AWM
ASSOCIATION FOR WOMEN IN MATHEMATICS

Volume 27, Number 1 NEWSLETTER January–February 1997

PRESIDENT'S REPORT

San Diego Joint Mathematics Meetings: January 8–11, 1997

AWM will begin its 27th year at the Joint Mathematics Meetings. The panel discussion, titled "What it takes to have a successful career in the mathematical sciences" with panelists Lynne Butler (Haverford College), Mary Gray (American University), Nancy Kopell (Boston University), Lesley Sibner (Polytechnic University of New York) and Audrey Terras (UCSD), is scheduled for Wednesday from 3:30 P.M. to 4:30 P.M. The business meeting follows immediately from 3:40 P.M. to 5:10 P.M. Linda Rothschild (UCSD) will give this year's Noether lecture at 9 A.M. on Thursday. Her title is "How do real manifolds live in complex space?" There will be a dinner in honor of Linda the night before from 6:30 P.M. to 8:30 P.M. The Hay Award will be presented to Marilyn Burns (Marilyn Burns Education Associates) at the Joint Prize Session on Thursday, 4:25 P.M. to 6 P.M.

The AWM Workshop, organized by Carolyn Gordon and Ruth Charney, is scheduled for Saturday from 9:00 A.M. to 5:00 P.M. There will be eight postdoctoral talks and twelve graduate student posters. There is a dinner for workshop participants and mentors on Thursday from 6:45 P.M. to 10:00 P.M.

The MAA will introduce the book *JULIA* written by Constance Reid, Julia Robinson's sister, at a reception from 5:30 P.M. to 6:30 P.M. on Wednesday at the Marriott Hotel and Marina.

Several of the invited addresses will be given by women mathematicians: Nancy Kopell (Boston University) and Mary Silber (Northwestern University) will each give one of the AMS invited addresses, Cathleen Morawetz (NYU–Courant) will give the AMS Retiring Presidential Address, and Christine Shoemaker (Cornell University) will give an MAA invited address.

Hay Award

The seventh annual Louise Hay Award for Contributions to Mathematics Education will be presented to Marilyn Burns (Marilyn Burns Education Associates) at the Joint Prize session on Thursday.

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AWM
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MATHEMATICS

The Association was founded in 1971 at the Joint Meetings in Atlantic City. The purpose of the association is to encourage women to study and to have active careers in the mathematical sciences. Equal opportunity and the equal treatment of women in the mathematical sciences are promoted.
The *Newsletter* is published bi-monthly.
The Editor welcomes articles, letters, and announcements.
Circulation: 4,500.

Marilyn Burns is the creator of the *Math Solutions* inservice courses that have been attended by more than 45,000 teachers and administrators. Her books, articles, workshops, videos, and newsletter have had an enormous impact on K–12 mathematics education.

I would like to thank Donna Beers (Simmons College) and Rhonda Hughes (Bryn Mawr College) for serving on the Hay Award Selection Committee.

New Executive Director

Our former Executive Director Carol A. Tascione has moved to Nebraska with her husband, who took a new job in Omaha after retiring from the service. Carol is currently on the faculty at Bellevue University in Bellevue, Nebraska. I would like to thank her for her service to AWM and wish her our best. During the interim period Dawn Wheeler, Angie Beach and Roia Jaseb worked extremely hard to support all our programs and activities.

I am pleased to report that, thanks to the efforts of Mary Gray, Lesley Lee Francis accepted an appointment as Executive Director of AWM beginning October 1. She comes to us from the American Association of University Professors, where she had served as a member of the professional staff since 1974. Lesley received an A.B. degree from Radcliffe College and a Ph.D. in Romance Languages from Duke University. She taught Spanish language and literature at Sweet Briar College and St. Edward's University before her service at AAUP.

BMS Chairs Colloquium

Mary Gray organized an AWM panel, "Exemplary Mathematics Programs for Women," at the BMS Chairs Colloquium on October 12, 1996. For a full report see page 16.

Nominating Committee

The AWM Executive Committee has confirmed the appointment of the 1997 Nominating Committee: Cora Sadosky (Howard University) is the chair of this committee, and Ruth Charney (Ohio State University) and Jill Mesirov (IBM) are the other members. The next election will be held in the fall of 1997 for the positions of President-Elect and three At-Large Members. Any member may suggest a name for consideration by the nominating committee by submitting the name of the proposed candidate and office to the AWM President before **February 15, 1997**.

New AWM President: Sylvia Wiegand

Sylvia Wiegand will start her term as AWM President on January 15, 1997. The new President's term usually starts on February 1. But I will be going to the Max-Planck Institute in Bonn immediately after the San Diego meeting as a Humboldt

Senior Scientist, and Sylvia has kindly agreed to take over the President's job two weeks early.

Sylvia is Professor of Mathematics at the University of Nebraska at Lincoln, and her research area is commutative algebra. She is currently also a Member-at-Large of the AMS Council, Chair of the AMS Policy Committee on Meetings and Conferences, and an editor of *Communications in Algebra* and of the *Rocky Mountain Journal*. Sylvia has also served on many AWM committees. With all this experience she is well prepared to lead AWM as we continue our successful second quarter-century.

Thanks

This will be my last report for the *Newsletter* as President. Following tradition, I have included a summary of AWM activities during the past two years at the end of this report. I hope that our collective efforts have made some progress toward the AWM goal of encouraging women to study and pursue active careers in the mathematical sciences.

The duties of AWM President would be impossible to carry out without the help and support of many people. In particular, I would like to thank the staff at the AWM office in Maryland for their dedicated work, all the Past Presidents and members of the Executive Committee for their advice and help, the many members who served on AWM committees, and Northeastern University for its generous contribution of released time and some of my travel expenses to help me carry out my AWM duties. I also would like to thank Betty Anne Case and Dawn Wheeler for smoothly coordinating all the AWM meetings, and Anne Leggett for being such an excellent *Newsletter* editor. Finally, I want to thank my husband, Dick, for always being understanding and supportive.

Chuu-Lian Terng
November 26, 1996
Boston, MA

MEMBERSHIP AND NEWSLETTER INFORMATION

Membership dues

Individual: $40
Family (no newsletter): $30
Retired, part-time: $20
Student, unemployed, developing nations: $10
Contributing: $100
All foreign memberships: $8 additional for postage
Dues in excess of $10 and all contributions are deductible from federal taxable income.
Institutional:
- Level 1 (one free basic job ad and up to ten student memberships): $120 ($200 foreign)
  - additional student memberships: $10 ($18 foreign) for next 15; $6 ($14 foreign) for remainder
- Level 2 (one free basic job ad and up to three student memberships): $80 ($105 foreign)

Affiliate: $250
Corporate: $150

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 $40/year ($48 foreign). Back orders are $6/issue plus shipping/handling ($5 minimum).

Payment

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

Ad information

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

Deadlines

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

Addresses

Send all **Newsletter** material **except ads and material for book review and education columns** to Anne Leggett, Department of Mathematical and Computer Sciences, Loyola University, 6525 N. Sheridan Road, Chicago, IL 60626; phone: (312) 508-3554; fax: (312) 508-3514; email: leggett@math.luc.edu. Send all material regarding **book reviews** to Marge Murray, Department of Mathematics, 460 McBryde Hall, Virginia Tech, Blacksburg, VA 24061-0123; email: murray@calvin.math.vt.edu and for the **education column** to Sally I. Lipsey, 70 E. 10th Street, #3A, New York, NY 10003-5106. Send everything else, **including ads and address changes**, to Dawn V. Wheeler, 4114 Computer & Space Sciences Building, University of Maryland, College Park, MD 20742-2461; phone: (301) 405-7892; email: awm@math.umd.edu.

AWM ACTIVITIES: FEBRUARY 1995– JANUARY 1997

- AWM Panels

May 1995, Institute for Advance Study. Mentoring Program for Women Mathematicians, support by NSF and IAS, organized by Chuu-Lian Terng and Karen Uhlenbeck. "How I became a mathematician." Moderator: Nancy Hingston. Panelists: Fan Chung, Susan Friedlander, Barbara Keyfitz, Janet Talvacchia.

August 1995, Burlington Mathfest. "Do women and men have different career trajectories?" Moderator: Chuu-Lian Terng. Panelists: Carolyn Gordon, Claudia Henrion, Joyce McLaughlin, Diane Spresser.

January 1996, Orlando Joint Mathematics Meetings. "Affirmative action: A look back and a look ahead." Moderator: Mary Gray. Panelists: Ingrid Daubechies, Rob Kirby, Cora Sadosky.

June 1996, Institute for Advanced Study. Mentoring Program for Women Mathematicians, support by NSF and IAS, organized by Chuu-Lian Terng and Karen Uhlenbeck. "What path people take to get where they are." Moderator: Suzanne Weekes. Panelists: Joan Feigenbaum, Vien Nguyen, Ruth Williams, Diane Yurek.

October 1996, Washington DC, BMS Chairs Colloquium. "Exemplary mathematics programs for women." Victor Donnay, Mary Gray, Robert Olin.

January 1997, San Diego Joint Mathematics Meetings. "What it takes to have a successful career in the mathematical sciences." Moderator: Chuu-Lian Terng. Panelists: Lynne Butler, Mary Gray, Nancy Kopell, Lesley Sibner, Audrey Terras.

- 25th Anniversary Celebration

January 1996, Orlando Joint Mathematics Meetings. AWM 25th Anniversary Lecturer: Kate Okikiolu. AWM 25th Anniversary Luncheon.

July 1–3, 1996, MSRI, Julia Robinson Celebration of Women in Mathematics Conference, support by MSRI, NSA, NSF and AWM. Plenary speakers: Andrea Bertozzi, Lenore Blum, Joan Feigenbaum, Joyce McLaughlin, Linda Rothschild, Vera Seganova, Lesley Sibner, Abigail Thompson, Susan Tolman, Tatiana Toro, Carol Wood. Banquet keynote speaker: Constance Reid. Poster session for 62 participants. Panels: "Non-academic careers." Moderator: Barbara Deuink. Panelists: Christina Bahl, Rosemary Chang, Lisa Goldberg, Ina Lindemann. "Academic careers." Moderator: Betty Anne Case. Panelists: Andrea Bertozzi, Gail Ratcliff, Linda Rothschild, Alice Schafer, Sylvia Wiegand. Workshops: Group discussions of grant writing, organized by Carol Wood. "Looking for a job." Moderator: Gail Ratcliff. Panelists: Ruth Gornet, Jenny Harrison, Calvin Moore.

August 1996, Seattle Mathfest. AWM Lecturer: Karen Smith.

- 25th Anniversary Endowment Fund Drive

Raised $16,685 as of November 15, 1996.

- Prizes and Awards

Alice T. Schafer Prize to an Undergraduate Woman for Excellence in Mathematics. 1995: Winner: Ruth Britto-Pacumio; runners-up: Wungkum Fong, Nancy Heinschel, Jessica Wachter; honorable mentions: Tara Brendle, Karen Shuman. 1996: Winner: Ioana Dumitriu; runners-up: Karen Ball, Wungkum Fong; honorable mention: Tara Holm.

Louise Hay Award for Contributions to Mathematics Education. 1996: Glenda Lappan, Judith Roitman. 1997: Marilyn Burns.

Distinguished Service Awards. 1996: Mary Gray, Judy Green, Alice Schafer.

- Noether Lecturers

January 1996, Orlando: Olga Oleinik.

January 1997, San Diego: Linda Preiss Rothschild.

