEPARTMENT OF MATHEMATICS - The following positions are available for the 2005-06 Academic year, subject to availability of resources and administrative approval. **(1) Tenure-track/Tenured Faculty positions. (2) E.R. Hedrick Assistant Professorships.** Salary is $53,200. And appointments are for three years. The teaching load is four quarter courses per year, which may include one advanced course in a successful candidate's field. **(3) Research Assistant Professorships in Computational and Applied Mathematics (CAM).** The salary is $53,200, and appointments are for three years. The teaching load is normally reduced to two or three quarter courses per year by research funding as available, and can include one advanced course in a successful candidate's field. **(4) Assistant Adjunct Professorships in the Program in Computing (PIC).** Applicants for these positions must show very strong promise in teaching and research in an area related to computing. The teaching load is four one-quarter programming courses each year and one seminar every two years. Initial appointments are for one year and possibly longer, up to a maximum service of four years.The salary is $56,800. **(5) Assistant Adjunct Professorships and Research Postdocs.** Normally appointments are for one year, with the possibility of renewal. Strong research and teaching background required. The salary range is $48,900-$53,200. Teaching load for Adjuncts is six quarter courses per year. **(6) Visiting Instructorships.** Applicants should complete the application located on the website at http://www.math.ucla.edu/~search. **Preference will be given to applicants whose applications are completed by January 10, 2005.** 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 AND DEPARTMENT OF PHYSICS - Faculty Positions - The Departments of Mathematics and Physics invite applications for a Tenure-Track Assistant Professor position, joint between the two departments. The starting date is July 1, 2005. The position is in the general area of Geometry and Theoretical Physics. Qualifications are research and teaching excellence and Ph.D. in Mathematics, Physics or relevant field. To apply, submit resume, statement of research, statement of teaching philosophy and the American Mathematical Society cover sheet (available online at http://www.ams.org), and arrange for four letters of reference to be sent (at least one of which is directed towards teaching if possible). Materials should either be submitted electronically via http://www.mathjobs.org or sent directly to: **Search Committee, Mathematics-Physics position, Department of Mathematics, University of California, Santa Barbara, CA 93106-3080 USA.** The selection process will begin December 20, 2004 and continue until the position is filled. The department is especially interested in candidates who can contribute to the diversity and excellence of the academic community through research, teaching and service. UCSB is an affirmative action/equal opportunity employer.

UNIVERSITY OF MICHIGAN --- DEPARTMENT OF MATHEMATICS -- Pending authorization, the Department anticipates having one or more openings at the tenure –track or tenure level. Candidates should hold a PhD in mathematics or a related field, and should show outstanding promise and/or accomplishments in both research and teaching. Applications are encouraged from any area of pure, applied, computational, or interdisciplinary mathematics, including mathematical biology, theoretical computer science, scientific computation, and actuarial or financial mathematics. Salaries are competitive and are based on credentials. Applicants should send a CV, bibliography, descriptions of research and teaching experience, and have three or four letters of recommendation, at least one of which addresses the candidate's teaching experience and capabilities, sent to: **Personnel Committee, University of Michigan, Department of Mathematics, 2074 East Hall, Ann Arbor MI 48109-1109.** Applications are considered on a continuing basis but candidates are urged to apply by November 1, 2004. Inquiries may be made by e-mail to math-fac-search@umich.edu. More detailed information regarding the Department may be found on our web page: www.math.lsa.umich.edu. Women and minority candidates are encouraged to apply. The University is responsive to the needs of dual career couples and is an equal opportunity /affirmative action employer.

UNIVERSITY OF NOTRE DAME - DEPARTMENT OF MATHEMATICS - Regular Position in Numerical Analysis - The Department of Mathematics of the University of Notre Dame invites applications from an applied mathematician with a special interest in numerical analysis. The starting date for the position is August 22, 2005. Candidates at any rank will be considered. The teaching load is one course one semester and two courses the other semester. The salary is competitive. Applications, including a curriculum vitae, a letter of application, and a completed AMS standard cover sheet, should be sent to: **William G. Dwyer, Chair, Department of Mathematics, University of Notre Dame, Notre Dame, IN 46556**. Applicants should also arrange for at least three letters of recommendation to be sent to the chair. These letters should address the applicant's research accomplishments and supply evidence that the applicant has the ability to communicate articulately and teach effectively. Notre Dame is an equal opportunity employer. Women and minorities are urged to apply. The evaluation of candidates will begin December 1, 2004. Information about the department is available at http://www.science.nd.edu/math/