- Sonia Kovalevsky High School Mathematics Days (supported by NSF and the Sloan Foundation)

1995: Briarcliff College, Colorado School of Mines, Columbia University, Elizabeth City State University, Emporia State University, Rhode Island College, Sierra Nevada College, University of Tulsa, Worcester Polytechnic Institute.

1996: American University, Briarcliff College, Elizabeth City State University, Emporia State University, Marymount University, Norfolk State University, Pembroke State University, Rivier College, St. John's University, University of Tulsa.

• Workshops for Women Graduate Students and Postdoctoral Mathematicians (supported by ONR)

July 1995, Hamburg, Germany, ICIAM 95. AWM-SIAM-ONR minisymposium for women postdocs. Organizers: Mei Kobayashi, Joyce McLaughlin. Speakers: Thomas Erneux, Mary Anne Horn, Yuji Kodama, Rachel Kuske, Anne Morlet, Jennifer Zhao.

January 1996, Orlando Joint Mathematics Meetings. Organizers: Ruth Charney, Carolyn Gordon. Workshop moderators: Cora Sadosky, Chuu-Lian Terng, Carol Wood. Eight postdoctoral talks and twelve graduate student posters. Panel: "Launching a career in mathematics." Susan Friedlander, Kathy Merrill, Kate Okikiolu. Discussion groups: Annalisa Crannell: Searching for jobs; Mary Gray: Establishing a mentoring relation; Carol Wood and Kichoon Yang: Funding opportunities.

July 1996, Kansas City, SIAM annual meeting. AWM minisymposium: "Presenting your work and yourself to the world: a focus on oral communications." Organized by Rosemary Chang. Four research minisymposia: Inverse Problems, organized by Changmei Liu; Applications of Control Theory, organized by Mary Anne Horn, Suzanne Lenhart; Geometric Methods in Dynamical systems, organized by Kathy Alligood; New Models and Approaches for Stochastic Phenomena in Physics and Chemistry, organized by Malgorzata Klosek, Rachel Kuske. Nineteen postdoctoral talks and fifteen graduate student posters. Panels: "Balancing a career and family life." Kathy Alligood, Margaret Cheney, Suzanne Lenhart. "Government Funding Opportunities." Jagdish Chandra, Deborah Lockhart, Wen Masters. Keynote speaker at the AWM dinner banquet: Bozenna Pasik-Duncan.

January 1997, San Diego Joint Mathematics Meetings. Organized by Ruth Charney, Carolyn Gordon, Catherine Roberts. Eight postdoctoral talks and twelve graduate student posters. Panel: "Launching a career in mathematics." Mary Gray, Linda Rothschild, Jane Sangwine-Yager, Mary Silber.

• Resources

Publications (partially supported by grants from NSA). 1995–96 *Directory of Women Mathematicians*. AWM *Newsletter*. Editor: Anne Leggett. Book review editor: Margaret Murray. Education column editor: Sally Lipsey. AWM Homepage. Created and maintained by Chuu-Lian Terng, http://www.math.neu.edu/awm. AWM-Net. Editor: Dianne O'Leary, awm-net@cs.umd.edu.

• Newsletter Forums

Affirmative Action: What Is It and What Should It Be? Graduate Student Groups. Research and Teaching at Liberal Arts Colleges.

• AWM Activities at Other Conferences

February 1995, Atlanta, AAAS annual meeting. A symposium: "What works: successful programs for women in mathematical sciences," organized by Rhonda Hughes, Cora Sadosky.

September 1995, Beijing, Fourth United Nations World Conference on Women. AWM representative: Mary Gray.

October 1995, Washington DC, BMS Chairs Colloquium. "Programs to cut the attrition of women in academia." Chuu-Lian Terng.

December 1995, Washington, DC, NSF Conference on Women and Science. AWM representatives: Mary Gray, Sylvia Wiegand.

August 1996, Seattle Mathfest. AWM breakfast, organized by Sylvia Wiegand.

• Travel Grants for Women Mathematicians (supported by NSF)

February 1995: 9 awards totalling $6700. May 1995: 11 awards totalling $7050. October 1995: 11 awards totalling $8050. February 1996: 7 awards totalling $6400. May 1996: 8 awards totalling $6300. October 1996: 5 awards totalling $4000.

• AWM Committees

Hay Award. 1995: Naomi Fisher, Deborah Tepper Haimo, Carolyn Mahoney. 1996: Donna Beers, Rhonda Hughes.

Schafer Prize. 1995: Ruth Charney, Linda Rothschild, Lesley Sibner. 1996: Ruth Charney, Emma Previato, Janet Talvacchia.

Sonia Kovalevsky High School Mathematics Days. PI: 1994–95 NSF grant: Mary Gray; 1994–95 Sloan grant: Alice Schafer; 1996–97 NSA grant: Mary Gray. Selection Committee: 1995: Mary Gray, Eleanor Palais, Alice Schafer; 1996: Mary Gray.

Travel Grant (funded by NSF). PI: Chuu-Lian Terng. February 1995: Rhonda Hughes, Beth Ruskai, Judith Sally. May 1995: Nancy Flournoy,

Jill Mesirov, Beth Ruskai. October 1995: Rhonda Hughes, Mary-Louise Michelsohn, Beth Ruskai. February 1996: Mary-Louise Michelsohn, Mei-Chi Shaw, Audrey Terras. May 1996: Estelle Basor, Rebecca Herb, Audrey Terras. October 1996: Estelle Basor, Rebecca Herb, Mei-Chi Shaw.

Workshop (funded by ONR). PI: Ruth Charney, Carolyn Gordon, Joyce McLaughlin. July 1995: Hamburg. Chair: Joyce McLaughlin. Selection Committee: Mei Kobayashi, Roswitha Marz. January 1996: Orlando. Chair: Carolyn Gordon. Selection Committees: Graduate students: Jill Dietz, Sue Geller, Margaret Murray. Postdocs: Margaret Bayer, Nancy Hingston, Karen Vogtmann. July 1996: Kansas City. Chairs: Suzanne Lenhart, Joyce McLaughlin. Selection Committees: Graduate Student: Lisa Fauci, Margaret Wright. Postdocs: Kathy Alligood, Changmei Liu. January 1997: San Diego. Chairs: Ruth Charney, Carolyn Gordon, Catherine Roberts. Selection Committees: Graduate students: Jill Dietz, Sue Geller, Margaret Murray. Postdoc: Margaret Bayer, Nancy Hingston, Karen Vogtmann.

Noether Committee. 1995: Jill Pipher, Tilla Weinstein, Sylvia Wiegand. 1996: Fan Chung, Jill Pipher, Tilla Weinstein.

Long Range Planning Committee. 1995: Mary Gray, Judy Green, Linda Keen, Anne Leggett, Cora Sadosky, Chuu-Lian Terng, Carol Wood. 1996: Mary Gray, Judy Green, Linda Keen, Anne Leggett, Cora Sadosky, Kay Smith, Chuu-Lian Terng, Sylvia Wiegand, Carol Wood.

Nominating Committee. 1995: Mary Gray, Rhonda Hughes, Carol Wood. 1996: Ruth Charney, Jill Mesirov, Cora Sadosky.

Mathematics Education Committee. 1996–98: Joan Ferrini-Mundy, Naomi Fisher, Judy Green, Pao-sheng Hsu, Glenda Lappan, Judith Roitman, Kay Smith, Sylvia Wiegand.

Julia Robinson Celebration (funded by NSA, NSF and MSRI). PI: Lenore Blum, Gail Ratcliff, Chuu-Lian Terng. Organizers: Lenore Blum, Betty Anne Case, Ruth Charney, Carolyn Gordon, Joyce McLaughlin, Gail Ratcliff. Selection Committees: Plenary talks: Alice Chang, Chuu-Lian Terng, Karen Uhlenbeck. Participants: Jenny Harrison, Gail Ratcliff, Chuu-Lian Terng.

Adjunct Committee. Bettye Anne Case, Julia Knight, Suzanne Lenhart, Susan Parker, Judith Roitman, Mary Ellen Rudin.

Representatives to JCW. L. Alayne Parson, Marie Vitulli.

Representative to the CBMS Education Partnership Planning Committee. 1994–96: Naomi Fisher. 1996–98: Judy Green.

NCTM Standards Committee (ARG). Sylvia Bozeman, Doris Fischer Colbrie, Deborah Tepper Haimo, Judith Roitman.

AWM representative to the MAA Olympiad Coalition. Lynne Butler.

Representatives to AAAS. Judy Arms (Education section Q), Mary Gray (Statistics section U), Jill Mesirov (Information, Computation and Communications section T), Beth Ruskai (History and Philosophy of Science section L), Alice Schafer (Mathematics section A).

MORGAN PRIZE

The Morgan Prize for Outstanding Research in Mathematics by an Undergraduate Student is awarded each year to an undergraduate student (or students submitting joint work). The Prize consists of $1,000 and a certificate, and, for honorable mentions, a certificate. The Prize is entirely endowed by a gift from Mrs. Frank (Brennie) Morgan.

Nominations consist of an undergraduate research paper or papers and at least one letter of support from someone, usually a faculty member, familiar with the student's research. The paper(s) must be submitted while the student is an undergraduate in a college or university in Canada, Mexico, or the United States or its possessions, not after the student's graduation. The research need not be published. Nominations must be submitted by **June 30, 1997**. Nominations may be made by the student or by a nominator. Nominations and submissions should be sent to: Morgan Prize Committee, c/o Robert M. Fossum, Secretary, American Mathematical Society, University of Illinois, Department of Mathematics, 1409 West Green Street, Urbana, IL 61801-2975.

A committee of six members, two each chosen by the presidents of AMS, MAA and SIAM, will select the prize-winner.

Questions should be directed to the Chairperson of the Morgan Prize Committee: Martha J. Siegel, Department of Mathematics, Towson State University, Towson, MD 21204-7097; email: siegel-m@toe.towson.edu.

ATTENTION APPLIED MATHEMATICIANS!

SIAM WORKSHOP FOR WOMEN GRADUATE STUDENTS AND POSTDOCTORAL MATHEMATICIANS

supported by the Office of Naval Research and the Association for Women in Mathematics

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

WHEN: The next workshop in the series will be held in conjunction with the Society for Industrial and Applied Mathematics (SIAM) Annual Meeting at Stanford University, Stanford, California, July 14–18, 1997. This workshop will be held on Monday, July 14th and Tuesday, July 15th, with an introductory group discussion and dinner on Sunday, July 13th.

WORKSHOP: The workshop will consist of a poster session by graduate students, four minisymposia, a group discussion on careers, a panel on government funding and a dinner with a keynote speaker. The graduate student poster session includes all areas of research in applied mathematics. Each minisymposium will have a definite focus. The first minisymposium will include four talks about written communication skills. The three remaining minisymposia will focus on the research areas of mathematical modeling, optimization, and p.d.e.'s and applications.

Applications for funding must be received by AWM by March 1, 1997. Selected graduate student participants will present their research in a poster session. Selected postdocs (those within five years of their Ph.D.) will speak in one of the three AWM research minisymposia. AWM will offer funding for travel and two days subsistence for up to 20 participants. Departments are urged to help graduate students and postdocs obtain some supplementary institutional support to attend the Workshop and the associated meeting. All mathematicians (female and male) are invited to attend the entire program.

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

ELIGIBILITY: To be eligible for funding, *graduate students* must have begun work on a thesis problem. Applications should include a cover letter, an abstract of their work, curriculum vitae, and a supporting letter of recommendation from a faculty member or research mathematician. Applications from *postdocs* should include a cover letter, an abstract of their work, and curriculum vitae and may also include a letter of recommendation. Letters of support are encouraged. The word "postdoc" refers to any mathematician who has received her Ph.D. within the last five years, whether or not she currently holds a postdoctoral or other academic position. All funded participants are invited and strongly encouraged to attend the full AWM two-day program. All non-U.S. citizen applicants must have a current U.S. address.

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

Workshop Selection Committee
Association for Women in Mathematics
4114 Computer & Space Sciences Building
University of Maryland
College Park, Maryland 20742-2461
Phone: 301-405-7892 Email: awm@math.umd.edu

(Applications via e-mail or fax will not be accepted.)

APPLICATION DEADLINE: **March 1, 1997**

BOOK REVIEW

Gerhard Sonnert and Gerald Holton, **Who Succeeds in Science? The Gender Dimension**, Rutgers University Press, New Brunswick, 1995. xvi+215. ISBN 0-8135-2220-x (paper). $16.95.

Reviewed by: Marge Murray, Book Review Editor, Department of Mathematics, Virginia Tech, Blacksburg, VA 24061-0123; email: murray@calvin.math.vt.edu

The year 1997 marks the twenty-fifth anniversary of the passage of Title IX of the Educational Amendments Act, signed into law by President Richard Nixon, which prohibited gender discrimination in federally-supported institutions of higher education. Title IX was of signal importance in ameliorating the underrepresentation of women in science, engineering, and mathematics. Women's participation in these fields had always been low, but especially so in the years following World War II, owing to an unusual confluence of social, political, and economic factors.

Among the initial responses to Title IX was an abrupt effort on the part of colleges and universities in the United States to increase the number of women on their faculties and research staffs, often by promoting women from temporary positions to tenure in a single step. The longer-term responses to Title IX have been concerned mainly with increasing the representation of women in scientific and technical fields by improving the educational environment for women. If more girls and women are encouraged to study mathematics and science at the elementary, secondary, undergraduate, and graduate levels, then more women will acquire the professional credential — the Ph.D. — which prepares them for careers in ground-breaking research.

But what happens to these women once they have received the Ph.D.? And, indeed, what happens to the men upon receipt of this coveted degree? What are the differences and the similarities in their experiences? These are the questions which are addressed in *Who Succeeds in Science? The Gender Dimension.* This book is one of two reports issued by the Project Access study based at Harvard University. Project Access is a detailed qualitative and quantitative study of nearly 700 men and women who not only received Ph.D.'s, but who began their careers in prestigious postdocs awarded by the National Science Foundation, the National Research Council, and the Bunting Institute of Radcliffe College.

By studying the career paths of men and women whose scientific research careers had such auspicious beginnings, Project Access hoped to understand what goes right and what goes wrong for "the best and the brightest" men and women in American science. The book is addressed primarily to men and women who are themselves embarking upon scientific research careers.

An introductory chapter, "Science Careers for Women and Men," offers a concise introduction to gender issues in scientific careers. Proceeding from the premise that "women scientists, as a group, [are] less likely to have successful careers than men scientists" [p. 1], two models are offered to explain this gender disparity.

The "deficit model" explains that women have less successful careers because they are afforded fewer educational and professional opportunities, and because more "structural obstacles — legal, political, and social" stand in the way of their progress [p. 2]. The "difference model" argues that career differences reflect fundamental distinctions between men and women which "are either innate or the result of gender-role socialization and concomitant cultural values" [p. 3].

The balance of the first chapter is devoted to a detailed discussion of the factors which can cause women to "drop out" of science at every stage of the "pipeline," and to a discussion of the quantitative differences in rank and attainment between the men and the women who persist. Along the way, some speculative reasons, based on both the deficit and the difference models, are offered for the gender differences described. The chapter concludes with a concise statement of why, specifically, policy-makers ought to be concerned with the problem of increasing the "career success rate" of women who have already successfully completed a Ph.D. in science:

> In the long run it is reasonable and necessary to interest more young girls in science so that we have a more equitable representation of women among future scientists. But we emphasize that the relatively few women who have made it through a leaky pipeline constitute a valuable human resource that is now available to work at its highest potential. Society has already invested heavily in women scientists who have reached the postdoctoral level, and these women themselves have invested an enormous amount of time and

> energy in science. Obstacles that prevent them from making full use of their skills and talents are particularly wasteful. Moreover, from an equity point of view, these women have the potential to enter leadership positions in science quickly. Thus, as science administrators, policy-makers, and role models, they can boost the future representation of women in science. [pp. 14–15]

The core of the book, comprising two large chapters, is a collection of twenty career narratives, organized in two groups of ten. The first group consists of narratives from five men and five women who "succeeded" in pursuing productive research careers in academic science. The narratives in the second group come from five women and five men who "took a different road" and are no longer pursuing careers in academic research, whether by choice or by circumstances. Each narrative describes the family background, educational experiences, and postdoctoral career paths of an individual, and at the conclusion of each narrative, the authors offer what they believe to be the "key points" in the story.

The narratives are based on in-depth interviews in which the subjects were asked to tell their scientific life-story and were then asked several questions. The interviewees were asked to comment upon their own strengths and weaknesses, as well as upon their perception of the relationship of gender to the practice of their scientific specialty. Perhaps not surprisingly, in both groups of stories, personal and family considerations seem to have a much more dramatic and practical impact upon the careers of the women than on those of the men.

The later chapters of the book are devoted to an attempt to synthesize the information gained, not only from the specific narratives appearing in the book, but from the study as a whole. It is interesting to note that the overwhelming majority of interviewees, male and female, ascribe much of their success to luck and timing. Men ascribed their success to good luck slightly more often than women in the overall interview sample (89% of the men versus 85% of the women). This runs somewhat counter to the commonly-held notion that men are more likely to ascribe success to talent, while women are more likely to ascribe it to luck. But, interestingly, women were much more likely than men to mention the significance of bad luck in their experiences (49% of the women and 34% of the men).

The authors suggest that perhaps more important than the experience of good or bad luck is the individual's response to individual events as they occur. They are particularly persuaded by the "kick-reaction model" of Jonathan Cole and Burton Singer, which they summarize as follows:

> According to Cole and Singer, the course of a career in science can be described as a sequence of kicks from the environment and the scientist's reaction to those kicks. A kick is any event in the environment that has a potential effect on the individual's career, be it positive or negative. Likewise, the individual's reaction to a kick can be positive or negative. Over the course of a career, the pattern of kicks and reactions changes. Positive kicks tend to increase the likelihood of further positive kicks in the future; likewise, negative kicks are bound to spawn further negative kicks. There is, in other words, an accumulation of advantages and disadvantages over time. [p. 180]

It is natural to ask, then, whether the pattern of accumulation of advantages and disadvantages is different for women and for men. In reading the narratives of those who ultimately left academic science, this reviewer came away with the impression that the women in the group really did tend to accumulate "negative kicks."

But, curiously, I came away with an equally strong impression upon reading some of the narratives of those who were deflected from science, both men and women: that what was lacking, perhaps, was an enthusiastic, authentic emotional commitment to science. For example, Florence decided to pursue science at the graduate level only after having decided against medicine, languages, and law. Gail came to science rather late in her college career and realized that while

> she enjoys the scientific way of thinking as a means of explaining the environment around her, [she] has less interest in the more esoteric and speculative facets of science. She also does not like doing the actual experience. Given her attraction to the practical aspects of science and her lack of enthusiasm for the actual scientific work, her switch from research science to the policy area looks like a logical choice. She has since been a successful professional at the intersection of science and politics. [p. 93]

This sense of ambivalence and uncertainty is found in some of the men who left academic science as well. One issue that does not seem to be adequately addressed by this study is the role that is played by an individual's natural enthusiasm for

scientific work. Persistence, unaccompanied by enthusiasm, does not necessarily produce productivity or "success" by any measure. This is an issue that should be of some concern to those who argue, as does Sheila Tobias, that we can recruit more young people to science by "stalking the second tier" of talented students whose interests might be more naturally directed elsewhere.

This reservation notwithstanding, however, I would not hesitate to recommend this book to any young person about to embark on graduate training in the sciences or to any faculty member or administrator who is concerned with the issues of gender and persistence in science. The fourth and fifth chapters offer interesting insights into the factors which contribute to success and the interplay of gender with these factors. The final chapter consists of advice to students, young scientists, and policymakers alike, offering a bigger picture of the puzzle than is normally visible to the occupants of the nooks and crannies of academe.

The most important contribution of this book, however, lies in the simple presentation of the stories of ordinary men and women who have pursued science to the point of the Ph.D. and beyond. The stories themselves illuminate the academic and scientific culture, and each individual reader will come away from them with his or her own questions about how the culture can be changed to the benefit of everyone.

SONIA KOVALEVSKY HIGH SCHOOL MATHEMATICS DAYS

The Association for Women in Mathematics has funds available through a grant from the National Security Agency (NSA) to support Sonia Kovalevsky High School Mathematics Days at colleges and universities throughout the country. Sonia Kovalevsky Days have been organized by AWM and institutions around the country since 1985, when AWM sponsored a symposium on Sonia Kovalevsky. They consist of a program of workshops, talks, and problem-solving competitions for high school women students and their teachers, both women and men. The purposes are to encourage young women to continue their study of mathematics, to assist them with the sometimes difficult transition between high school and college mathematics, to assist the teachers of women mathematics students, and to encourage colleges and universities to develop more extensive cooperation with high schools in their area. Follow-up studies will track whether the participants go to college, what they major in, and what they do upon graduation from college.

We anticipate awarding approximately 17 grants of up to $3,000 each to universities and colleges; historically Black institutions and women's colleges are particularly encouraged to apply. Programs targeted towards inner city or rural high schools are especially welcomed. If selected, institutions will receive an information packet consisting of model schedules of activities, a check list for the sorts of arrangements that need to be made, suggestions for securing additional funding and for obtaining prizes to be awarded to contest winners, recruitment and publicity material to be adapted for local use, lists of possible workshop topics for students and teachers, model problem-solving contest material, and guidelines for follow-up activities and evaluation.

Applications, not to exceed five pages, should include: a) tentative plans for activities, including specific speakers to the extent known; b) qualifications of the persons to be in charge; c) plans for recruitment, including the securing of diversity among participants; d) budget; e) local resources in support of the project, if any; and f) tentative follow-up and evaluation plans.

Decisions on funding will be made by mid-February. The high school days are to be held in Spring 1997 and Fall 1997. Reports on the high school days are to be made to AWM within six weeks of completion.

Send *five* complete copies of the application materials to: Sonia Kovalevsky Days Project Advisory Committee, Association for Women in Mathematics, 4114 Computer & Space Sciences Building, University of Maryland, College Park, MD 20742-2461; email: awm@math.umd.edu; phone: 301-405-7892. Applications via email or fax will not be accepted. The application deadline is **January 20, 1997**.

EDUCATION COMMITTEE

Mathematics Awareness Week 1997

The theme for Mathematics Awareness Week 1997, celebrated April 20–27, 1997, is "Mathematics and the Internet." This is quite an interesting theme. The Joint Policy Board for Mathematics selected it and has listed some related topics as springboards for activities. These topics include computer security and encryption, data mining, network analysis, information theory, and the availability of mathematical information on the world wide web and other technologies.

To start planning, take a tour of the Internet for possible paths to follow. The Department of Wisconsin Marathon Center (http://mthwww.uwc.edu) maintains "A Catalog of Mathematics Resources on WWW and the Internet." This list is divided into 13 categories such as General Mathematics Servers in the United States; Math Teaching, Math Education, and Math Student Servers; and Mathematics Gophers. AMS, MAA and SIAM are all listed under general mathematics servers. In the Math Teaching category, links are provided to projects such as the Shell Centre for Mathematical Education and Mega-Math from the Los Alamos National Lab. Mathematical Gophers include the MathMagic K–12 project from Swarthmore College and Math Jokes. The Math Forum at Swarthmore College (http://forum.swarthmore.edu) is particularly rich with information and maintains information about Mathematics Awareness Week activities as a separate link.