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UNIVERSITY OF NOTRE DAME - DEPARTMENT OF MATHEMATICS - Regular Position in Algebra - The Department of Mathematics of the University of Notre Dame invites applications for a position in algebra, especially number theory, algebraic geometry, the Langlands program, and areas of algebra such as commutative algebra consonant with the research interests of the department. The starting date for the position is August 22, 2005. Candidates at any rank will be considered. The teaching load is one course one semester and two courses the other semester. The salary is competitive. Applications, including a curriculum vitae, a letter of application, and a completed AMS standard cover sheet, should be sent to: **William G. Dwyer, Chair, Department of Mathematics, University of Notre Dame, Notre Dame, IN 46556**. . Applicants should also arrange for at least three letters of recommendation to be sent to the chair. These letters should address the applicant's research accomplishments and supply evidence that the applicant has the ability to communicate articulately and teach effectively. Notre Dame is an equal opportunity employer. Women and minorities are urged to apply. The evaluation of candidates will begin December 1, 2004. Information about the department is available at http://www.science.nd.edu/math/

UNIVERSITY OF NOTRE DAME - DEPARTMENT OF MATHEMATICS - Notre Dame Instructorship in Mathematics - The Department of Mathematics of the University of Notre Dame invites applications from recent doctorates for the position of Notre Dame Instructor in Mathematics. Candidates in any specialty compatible with the research interests of the department will be considered. The teaching load and salary will be competitive with those of distinguished instructorships at other AMS Group I universities. This position is for a term of three years beginning August 22, 2005, is non-renewable and non-tenure track. Applications, including a curriculum vitae, a letter of application, and a completed AMS standard cover sheet, should be sent to: **William G. Dwyer, Chair, Department of Mathematics, University of Notre Dame, Notre Dame, IN 46556**. . Applicants should also arrange for at least three letters of recommendation to be sent to the chair. These letters should address the applicant's research accomplishments and supply evidence that the applicant has the ability to communicate articulately and teach effectively. Notre Dame is an equal opportunity employer. Women and minorities are urged to apply. The evaluation of candidates will begin December 1, 2004. Information about the department is available at http://www.science.nd.edu/math/

UNIVERSITY OF PITTSBURGH - DEPARTMENT OF MATHEMATICS - Scientific Computing/Numerical Analysis - The Mathematics Department of the University of Pittsburgh invites applications for a tenure-track position in Scientific Computing/Numerical Analysis to begin in the Fall Term 2005, pending budgetary approval. The appointment is at the Assistant Professor level. We seek excellence in teaching and research so applicants should demonstrate substantial research accomplishment and dedication to teaching. Send a vita, three letters of recommendation, a research statement and evidence of teaching accomplishments to: **Search Committee in Numerical Analysis, Department of Mathematics, University of Pittsburgh, Pittsburgh, PA 15260.** Review of completed files will begin on November 1, 2004 and continue until the position is filled. The University of Pittsburgh is an Affirmative Action, Equal Opportunity Employer. Women and members of minority groups under-represented in academia are especially encouraged to apply.

UNIVERSITY OF PITTSBURGH - DEPARTMENT OF MATHEMATICS - Number Theory /Cryptography or Algebraic Geometry/Representation Theory - The Mathematics Department of the University of Pittsburgh invites applications for a tenure-track position in Number Theory /Cryptography or Algebraic Geometry /Representation Theory to begin in the Fall Term 2005, pending budgetary approval. The appointment is at the Assistant Professor level or above, depending on the credentials of the applicant. We seek excellence in teaching and research so applicants should demonstrate substantial research accomplishment and dedication to teaching. Send a vita, three letters of recommendation, a research statement and evidence of teaching accomplishments to: **Search Committee in Algebra, Department of Mathematics, University of Pittsburgh, Pittsburgh, PA 15260.** Review of completed files will begin on November 1, 2004 and continue until the position is filled. The University of Pittsburgh is an Affirmative Action, Equal Opportunity Employer. Women and members of minority groups under-represented in academia are especially encouraged to apply.