By entering a suggested topic into a search engine such as Lycos or Magellan, a treasure trove of information can be captured. Data mining includes pattern recognition techniques. Using http://mickey.cs.uah.edu/ as an entry point, this approach is illustrated with a sample problem of detecting rainfall over land using data files from the Marshall Space Flight Center. Entering network analysis leads to a link (http://www.nd.com/) that introduces two forms of network analysis: cross validation and sensitivity analysis. The latter form can be used for data mining where the insignificant portions are discarded and the focus is on the most important data. The November 1996 issue of *Communications of the ACM* includes eight articles on data mining and knowledge discovery in databases. Some relevant articles are: "Statistical Inference and Data Mining," "Mining Scientific Data," and "The World-Wide Web: Quagmire or Gold Mine?" Thus, the capabilities of the Internet can be used to help you plan your mathematics awareness event for 1997.

For example, MathConn 97, the Ninth Mathematics Awareness Day for seventh and eighth grade girls and their teachers, will be held on April 9, 1997 at Cedar Crest College. The Advisory Board found this theme to be extremely challenging.

By networking, the following plans have been solidified. The keynote speakers for teachers and for students will be from the NASA Goddard Space Flight Center in Greenbelt, MD. In addition, a spacemobiler will present a hands-on workshop for students. The NASA SpaceLink (http://spacelink.msfc.nasa.gov) is filled with teacher education materials and data for classroom and research use. Via the NASA SpaceLink, we find topics to search including lesson plans, software, teaching activities, current NASA news, and NASA educational programs. A very interesting new project is the Space Experiment Module (SEM) available for exploration at http://sspp.gsfc.nasa.gov/sem.html. This educational initiative is an effort to increase educational access to space using Space Shuttle Small Payloads. Students can design experiments related to bubbles, surface tension, or microgravity for example. They submit their proposed experimental designs electronically by filling in a form; then their investigations will be reviewed electronically by scientists who will provide feedback to these students for possible improvement. Some experiments will be selected for inclusion in upcoming flights. The next scheduled flight is July 1997.

Other hands-on sessions and teacher workshops at MathConn 97 will include Math Forum representatives from Swarthmore College exploring the varied mathematical activities available on the Internet from Swarthmore such as "Ask Dr. Math." The Franklin Institute Science Museum in Philadelphia will be represented by their technology coordinator working in conjunction with three Philadelphia seventh grade teachers who are using technology in their classrooms.

by Regina B. Brunner, Cedar Crest College, Allentown, PA
Column Editor: Sally I. Lipsey, 70 E. 10th Street, #3A, New York, NY 10003-5106.

The Advisory Committee and Cedar Crest College students will work together to produce and direct a two-part play highlighting women mathematicians from the past as they explore how their lives might have been different if the Internet had existed when they were doing mathematics. The finale will consist of a Showcase Showdown of student teams vying for mathematical prizes, and at the end there will be a mathematical song and dance involving all participants with "Hey Mathematics!" using the movements of "Hey Macarena." (Maybe we can have Vice President Al Gore help us with the choreography.)

In 1996, the Mathematics Awareness Week theme was "Mathematics and Decision Making." MathConn 96 was held on April 10, 1996 at Cedar Crest College with 324 girls and their teachers in attendance from over sixty schools in three states (PA, NJ, DE). The special presenter was Dean Theodore Hartz, College of Business, Kutztown University; his talk set the theme for the day by stressing that understanding the order or chaos of our world requires the ability to quantify. Dean Hartz described successes in the world of business and highlighted women such as Florence Nightingale, Sally Ride, and Shannon Lucid who were successful in unusual ways. His wife, Audrey Hartz, presented a career panel session on "E.R.: Here We Come" showing mathematics in use in an emergency room.

The keynote speaker for students was Dr. Kay B. Somers, Professor and Chair of the Mathematics Department at Moravian College. Her talk entitled "A Variety of Decisions" involved looking at decisions related to the purchase of a bike and seeing how mathematics is involved. Also, she modeled a population study of fish in a lake using goldfish crackers and pretzels (the marked fish). The keynote speaker for teachers was Dr. Carla Schultes, Assistant Professor of Mathematics at Salisbury State College. She used models to illustrate how to represent real-world situations in the classroom.

Other sessions for students included: "Decision Making in Forensic Sciences," "Decide Whether or Not to Release Contact Lenses for Sale," and "Can We Predict the Future?" Teacher workshops included: "How Decision Making Influences Our Problem Solving" and "Using Math Concepts to Make the Right Investment Decision." The MathConn Dialogue Session revolved around the topic "How Can We Help Students Learn to Make Decisions?"

At the end of the day, awards were presented to five teams of four girls in five categories, including Mathematics and Decision Making. Special presenters included Dr. Gerald L. Engel, Lenhardt Professor of Computer Science and Engineering at the University of Connecticut, Stamford, and U.S. Representative Paul McHale. Their topics related Computer Science and Engineering, and Politics, respectively, to Decision Making. Representative McHale received a rousing standing ovation from the students.

If you have any suggestions to offer concerning how to approach the Mathematics Awareness Week theme for 1997, please contact me at rcbrunner@cedarcrest.edu. I would enjoy corresponding with you electronically — of course!

MAA PROJECT CLUME

MAA Project CLUME, "Cooperative Learning in Undergraduate Mathematics Education," announces a Faculty Development Workshop to be held at Georgia State University, June 13–25, 1997. Participants in this program will discuss the nuts and bolts of using cooperative learning in collegiate mathematics classrooms, talk about potential problems and ways to avoid or overcome them, interact with faculty who have been using cooperative learning successfully for years in classes ranging from developmental mathematics to abstract algebra, look at learning theory to see why this method is so promising, and read about studies of the effectiveness of cooperative learning. Support for living expenses will be provided by NSF funding. Books and other materials will be available at nominal cost. The directors of Project CLUME and faculty for this workshop are Ed Dubinsky, Georgia State University; David Mathews, Central Michigan University; and Barbara Reynolds, Cardinal Stritch College. For further information and application forms, contact Jakki Gaither, Department of Mathematics, Statistics & Computer Science, Georgia State University, Atlanta, GA, 30303-3083; phone: 404-651-2245; email: matjjg@mathcsc.cs.gsu.edu; fax: 404-651-2246. Completed application forms must be received by **March 14, 1997**.

WOMEN IN MATHEMATICS: part III of III

We come to the last issue.

3. Career versus Family?

KL: Many of the issues for women in mathematics are the same as for any career; however for a career at a university, the system seems to require that you have some overseas or at least interstate experience after gaining a Ph.D. But do women want to take the same path, and do they have the same ambitions??

How do you get women back in the workforce after having a family? How can you juggle your own career with a husband's career and the welfare of children? The criteria for appointment and promotion are tough — if you work part-time, you can't be expected to compete on the same level as a person employed full-time. How can it be made easier for women to have careers in mathematics and raise a family?

SI: As my life is still pretty much an open book, as far as a career and family go, I will leave this issue to the three people here more qualified to speak on it.

CM: It is possible to combine a career with a family, but it is very difficult as there are not enough hours in the day. I get very little sleep and I have no social life. I had a child 15 months after starting the Ph.D. I came back to University two days a week when my child was four months old, as I felt that my Ph.D. would suffer greatly if I took a longer break. For two years I could not cope with combining my family life with a Ph.D. I felt inadequate and guilty because I was not doing either job well. When I was at home I thought about the research I should be doing, and when I was at University I wanted to be at home with my family. I thought about giving up the Ph.D. many times; if it were not for the continual support and encouragement from my family and my Ph.D. supervisor, I would have. My supervisor provided me with computing facilities to allow me to work at home, and my mother looked after my child while I was at University. As a result of these people I am still here, although I am more realistic about what I can and cannot do as a mother and as a mathematician.

Normally an academic career requires two postdocs at other universities, preferably overseas. I refuse to do this because I want to stay in Melbourne and work part-time because of my family commitments. I also want to teach as well as doing research. An alternative career path is via a tutors position, provided you publish enough papers whilst teaching. This is what I am doing now on a part-time basis whilst finishing my Ph.D. At this stage, my goal is to finish the Ph.D. In the long term, my goal is to get a job that has a balance between research, teaching and administrative duties which allows me to have a social life and spend time with my family. I am hoping this is possible in academia, although at this stage there is some doubt. So far, the department has gone out of its way to help me work part-time whilst raising a child. However, it has been made very clear that I should not think about having any more children if I want a career in maths, and there has been a lot of pressure on me to return to full-time work. With these negative attitudes to families and part-time work still existing, I feel there is a long way to go before the number of women in mathematics will increase significantly. Despite this, I am not giving up yet — I have come too far and I feel I have a lot to offer mathematics even on a part-time basis.

KL: I took the so-called "traditional path." After finishing my Ph.D. I could not wait to leave Melb. I had three different positions in three different cities in the U.S.A. over six years. I had the life of a vagrant! But I was single and only had to consult myself regarding any decision. I did research in a number of areas: modelling changes in red blood cell shapes and the transport of radon gas into houses, a much publicized form of indoor pollution.

After six years, I wanted to return home, and I took up a position in a mathematics and statistics consulting company in Melbourne. In 1986, I joined the Mathematics Department at Melbourne University as a Lecturer. Two years after that I was promoted to Senior Lecturer. Until two years ago, I was the only woman on the academic staff in a

A Public Lecture given at the Department of Mathematics, University of Melbourne, Parkville, Victoria, Australia on August 18, 1994 by Susanne Irvine, Kerry Landman, Christine Mangelsdorf, and Doreen Thomas

continuing position, meaning lecturer and above. Since the University of Melbourne has amalgamated with the Institute of Education, the Department has 30 continuing positions, but there are only two women in the department, both of us Senior Lecturers. I have one female postdoctoral fellow — she is the only female out of 17 postdoctoral positions. One of the reasons for the lack of females in University positions is a lack of supply: there are far fewer females studying for the Ph.D. than men. This imbalance occurs in all mathematics departments world-wide.

In my position here, I am involved in undergraduate teaching, supervising postgraduate students and research. My research is very applied and includes dewatering of slurries and suspensions in mineral processing and ceramics manufacturing. 18 months ago I was appointed the Director of the Mathematics-in-Industry Study Group. This is an annual problem-solving workshop that attracts mathematicians from university and research laboratories to work with industry and business on specific topics. My job is to talk to companies and identify projects which can be solved at this week-long workshop. It is an extremely challenging position which has extended my professional development. I have to market mathematics, its importance and versatility, and make judgments about various industrial issues.

People from companies call the Director of the Mathematics-in-Industry Study Group and expect it to be a man! They are surprised, but not put off! Even now that I spend a lot of time talking with industry and business, I have never had a meeting with any female engineers or managers, etc. The only women I have had contact with have been personal assistants.

I think that most men who take up lectureships nowadays probably have ambitions to be a Professor eventually. I have never thought of this position as the ultimate goal. I want to enjoy my work and have time for music, reading, theater and for my friends. I have to know in myself that I am doing a good job. And of course I want to be recognized for that with promotions, but I've never thought of a professorial chair as the ultimate position to aim for.

I will now address sexism in the workplace. In all the different positions I've had, I have always been one of a handful of women, but I have never felt discriminated against. The first time I remember encountering any form of sexism was when I was applying for jobs in the U.S. I had a number of interviews, and all had gone very well and I got a number of offers. But one university department, one of the oldest universities in the U.S., called me and said that they were not yet ready to hire a woman!

Christine, Susanne and I have all felt another form of sexism — we keep hearing about affairs we are supposed to have had. Hearing these things is quite upsetting even if made in jest. Having a male friend, even in a male environment, seems to imply that we are having an affair. More seriously, when relating to senior men in the department, these comments suggest that we have only succeeded in exchange for sexual favors. Again, from talking to others and from reading, this form of sexism occurs in mathematics departments all over the world.

DT: Having completed my Doctorate in Oxford, my first decision about where my career path would lead next was made by my husband being offered a senior medical position in Melbourne. This is how I chanced on moving to Australia seventeen years ago. I joined the staff as a tutor in the Department of Mathematics at the University of Melbourne. Unfortunately I was not encouraged to continue with my research. This is not the situation nowadays. Tutors must be studying towards a postgraduate degree or diploma or be doing some research.

The following year my first child was born, and over the next eight years I tutored casually while I looked after my family of three young children, husband, two cats and a dog. I knew I should not give up tutoring as it enabled me to keep up some mathematics.

In 1987 I saw an advertisement in *Uni News* about the first Women's Re-entry Fellowship. This is awarded to a woman who having completed her Ph.D. has her career interrupted by having children. It is designed to encourage a woman to re-enter research. I was among the first women to receive an award. This remains an excellent initiative of the University of Melbourne as there are a number of women in this situation. This year four awards are being offered. It was a turning point in my career and a stepping stone to a lectureship at the University.

I became a research fellow in the Department of Mathematics. Our project has been very successful, and an active research group has grown working in minimal networks. I was offered a lectureship and enjoyed having contact with the students again.

I now choose to juggle a very busy family life with a career as a lecturer.

With my family based in Melbourne I would not be able to accept an appointment at a university other than in Melbourne. I have often thought that it would be wonderful to take up a research position overseas, perhaps for a few months, but this would only be possible once the youngest child is much older. Meanwhile I actively continue with my research. This provides contact with other academics as well as postgraduate students. I also have a large teaching load and an involvement in administration. Being one of the few women in the Engineering Faculty (only six percent of lecturers or above are women) means I sit on many committees. For example, a selection committee for a position at the University must always have a woman on it. One has to make sure that with all these competing interests time is set aside for research.

In his fantasy *Through the Looking Glass*, Lewis Carroll has the Red Queen say to Alice, "It takes all the running you can do to keep the same place. If you want to get somewhere else, you must run at least twice as fast as that!" Carroll (or C.L. Dodgson) was an English mathematician and logician who drew on his specialized knowledge to perfect the art of imaginative writing. It is surely a part of his genius that he has this dialogue take place between two females, for nowhere is this metaphor more applicable than it is for women in mathematics.

It has always taken great determination for a female to overcome the difficulties to achieve in a field that is considered to be a male province. In mathematics the wonder is not that so few have attained proficiency in the field, but that so many have overcome the obstacles to doing so. The tragedy is that, even today, we can find remnants of the elitist (or sexist) tradition that has so often surrounded mathematics in the past.

It should be acknowledged that during the present century, there have been many women who have achieved remarkably successful careers in fields drawing heavily on mathematics. An example is the amazing Dorothy Hodgkin whose obituary appeared in the *Age* two weeks ago. She is the only British woman ever to have won a Nobel prize for science, which she was awarded in 1964. I would like to read to you how her achievement was described in a leading British newspaper of that time: "On Thursday the affable-looking housewife below won Britain's fifth-eighth Nobel prize for a thoroughly un-housewifely skill: the structures of crystal of great chemical interest." The implication that Professor Hodgkin took a few minutes off from scrubbing the kitchen floor to solve the problem of

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. International travel must be on U.S. flag carriers whenever possible.

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

Applications. There will be three award periods per year, with applications due February 1, May 1 and October 1. An applicant should send *five* copies of 1) a description of her current research and of how the proposed travel would benefit her research program, 2) her curriculum vitae, 3) a budget for the proposed travel, and 4) information about all other sources of travel funding available to the applicant along with *five* copies of her cover letter to: Travel Grant Selection Committee, Association for Women in Mathematics, 4114 Computer & Space Sciences Building, University of Maryland, College Park, MD 20742-2461.

For more information, contact AWM by phone (301-405-7892) or email (awm@math.umd.edu). Applications via email or fax will not be accepted.

the molecular structure of vitamin B_{12} merely reflected the prevailing attitude at the time. Her achievements were to be regarded as the exception to the rule.

Thirty years later the underrepresentation of women in mathematics, science and engineering and their generally inferior roles there have become a cause for official concern. There have been investigations by government committees, networks like the Association for Women in Science and Engineering launched. But so far none of it has made a great deal of difference. Women now make a bright start, only to fall behind their male colleagues as their careers fail to progress. This can be attributed largely to the incompatibility of scientific work and responsibilities in the home, of which women still bear the heavier burden.

Nowadays we are preached at that competition is a good thing, so we have to do it. If you are not fairly single-minded there are a lot of people who are, and you have got to be a lot cleverer than they are. Today working women are an accepted feature of contemporary society. But the way science is organized may make it harder than ever for the current generation of women mathematicians to succeed. Without for one moment casting doubts on Hodgkin's rare abilities, the thought occurs that were she a young postdoctoral worker today, with the same family responsibilities, she would have a much harder time achieving the same recognition.

At the University of Melbourne, the Re-entry Research Fellowship for Women was a positive and key element in promoting my career, having had a break while the children were young. The Department of Mathematics actively facilitated my research. The Faculty of Engineering has recognized my enjoyment in teaching and in my research.

Now I encourage all you young women to aspire to great heights and choose to study mathematics. If you are determined enough, you must be successful. I also ask you, both men and women academics, to act as their mentors.

Final remarks

We hope that this discussion has pinpointed various ways to encourage and foster mathematical talent in female students. We want young women to be determined to keep their interest in mathematics alive in spite of any obstacles they encounter. None of us want to be doing anything else!

AWM PANEL

On October 11–12, the Board on Mathematical Sciences (National Research Council) hosted the 11th Annual Department Chairs Colloquium. One of the workshops, organized by Professor Mary W. Gray on behalf of AWM, was an panel discussion on "Exemplary Mathematics Programs for Women." Professor Gray (Math and Statistics, American University and founding president of AWM) was accompanied by the new Executive Director of AWM, Lesley Lee Francis.

In her presentation, Professor Gray emphasized the need to develop programs that help keep women and girls in mathematics, as well as ensure favorable tenure reviews and promotion of junior faculty members through the ranks to full professor. She described several AWM programs: a typical Sonia Kovalevsky High School Mathematics Day at her institution that included a contest for mathematical problem solving and parallel sessions for high school women and their teachers on various mathematical topics and on careers requiring a good mathematics background; travel grants awarded three times a year to permit women mathematicians to attend professional conferences; and two annual awards (honoring Alice Schafer and Louise Hay). Professor Victor Donnay (Mathematics, Bryn Mawr College) talked about summer research programs for undergraduate students that introduce them to a wide range of professional options in the mathematical sciences. The third panelist, Professor Robert Olin (Mathematics, Virginia Polytechnic Institute and State University), described two successful programs at his institution: a Women in Math Week as part of the centennial celebrations and a Career Day for Women in Math that accommodated 120 middle school students in a variety of activities such as surfing the Internet and competing for prizes.

All three panelists highlighted the bringing of successful alumnae to campus as a vital part of their institution's programs. Audience participation revealed an ongoing concern over how to achieve the appointment of senior women mathematicians, especially at the more isolated campuses, and how to make graduate programs more hospitable to women (and minorities). It was generally agreed that the appointment of senior women to the math faculty should receive top priority among efforts to create an atmosphere in which women can excel.

SOME THOUGHTS ON WOMEN AND MATHEMATICS

by Marilyn K. Simon, Ph.D., Walden University

History of Women in Mathematics and Science

Oliver Wendell Holmes proclaimed that history lends perspective to the way we view ourselves and our future; I would like to apply that perspective to thinking about women in mathematics and science. Through most of the history of mathematics and science, women have been *personna non grata.* Even today, there is a popular notion that science and mathematics are masculine pursuits, and many will readily cite examples of people they know to illustrate this point. However, extensive research in this area [Sadker, 1994; Schiebinger, 1989] supports the view that there are no inherent characteristics of mathematics or science which warrant the exclusion of women.

According to Wertheim, the battles that women have faced to break into these areas parallel the battles they have faced to break into the clergy [Wertheim, 1995]. She traces the process of excluding women to around 600 B.C. At that time Pythagoras of Samos and his followers established mathematics first and foremost as a religious activity. Pythagoras applied the idea of complementarity between male-female, heaven-earth to the mathematical context. He argued that numbers belonged to the psychic (masculine) realm, and to study them one had to leave behind the matter of the body (the female element). Aristotle and his followers continued to subscribe to the theory that men should aspire to psychic transcendence (which mathematics and logic supported), whereas women, with their defective souls, were forever trapped in the material prisons of their bodies.

During the Renaissance and throughout the nineteenth century, the justification for the exclusion of women from the arenas of mathematical and scientific discourse was supported by popular views such as: women's brains are too cold and too soft to sustain rigorous theory; the female cranium is too small to hold powerful brains; science requires a "virile" mind, properly cleansed of femininity; and exercising women's brains shrinks their ovaries. It was further believed that even by virtue of contact with women, men would lose their ability and power for mental activities. To support these claims it was often pointed out that the prodigious mathematicians Newton, Bacon, Boyle, and Descartes were said never to have enjoyed the company of, nor indulged in conversation with, women.

Due to women's exclusion from proper training and access to libraries and networks of communication, it is not surprising that so few women entered the field. That any were able to prevail is remarkable. Many who made it through those barriers were encouraged by their fathers who were, themselves, in the profession. Some were able to study science and math behind masculine masks; for example, Sophie Germain did coursework at the École Polytechnique in Paris under the pseudonym Antoine-August le Blanc.

Some Notable Exceptions

Not all men of antiquity bought into the notion that women had to be excluded from studying mathematics. There are some notable exceptions. The writings of H.J. Mozans, who was actually a Catholic priest named J.A. Zahm, urged women to join the scientific enterprise and thereby unleash half the energies of humanity [Schiebinger, 1989]. Leibniz (co-inventor of the Calculus) argued that women, with their abundance of leisure time, could better cultivate mathematics than men, since men had to worry about so many other worldly things. There were others who believed that women had an edge in philosophy because they were by nature more curious and more sedentary.

There was a window of opportunity in Europe in the late 1700's and early 1800's, where it was conventional wisdom that a woman's life and character could be enhanced by studying math and science. The theory of sexual complementarity was modified to the notion that some fields of science were more appropriate for women than for men. Botany, for example, became the feminine science par excellence. By the nineteenth century botany's reputation as "unmanly" made it very suitable for ladies and effeminate youths [Harris and McNamara, 1994]. Chemistry was also believed to be well-suited for women's talents and situation. Both fields appeared immediately useful to domestic pursuits.

Women's Continued Exclusion

Throughout the twentieth century, women have had to swim against the tide to find their place in

the sea of science and mathematics scholars. Even in the 1950's women were not permitted into the physics buildings of Harvard or Princeton. Although overt discrimination is no longer prevalent, covert discrimination has not disappeared. It was not until the 1970's when the Harvard physics department actually accepted a women as a faculty member, albeit a junior faculty mentor. And it was not until 1992 that a women was finally granted tenure in that department. In Princeton as of 1995 no such position has been awarded to a woman. Men dominate the editorial staffs of most peer-reviewed science and mathematics journals.