UNIVERSITY OF WATERLOO – DEPARTMENT OF PURE MATHEMATICS - Tenure-Track Position - The Department of Pure Mathematics at the University of Waterloo invites applications for a tenure-track position starting July 1, 2005. The Department is particularly interested in candidates with research interests in algebra, geometry or topology, though outstanding candidates in all areas of pure mathematics will be considered. A candidate must have a Ph.D. by the start of the appointment. Postdoctoral experience is preferred. An appointment will be offered only to someone with outstanding research and teaching qualifications. 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. The deadline for applications is December 1, 2004. All qualified candidates are encouraged to apply; however Canadians and permanent residents will be given priority. The University of Waterloo encourages applications from all qualified individuals, including women, members of visible minorities, aboriginal people, and persons with disabilities. Please send applications to: **Dr. F. Zorzitto, Chair, Department of Pure Mathematics, University of Waterloo, Waterloo, Ontario, Canada N2L 3G1.** The department's Web page is at <http://www.math.uwaterloo.ca/PM_Dept/index.shtml>

UNIVERSITY OF WATERLOO – DEPARTMENT OF APPLIED MATHEMATICS – Tenure Track Position in Control Theory -The Department of Applied Mathematics, University of Waterloo, invites applications for a tenure-track faculty position in the area of control theory, to begin on or after July 1, 2005. The position is at the Assistant Professor level and salary will be commensurate with experience and research record (in exceptional cases, an appointment at a higher level may be possible). Candidates should show evidence of potential for outstanding research, should have a strong mathematical background and an active interest in applications of their discipline in science or engineering. We are looking for applicants with enthusiasm for teaching at both the undergraduate and graduate level. Applicants should send a curriculum vitae (including a statement of research interests and teaching philosophy) and the names and addresses of at least three referees to **J. Wainwright, Chairman, Department of Applied Mathematics, University of Waterloo, Waterloo, Ontario, Canada N2L 3G1**. The deadline for receiving applications is **January 15, 2005**. Applications received after this date will be considered only if the position has not been filled. The Department of Applied Mathematics, together with the Departments of Combinatorics & Optimization, Pure Mathematics, Statistics & Actuarial Science and the School of Computer Science, form the Faculty of Mathematics, which is a major centre for research in the mathematical sciences. There are also close collaborations with the Faculties of Engineering and Science in the University. Further information about the Department may be obtained from our webpage at www.math.uwaterloo.ca/AM_Dept/index.html. The University of Waterloo encourages applications from all qualified individuals, including women, members of visible minorities, native peoples, and persons with disabilities. All qualified candidates are encouraged to apply; however, Canadian citizens and permanent residents will be given priority. This appointment is subject to the availability of funds.

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ADVERTISEMENTS

UNIVERSITY OF WATERLOO – DEPARTMENT OF APPLIED MATHEMATICS – Tenure Track Position in Mathematical Medicine – The Department of Applied Mathematics, University of Waterloo, invites applications for a tenure-track faculty position in the area of mathematical medicine, to begin on or after July 1, 2005. Appointment at the Assistant Professor level is preferred, but extraordinarily strong candidates would be considered for a more senior position. Salary will be commensurate with experience and research record. Current research in this area includes projects being carried out in collaboration with medical practitioners at Princess Margaret Hospital and the Hospital for Sick Children, which focus on the development of mechanical models that accurately describe a variety of diseases and clinical conditions. Candidates should exhibit potential for outstanding research, and should have a strong mathematical background. We are looking for applicants with enthusiasm for teaching at both the undergraduate and graduate level. Applicants should send a curriculum vitae (including a statement of research interests and teaching philosophy) and the names and addresses of at least three referees to **J. Wainwright, Chairman, Department of Applied Mathematics, University of Waterloo, Waterloo, Ontario, Canada N2L 3G1** (reference letters should not be sent at this stage). Screening of applications will begin on December 15, 2004, and the final deadline for receiving applications is **January 15, 2005**. Applications received after this date will be considered only if the position has not been filled. The Department of Applied Mathematics, together with the Departments of Combinatorics & Optimization, Pure Mathematics, Statistics & Actuarial Science and the School of Computer Science, form the Faculty of Mathematics, which is a major centre for research in the mathematical sciences. There are also close collaborations with the Faculties of Engineering and Science in the University. Further information about the Department may be obtained from our webpage at www.math.uwaterloo.ca/AM_Dept/index.html. The University of Waterloo encourages applications from all qualified individuals, including women, members of visible minorities, native peoples, and persons with disabilities. All qualified candidates are encouraged to apply; however, Canadian citizens and permanent residents will be given priority. This appointment is subject to the availability of funds.