The practice of excluding women does not begin only at the level of higher education. In *Failing at Fairness: How America's Schools Cheat Girls*, researchers Myra and David Sadker have documented that discrimination, although often subtle and unintentional, does indeed exist. Teachers of both genders still encourage boys in math and science classes far more than they do girls. The Sadkers documented that boys get more attention and time than girls in math and science classes. In addition to the problem of praising girls for neatness when their work is of poor quality, the Sadkers found that teachers praise girls for neatness even when their work is of good quality, omitting praise for good quality content.

According to Evelyn Fox Keller, although women now find entrance to the world of science considerably easier than before, they still carry a residual handicap — if only by virtue of the fact that professional success requires conformation to norms that remain in opposition to what the culture labels "feminine" [Keller, 85]. There is still a widespread belief that women's brains and the peculiarities in the right hemisphere make women unable to visualize spatial relationships and, instead, make them more attuned to linguistic skills. However, the neuroanatomy of men, the theory goes, is more naturally attuned to mathematical and scientific skills. This conception reinforces the traditional cultural stereotype that mathematics is, indeed, a man's subject.

The argument that each gender has its own unique sphere of excellence with mathematics falling "naturally" into men's domain does not coincide with measures of the assessment of the mathematical abilities of children. Since 1960, the National Assessment of Educational Progress (NAEP) has found that at ages nine and thirteen, girls score slightly higher than boys in math proficiency tests which include visualization skills. By age seventeen girls do lag behind boys, but only by one percent. However, fewer girls at this age are taking advanced mathematics courses; when the students take the SAT, males outscore females by nearly 50 points. When comparing students who have taken the same rigorous mathematical courses, though, there are no significant differences by gender. It appears from the NAEP studies that women are not innately inferior to males in mathematical ability or talents, but as females move through the educational system their mathematical talents are less developed. Fausto-Sterling did a meta-analysis of gender difference in mathematical ability and found that all differences could be explained by socialization rather than biology.

The Nature of Mathematics

It is ironic that although the doors to mathematics have been locked to women, the discipline of mathematics is considered by many to be the Queen of Sciences. In this light, she is superior unto herself and does not need others to validate her existence. Here she is regarded more as an art form than as a technological enterprise. However, mathematics has also been perceived as the Servant of Science, i.e., the quantitative handyman who supplies the tools and the framework for other disciplines.

To reconcile these somewhat contradictory descriptions, Professor Armand Borel at the Institute for Advanced Study claims that mathematics resembles an iceberg: above the water is the tip, the visible part which we call applied mathematics, where the handyman can be seen diligently and laboriously performing his task. Beneath the surface is the majestic or pure mathematics, hidden from public view. Most people see only the tip, but they don't realize that this would not exist without the much larger portion found below the surface [Griffiths, 1994].

A paradigmatic transformation is emerging which presents yet another view of mathematics. According to Philip Griffiths, the current director of IAS, instead of being above or below other disciplines, mathematics is found within and around them. It is being recognized and appreciated as a full and interactive partner in many other professions. Mathematicians are beginning to give credence to the theory expressed by the English lexicographer, critic, poet and conversationalist, Samuel Johnson in *The Idler* no. 84: "As gold

which [s]he cannot spend will make no [wo]man rich, so knowledge which [s]he cannot apply will make no [wo]man wise." To support this theory, Neal Lane, the director of the National Science Foundation, has urged science and mathematics academicians to examine their programs in the larger context of societal needs and problems [Neal, 1996].

Following World War II, mathematics began a trend toward narrower and narrower specialization. A downside to this movement was that mathematicians had difficulty communicating even among themselves. Although this fragmentation still exists, the formerly rigid organization into separate slots has given way to a more fluid structure. The distinction between pure and applied research has become fuzzy. A great deal of interesting mathematical work that used to be called pure has its origins in very practical research; pure results may be of value to the practical researcher. Although mathematicians don't usually design bridges or cure diseases, their impact on engineering and medicine is profound.

Current Status of Women in Mathematics and Science

There is no doubt that times have changed and that more and more women are gaining entrance into the upper echelons of the once exclusively masculine societies of mathematics and science, and once there, thriving in that environment. The data are encouraging, but equality is yet to be achieved. In 1994 women constituted 43 percent of biological and life scientists, 27 percent of chemists, 36 percent of all mathematical scientists (with the majority in computational sciences and very few in research positions), but still only nine percent of the total physicists in the workplace. In 1995, women earned 42 percent of the Ph.D.'s in life sciences compared to only 19 percent of the Ph.D.'s in mathematics and a scant 11 percent of the Ph.D.'s in physics, engineering, and astronomy. Since 1901, when Nobel science prizes were first awarded, more than 400 men have won science Nobels, compared to only nine women.

Why is this a problem? As long as women are marginalized in physics and many areas of mathematics, they will not be able to play a significant role in developing the technologies or deciding how these technologies are to be put to use. This denies women a great deal of power and responsibility for social change. Also, the lack of role models dissuades many others from entering careers which have excellent potential.

Having been acculturated differently than men, women often bring a different set of perspectives into the scientific arena. For example, since entering the field of astrophysics in the 1960's, women have made significant contributions to this field — notably Sandra Faber whose research group discovered that the great cluster of galaxies to which the Milky Way belongs is moving sideways through the universe "like huge flocks of birds." Since the 1970's women have been seriously challenging the paradigms of biological sciences by focusing on cooperation rather than competition of organisms. Barbara McClintock was able to make a major contribution to genetics by eschewing the officially sanctioned methodologies of science. According to Jeremiah Sotrier in an interview in *Scientific America* in 1994, the reason so many women in science are making major discoveries is precisely because they are outsiders. As such, claims Ostriker, they simply didn't know that certain things are supposed to be impossible. They don't know all the rules and are not impeded by old paradigms. Society at large stands to benefit from a greater participation of women in mathematics and physics.

Programs that target women such as the Mentoring Program for Women In Mathematics at IAS or WISE (Women's Institute for Science and Engineering) at Penn State are making a difference by providing young women with role models and offering support for women who find themselves immersed in a predominantly male profession. The unwavering support of these institutions is paramount, as well as the participants' willingness to share and learn from each other.

It is important that the culture of mathematics and physics experience change. The attitude that women are less capable of mathematical thinking than men needs to be eradicated. We cannot depend on men to do this for us. As women mathematicians and scientists, we need to be more visible and openly display our affection for our chosen profession. We need to carry our understandings of our subjects into our communities and society at large and be role models and encouragers for our younger academic sisters. It is imperative that women break the glass ceiling in all areas of our academic disciplines. As Wertheim has said: the time has come for a mathematically based science,

envisioned and practiced equally by both sexes [Wertheim, 1996].

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MAA ONLINE

MAA Online, the electronic newsletter of the Mathematical Association of American, has a new Teaching and Learning Section. It consists of the Research Sampler column by Annie and John Selden and Innovative Teaching Exchange, edited by Bonnie Gold, both of which appeared regularly in *UME Trends: News and Reports on Undergraduate Mathematics Education* during its seven-year existence.

The Research Sampler surveys mathematics education research, primarily at the collegiate level. Its first offering is "Of What Does Mathematical Knowledge Consist?" which takes as its starting point the deliberations this past summer in Seville of the ICME-8 Working Group on Forms of Mathematical Knowing. Research Sampler columns will appear once every three months. They can be found at http://www.maa.org/t_and_l.

NEW IMMIGRATION BILL

The Illegal Immigration Reform and Immigrant Responsibility Act of 1996 was signed into law on September 30, 1996.

Although most of the provisions pertain to border enforcement and deportation of undocumented aliens, Section 641 requires universities to report information for certain non-immigrants, including F-1 and J-1 students and J-1 scholars. The bill requires universities to collect information on all students and scholars of particular nationalities for the Immigration and Naturalization Service (INS) and to collect a fee of $100 or less from those persons to be turned over to the government to carry out this surveillance activity.

This provision will have a profound effect on the higher education community. Never before has the government required universities to provide information of this type in such a systematic manner. It is clearly discriminatory and places universities in the position of carrying out law enforcement activities on individuals of certain nationalities. There is also a question of the legality of a government agency requiring schools to collect money for the agency.

This provision stems from the bombing of the World Trade Center and the fact that the INS did not have adequate records to share with the FBI in their investigations. With no concrete evidence that international students, much less scholars, pose a national security threat, Congress decided to institute a tracking system. This bill is contradictory to efforts being made by an INS Task Force to revamp the student regulations and develop a more technologically advanced system to report information on all international students.

The information to be collected is: 1. name and address; 2. visa status; 3. students: current academic status, including whether the alien is maintaining status as a full time student; scholars: whether they are satisfying the conditions of the exchange visitor program; 4. if the alien is convicted of a crime, for students: disciplinary action the institution has taken, for scholars: change in alien's participation as a result of the criminal conviction.

The effective date of the program is April 1, 1997. Not later than four years after the commencement of the program, a report on the operations of the program is to be submitted to the Congress. Not later than six months after the submission of the

report, expansion of the program is to cover the nationals of all countries.

The Family Educational Rights and Privacy Act of 1974 shall not apply to aliens described in this section to the extent that the Attorney General determines necessary to carry out the program.

Failure to comply by institutions could jeopardize ability to continue to admit F-1 students and J-1 students and scholars.

Section 625 is a student visa abuser provision. It prohibits issuance of F-1 visas to certain primary, secondary, and adult education level students and carries a significant penalty (a five-year inadmissibility bar) should a violation occur. A recent State Department cable notes that "we cannot offer specific operational instructions at this time. Consular officers should not apply the provisions of Sections 214(l) and (212(a)(67)(G) until specific procedural guidance has been made available." To review a copy of this cable, reply to news@lists.nafsa.org and type 46.1 in the subject line.

Section 632 is a "consulate shopping/visa overstay" provision. Another cable from the State Department clarifies that the provision applies solely to overstaying a visa, not to violations of status. To review a copy of this cable, reply to news@lists.nafsa.org and type 46.2 in the subject line.

The full text of the bill appears in the September 28, 1996 *Congressional Record* and can be accessed on the Web at http://members.aol.com/aprazuch/advo/hr3610.txt.

NAFSA: Association of International Educators has a "Question and Answer" document about the provisions of this new law available at its web site. For this and more, see http://www.nafsa.org.

SCHAFER PRIZE

The next Alice T. Schafer Mathematics Prize to an undergraduate woman for excellence in mathematics will be awarded in January, 1998 at the Joint Annual Meetings in Baltimore. Nominations will be due September 15, 1997. More information will appear in the March–April issue. A flyer describing the prize is available from the national office.

SUMMER OPPORTUNITIES

Brandeis Summer Odyssey

In Brandeis Summer Odyssey, highly motivated students entering grades 10–12 participate in creative, hands-on inquiries in science, mathematics, and related disciplines. Academic pursuits are combined with social and recreational activities. Summer Odyssey students quickly develop a community in which members encourage each other to excel in a collaborative, rather than a competitive, way.

In Odyssey Academy (July 6 to August 2), students take two courses designed especially for the program. Directed research projects in biotechnology, computer science, environmental studies, mathematics and psychology may be undertaken during the period July 6 to August 2. Science research interns work with a faculty member on frontier research topics for the eight-week period from June 15 to August 8. Students in grade 11 may choose to take college-level courses (credit or noncredit) and live with Summer Odyssey students.

Scholarships for Odyssey programs are awarded on the basis of demonstrated need, contingent on outside support. Minority students applying for Science Research Internships may qualify for funding from the National Institute of Health's Summer Science Research Apprentice program. Brandeis has received such funding from NIH for the past eleven years.

The application deadline is **April 1** for Directed Research and Science Research Internships and **May 15** for the Odyssey Academy. Students may send in their applications as early as January, and they are encouraged to apply early to ensure the best placement and choice of courses.

For more information, contact: Monica Fairbairn, Director, Summer Odyssey, Brandeis University, Drawer P MS 084, P.O. Box 9110, Waltham, MA 02254-9110; phone: 617-736-2111; fax: 617-736-2122; www: http://www.brandeis.edu/sumsch/odyssey/odyssey.html.

SummerMath

SummerMath is a program based at Mount Holyoke College which brings together one hundred young women from high schools nationwide for six weeks of exploration in mathematics. For further information, contact Dr. Charlene Morrow

or Dr. James Morrow, SummerMath Directors, at SummerMath, Mount Holyoke College, 50 College Street, South Hadley, MA 01075; phone: 413-538-2608; fax: 413-538-2002.

Summer Institute at Berkeley

SIMS (Summer Institute for the Mathematical Sciences) is a six-week summer program designed to encourage talented undergraduate women to pursue advanced degrees in the mathematical sciences. The program will take place June 14 through July 26, 1997 at the University of California, Berkeley.

Applicants must be U.S. citizens or permanent residents who have completed, with distinction, by June 1997, the equivalent of at least two years of collegiate-level mathematics, including a course in real analysis or modern algebra. About twenty women will be selected. Each will receive a travel allowance, campus room and board, and a stipend.

SIMS offers intensive seminars designed to give students a deep understanding of concepts in areas of mathematics and to teach them how to do independent work and express mathematical ideas orally and in writing. All faculty are women who are active research mathematicians and excellent teachers. Seminar assistants are women who are graduate students in the mathematical sciences. In addition to the seminars, there are many colloquium talks given by renowned mathematicians and site visits to organizations where mathematical research is conducted in a non-academic environment. Students are given information about applying to and obtaining funding for graduate school and about careers in the mathematical sciences.

Instructors are urged to bring this announcement to the attention of their students. Applications must be postmarked by **February 14, 1997**. For information and application materials, contact: Project Co-ordinator, Summer Institute for the Mathematical Sciences, University of California, 367 Evans Hall #3860, Berkeley CA 94720-3860; fax: 510-642-7892; email: sims@stat.berkeley.edu; www: http://www.stat.berkeley.edu/users/sims.

Harmonic Analysis at MSRI

The Mathematical Sciences Research Institute will host a week-long workshop on Harmonic Analysis and P.D.E., July 14–18, 1997, in advance of its fall 1997 program in harmonic analysis. The workshop will be centered around ideas originating in Fourier analysis and their development and application to other parts of analysis.

A limited amount of funding by NSF through MSRI is available for partial support of people wishing to attend. Students, recent Ph.D.'s, women and minorities are particularly encouraged to apply. To apply for funding, send a letter explaining your interest in the workshop, together with a vita or bibliography, and estimated travel and/or living expenses. If you are a student, also solicit a letter from a faculty advisor. All information should be received by **April 18, 1997**.

Shortly after April 18 there will be a mailing which will include hotel information, whatever program information is available at that time, and replies to requests for funding. For more information, contact: Harmonic Analysis and P.D.E., MSRI, 1000 Centennial Drive, Berkeley, CA 94720-5070; www: http://www.msri.org; email: harmpde@msri.org.

NSF-CBMS Regional Research Conferences

Contingent upon funding, six NSF-CBMS regional research conferences will be held this summer. These six will bring to 263 the total number of such conferences held in the twenty-nine year history of this NSF-CBMS Regional Research Conference Series.

Support for about thirty participants is provided for each conference; the organizer invites both established researchers and interested newcomers, including postdoctoral fellows and graduate students, to attend. This summer's topics are: Numerical Analysis of Hamiltonian Differential Equations, Dynamical Systems in Structured Population Dynamics, Shock Wave Theory, Longitudinal Data Analysis, The Monge-Ampere Equation: Applications to Geometry and Optimization, and Spectral Problems in Geometry and Arithmetic.

Proposals for 1998 conferences are requested; the closing date is **April 7, 1997**. Each five-day conference features a distinguished lecturer who delivers ten lectures on a topic of important current research in one sharply focused area of the mathematical sciences. The lecturer subsequently prepares an expository monograph based upon these lectures, which is normally published as a part of a regional conference series.

Information about 1996 conferences may be obtained by contacting the conference organizers

(see the AMS *Notices* for more information). Information about the series and guidelines for submitting proposals for future conferences may be obtained from: CBMS, 1529 Eighteenth Street, NW, Washington, DC 20036; 202-293-1170.

FELLOWSHIPS

Naval Research Postdocs

The Office of Naval Research (ONR) and the Naval Research Laboratory (NRL) each sponsor a Postdoctoral Research Program. The programs are designed to significantly increase the involvement of creative and highly trained scientists and engineers from academia and industry in scientific and technical areas of interest and relevance to the Navy. The NRL fellowships carry a stipend of $42,000; the ONR fellowships, $36,000 (higher in selected areas).

Selection of Fellows occurs four times per year, with deadlines of January 1, April 1, July 1, and October 1. For more information, contact: Postdoctoral Fellowship, American Society for Engineering Education, 1818 N Street, NW, Suite 600, Washington, DC 20036; phone: 202-331-3525; fax: 202-265-8504; email: projects@asee.org; www: http://www.asee.org.

Mathematics and Molecular Biology

The Program in Mathematics and Molecular Biology (PMMB) has graduate and postdoctoral fellowship support available for research at the interface between mathematics and molecular biology. Some currently supported topics include topology and sequence analysis of DNA, molecular dynamics of proteins and nucleic acids, phylogenetic comparison, RNA structure, and algorithms for molecular structure prediction. Other areas are also appropriate. Fellowships can be held at any university, college or research institute in the U.S. Non-U.S. citizens are eligible to apply. The application deadline is **February 3, 1997**. Women and minorities are encouraged to apply. Request application packet from: PMMB, 103 Donner Lab, #3206, University of California, Berkeley, CA 94720-3206; sylviaj@violet.berkeley.edu.

WOMEN PRESIDENTS REDUX

In the November–December *Newsletter* we noted [page 9] that six of seven major math organizations in North America have women presidents. We missed a few: Lynne Billard (University of Georgia) is the president of the American Statistical Association and Nancy Reid (University of Toronto) is the president of the Institute of Mathematical Statistics. In addition, Mari Muri is the president of the Association of State Supervisors of Mathematics (a small organization, but with very influential membership). Finally the new president-elect of the National Council of Supervisors of Mathematics is Bonnie Walker, who will become president next April.

So women are even more prominent in leadership positions in the broader math community than our short note observed!

[Thanks to Ron Rosier, CBMS Administrative Officer, and Beth Ruskai, University of Lowell, for bringing these additional names to our attention.]

AWM CONFLICT OF INTEREST POLICY

A conflict of interest may exist when the interest (financial or other) or concerns of any member of the Association for Women in Mathematics (AWM), or the member's immediate family, or any group or organization to which the member has an allegiance or duty, may be seen as competing or conflicting with the interests or concerns of AWM.

When any such potential conflict of interest is relevant to a matter requiring participation by the member in any action by AWM or any of its committees to which the member belongs, the interested party shall call it to the attention of AWM or the committee and such person shall not vote on the matter. Moreover, the person having a conflict shall retire from the room in which the organization or its committee is meeting (or from a conference call) and shall not participate in the final deliberation or decision regarding the matter under consideration.

The foregoing requirements shall not be construed as preventing the member from briefly

stating her position in the matter, nor from answering pertinent questions of other members, as her knowledge may be of great assistance.

The minutes of the meeting of the organization or committee shall reflect when the conflict of interest was disclosed and when the interested person did not vote. When there is a doubt as to whether a conflict of interest exists, and/or whether a member should refrain from voting, the matter shall be resolved by a vote of the organization (or its committee), excluding the person concerning whose situation the doubt has arisen.

A copy of this conflict of interest statement passed by the AWM Executive Committee, Vancouver, 8/16/93, shall be published once a year in the AWM *Newsletter*, and any member serving as an officer or on a committee shall be advised of the policy upon undertaking her duties.

A THIRD SKHS DAY

Emporia State University's Division of Mathematics and Computer Science, with funding assistance from AWM and NSF, hosted two Sonia Kovalevsky High School Mathematics Days on April 27, 1995 and February 13, 1996. Each conference featured a series of hands-on workshops, career discussions, and an invited address at a luncheon. Both events were highly successful, and the teachers encouraged us to continue to host such a program. One of our career discussion leaders, Laura Oliver, suggested that the company for which she works, Wolf Creek Nuclear Operating Corporation, might be willing to sponsor a future Sonia Kovalevsky Day Celebration. After forwarding a brief description of the event, registration brochures from previous programs, and an itemized budget, Wolf Creek has generously agreed to sponsor this program. Our third Sonia Kovalevsky Day will be held at Emporia State University's Memorial Union on February 11, 1997. Students and teachers from 23 high schools in the surrounding area will receive invitations and registration material in early January.

Marvin Harrell, Director of the Science and Mathematics Education Center and Betsy Yanik, Associate Professor, Division of Mathematics and Computer Science, Emporia State University

T-SHIRTS AVAILABLE

The banner carried to the UN Fourth World Conference on Women has been memorialized in a T-shirt (gold lettering on purple, XL) reading "Mathematics Empowers Women" (the text of the banner) on the front and "Women Empower Mathematics" on the back. For ordering information, contact Dr. Frances Rosamond, Mathematics and Natural Sciences Department, National University, Executive Park, San Diego, CA 92108; 619-563-2670; frosamon@nunic.nu.edu.

GENDER GAP GRANTS

The Teacher Education Mentor Project, funded by NSF, is a three-year national project designed to infuse gender equity instruction throughout mathematics, science and technology methods courses for elementary and secondary preservice education students. Collaborative teams from seven colleges and universities are invited to participate in this innovative project.

As a participant, your team will receive a gender equity grant of $5000, to be matched by $1000 from your college or university, to implement a gender equity project which promotes the teaching and learning of gender equity in mathematics, science, and technology (MST) for preservice teachers. Your project team will assess and evaluate the need for gender equity instruction in your MST methods courses, working with an experienced gender equity mentor over two years during five on-site visits to plan and implement strategic remedies. The project mentor will provide consultation, instruction and support as your project team expands its knowledge of MST gender issues and solutions. You will use *Gender Equity Right from the Start* by Jo Sanders, Janice Koch, and Josephine Urso with your preservice students, providing them with over 200 teaching activities that were fully tested by 61 education professors in a preceding national project. Developing a new area of expertise and creating programmatic change in your teacher education program will be a challenging and rewarding experience. You will help your students become prepared to meet the gender equity needs of *all* their students

and to encourage hundreds of thousands of girls to achieve and persist in mathematics, science and technology.

The mentors are: Dr. Cherry Brewton, Georgia Southern University; Dr. Gerald Krockover, Purdue University; Dr. Leah McCoy, Wake Forest University; Dr. Margaret Niess, Oregon State University; Dr. Jenny Piazza, University of Southern Colorado; Dr. Martha Voyles, Grinnell College; and Ms. Jo Sanders, Principal Investigator.