UNIVERSITY OF WISCONSIN - MADISON - DEPARTMENT OF MATHEMATICS - The Department of Mathematics anticipates an opening for one position to begin August 22, 2005, at the tenure-track (assistant professor) level. Applications are invited in all areas of mathematics. Candidates should exhibit evidence of outstanding research potential, normally including significant contributions beyond the doctoral dissertation. Applicants in the areas of numerical analysis, Probablity theory algebraic topology, and partial differential equations/geometric analysis are particularly encouraged to apply. A strong commitment to excellence in instruction is also expected. Additional departmental information is available on our website: http://www.math.wisc.edu. Applicants should send a completed AMS Standard Cover Sheet, a curriculum vitae which includes a publication list, and brief descriptions of research and teaching to: **Hiring Committee, Dept. of Mathematics, Van Vleck Hall, University of Wisconsin-Madison, 480 Lincoln Drive, Madison, WI 53706-1388.** Applicants should also arrange to have sent to the above address, three to four letters of recommendation, at least one of which must discuss the applicant's teaching experiences and capabilities. Review of applications will begin on November 12, 2004. Applications will be accepted until the position is filled. Additional letters will be solicited by the department for candidates who are finalists for a tenured position in the unlikely event that such a position is authorized. The Department of Mathematics is committed to increasing the number of women and minority faculty. The University of Wisconsin is an Affirmative Action, Equal Opportunity Employer and encourages applications from women and minorities. Unless confidentiality is requested in writing, information regarding the applicants must be released upon request. Finalists cannot be guaranteed confidentiality.

WILLIAMS COLLEGE - DEPARTMENT OF MATHEMATICS AND STATISTICS - The Williams College Department of Mathematics and Statistics invites applications for one tenure track position in mathematics, beginning fall 2005, at the rank of assistant professor (in an exceptional case, a more advanced appointment may be considered). We are seeking a highly qualified candidate who has demonstrated excellence in teaching and research, and who will have a Ph.D. by the time of appointment. Williams College is a private, residential, highly selective liberal arts college with an undergraduate enrollment of approximately 2,000 students. The teaching load is two courses per 12-week semester and a winter term course every other January. In addition to excellence in teaching, an active and successful research program is expected. To apply, please send a vita and have three letters of recommendation on teaching and research sent to the **Hiring Committee, Department of Mathematics and Statistics, Williams College, Williamstown, MA 01267.** Teaching and research statements are also welcome. Evaluations of applications will begin on or after November 15 and will continue until the position is filled. Williams College is dedicated to providing a welcoming intellectual environment for all of its faculty, staff and students; as an EEO/AA employer, Williams especially encourages applications from women and minorities. For more information on the Department of Mathematics and Statistics, visit http://www.williams.edu/Mathematics.

WILLIAMS COLLEGE - DEPARTMENT OF MATHEMATICS AND STATISTICS - The Williams College Department of Mathematics and Statistics invites applications for one tenure track position in statistics, beginning fall 2005, at the rank of assistant professor (in an exceptional case, a more advanced appointment may be considered). We are seeking a highly qualified candidate who has demonstrated excellence in teaching and research, and who will have a Ph.D. by the time of appointment. Williams College is a private, residential, highly selective liberal arts college with an undergraduate enrollment of approximately 2,000 students. The teaching load is two courses per 12-week semester and a winter term course every other January. In addition to excellence in teaching, an active and successful research program is expected. To apply, please send a vita and have three letters of recommendation on teaching and research sent to the **Hiring Committee, Department of Mathematics and Statistics, Williams College, Williamstown, MA 01267.** Teaching and research statements are also welcome. Evaluations of applications will begin on or after November 15 and will continue until the position is filled. Williams College is dedicated to providing a welcoming intellectual environment for all of its faculty, staff and students; as an EEO/AA employer, Williams especially encourages applications from women and minorities. For more information on the Department of Mathematics and Statistics, visit http://www.williams.edu/Mathematics.

AWM GIFT MEMBERSHIPS: If you would like to give a gift membership to a student, friend or colleague, please fill out the membership form on **PAGE 39** 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. SEND MEMBERSHIP DUES AND/OR CONTRIBUTIONS TO: **AWM Membership, 4114 CSS Bldg., University of Maryland, College Park, Maryland 20742-2461.** Any questions, please contact us at: 301-405-7892 or awm@math.umd.edu

Association for Women in Mathematics

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

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University of Maryland
College Park, MD 20742-2461

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

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Please check the appropriate membership category below. Make checks or money order payable to: **Association for Women in Mathematics**.
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Volume 34, Number 5, September–October 2004

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Maryland 20742-2461

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