The application form may be downloaded from http://weber.u.washington.edu/~cgetsme. Applications are due **February 14, 1997**. Men and people of color are especially encouraged to apply. For further information, contact: Jo Sanders, Principal Investigator, Teacher Education Mentor Project, College of Education, Box 353600, University of Washington, Seattle, WA 98195; phone: 206-616-8371; email: sanders@u.washington.edu; fax: 206-616-8584.

TIDBITS FROM JPBM

Educational Technology Receives Big Boost in FY 1997 Budget

The FY 1997 appropriations process was closed out earlier this fall, ending with the proverbial whimper about six months after the bang that held up FY 1996 appropriations until April. The biggest winner in the latest budget cycle is education: support has been expanded by 22 percent. The increased funding is directly attributable to election-year politics. As polls showed voters increasingly concerned about education, the Republican commitment to reduce the federal role in education, which led to a 10 percent cut in the Department of Education's FY 1996 budget, weakened. In Washington and in campaigns across the country, Republicans vied with Democrats to show the public who cares more about education.

One of President Clinton's most visible political initiatives — the Technology Literacy Challenge Fund — was funded at $200 million, a substantial sum for a new program in the current fiscal climate. The program marks a significant expansion of the Department of Education's role in supporting educational technology. Its objectives are to connect every classroom to the Internet and provide advanced computers and software, as well as professional development for teachers, so that students can take full advantage of the connections. Hardline Republicans also failed in their ongoing quest to eliminate the Goals 2000 program, which received $491 million, a 40 percent increase over FY 1996 funding. The Administration and Senate appropriators again prevailed over the House's attempt to roll the Eisenhower Professional Development into an unstructured block grant program; Ike ended up with $310 million for FY 1997.

National Science Foundation Gets Small Budget Increase for FY 1997

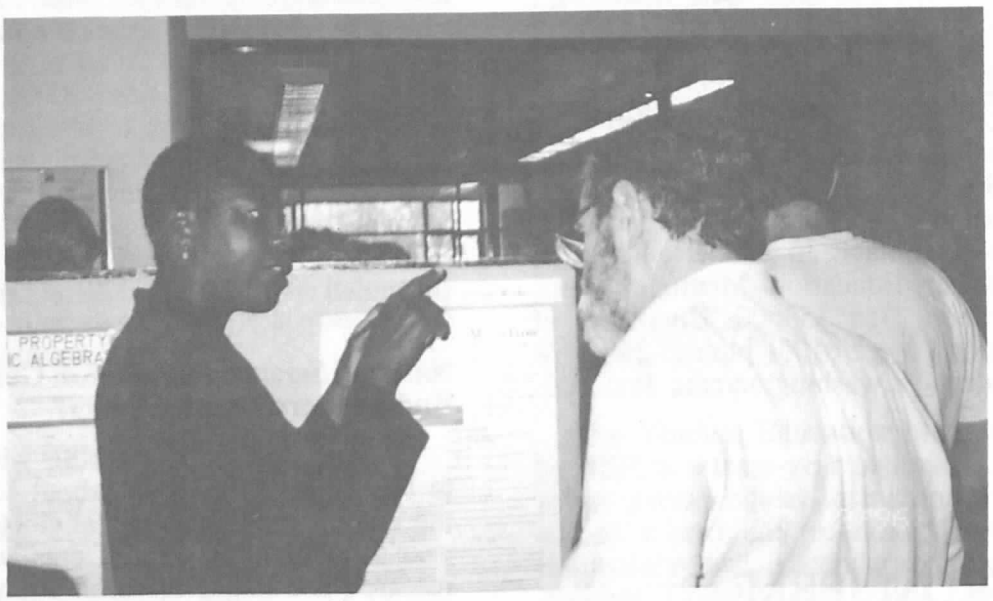
Congress provided the NSF with $3,270 million to spend this fiscal year, about $55 million below the amount requested but slightly higher than last year's budget. Substantial cuts were made in the research and major research equipment categories. Although the Education and Human Resources Directorate was funded at the requested level, appropriators made some changes in the details: they added $10 million to the budget for informal science education and $2.5 million for EPSCoR (which provides grants to states that don't receive much money from NSF's other programs). To pay for these increases, $2 million was cut from graduate education programs, $5 million from undergraduate programs, $2.5 million from precollege curriculum development, and $3 million from research, evaluation, and communications.

National Science Board Calls for Changes in Proposal Review Criteria

At a recent meeting the National Science Board, the governing body of the NSF, agreed to move forward with a plan to change the criteria by which NSF proposals are reviewed. NSF is requesting feedback from the mathematics community on these proposed changes. To encourage the broadest possible discussion, a summary of the strategic plan for the NSF along with a comparison of the current and proposed merit review criteria has been posted on the NSF homepage (http://www.nsf.gov). Your comments are invited by **January 31, 1997**.

November 15, 1996; Lisa Thompson, Congressional Liaison, Joint Policy Board for Mathematics, Washington, DC; jpbm@math.umd.edu

JULIA ROBINSON CELEBRATION



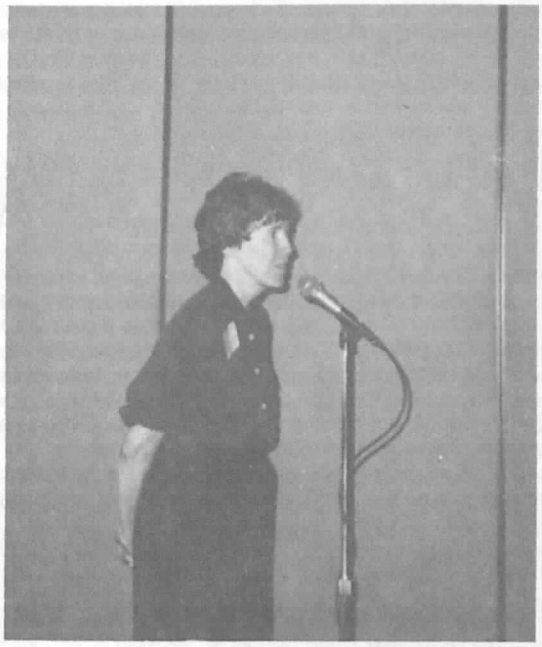
Poster session

Poster session

Poster session

SIAM WORKSHOP, KANSAS CITY

"Giving Better Technical Presentations" panelists Deborah Lockhart (NSF), Rosemary Chang (Silicon Graphics), Margaret Wright (Bell Labs), Gerald Farin (Arizona State University)



Workshop Co-organizer Joyce McLaughlin (RPI)

AWM Dinner Speaker Bozenna Pasik-Duncan (University of Kansas)
Workshop Co-organizer Suzanne Lenhart (University of Tennessee)

ADVERTISEMENTS

Think Of US As A World Within A World.

At Bentley College, one of New England's finest business schools, we're committed to building a student/faculty population that is truly representative of the world around us. This means taking significant steps on our part to ensure that individuals from all walks of life are respected for who they are and what they can contribute to our environment. By instituting recognition and educational programs that address diversity, we're able to better understand and communicate with one another on a personal, intellectual and professional level. We're also increasing our reputation for educational excellence in the international community by attracting individuals with the desire to share their unique teaching and research talents in a multicultural, collegial atmosphere such as ours.

Located 10 miles northwest of Boston, Bentley College is a private, nonsectarian college accredited by AACSB and NEASSC. Current enrollments include 3200 undergraduate and 2000 graduate students.

Department of Mathematical Sciences

The Mathematical Sciences Department anticipates a full-time faculty position starting in Fall 1997. This is a non-tenure track position which may become tenure track at a later date. Candidates should possess an earned doctorate, preferably in mathematics, actuarial science, or operations research. Candidates must also demonstrate a strong commitment to teaching as well as an equally strong research potential. Other responsibilities include service to both the institution and the department.

Interested candidates should send a resume and arrange to have three letters of reference **sent by February 1, 1997 to: Dr. Marilyn B. Durkin, Chair, Department of Mathematical Sciences, Bentley College, 175 Forest Street, Waltham, MA 02154-4705. Interviews will be conducted at the AMS/MAA Joint Meetings in San Diego in January 1997.** We are an equal opportunity employer building strength through diversity.

1917

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NEW MEXICO STATE UNIVERSITY

DEPARTMENT OF MATHEMATICAL SCIENCES

New Mexico State University in Las Cruces has:

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- about 15,000 students altogether, with 5,400 from minority groups.
- good weather, mountains, and red or green chile.

Fellowships may also be available, depending on a student's qualifications and on the availability of funds.

For further information, please write to the **Graduate Committee at the Department of Mathematical Sciences, 3MB, New Mexico State University, P.O. Box 30001, Las Cruces, NM 88003-8001.**

ARIZONA STATE UNIVERSITY
Department of Mathematics

ASU

The Department of Mathematics at Arizona State University invites applications for a tenure track position at the Assistant Professor level, pending budgetary approval, beginning in the fall semester of 1997. Applicants are required to have a Ph.D. in Mathematics Education, or closely related field, with a strong background in Mathematics and demonstrated commitment to research in Mathematics Education. Preference will be given to candidates whose primary research involves collegiate or secondary mathematics education. The successful candidate will be expected to assume a leadership role in curriculum development, teach undergraduate and graduate courses in secondary and undergraduate mathematics education, teach undergraduate courses in mathematics, advise graduate students in mathematics education, and demonstrate a commitment to quality teaching.

The main campus of Arizona State University has approximately 43,000 students and is located in the rapidly growing metropolitan Phoenix area, which provides a wide variety of recreational and cultural opportunities. The Department of Mathematics currently has 55 full time faculty members.

Applicants must send their resumé; a letter of interest addressing research agenda and including a statement of teaching philosophy; and arrange for at least three letters of recommendation to be sent to: **William T. Trotter, Chair, Department of Mathematics, Box 871804, Arizona State University, Tempe, Arizona 85287-1804.** Review of applications will begin February 1, 1997, and will continue weekly until the position is filled. AA/EOE.

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Ω IAS/Park City Mathematics Institute
Institute for Advanced Study, Princeton, New Jersey
May 12-22, 1997

Mentoring Program for Women in Mathematics

Research Topic: Symplectic Geometry and Topology ***Program Organizers:*** Karen Uhlenbeck, University of Texas at Austin; Chuu-Lian Terng, Northeastern University.

Women **undergraduate and graduate students** participating in the IAS/Park City Mathematics Institute (PCMI) Summer Session are invited to attend a preliminary workshop, the Mentoring Program for Women in Mathematics, May 12-22, 1997 at the Institute for Advanced Study in Princeton, New Jersey. This program provides a combination of lectures, seminars, working problem groups, mentoring and networking sessions and the opportunity to interact with leading mathematicians.

The IAS/PCMI is a multi-level program built on the premise that interaction among researchers, graduate students, undergraduate students, and high school teachers is essential to the optimal functioning of the mathematical enterprise. PCMI is sponsored by the Institute for Advanced Study and receives major funding from the National Science Foundation. The 1997 PCMI Summer Session will be held in Park City, Utah. Research program organizers are Yakov Eliashberg, Stanford University, and Lisa Traynor, Bryn Mawr College.

All women are welcome to apply to the Mentoring Program for Women in Mathematics, although PCMI Summer Session participants will be given preference. Participants in all programs are invited to apply for financial support. Applications and information: IAS/PCMI, Institute for Advanced Study, Olden Lane, Princeton, NJ 08540; phone: 1-800-726-4427; e-mail: pcmi@math.ias.edu; url: http://www.ias.edu/.

Application deadline is February 15, 1997

Ω IAS/Park City Mathematics Institute
June 29-July 19, 1997

Topic: Symplectic Geometry and Topology

The IAS/Park City Mathematics Institute (PCMI) is a flagship mathematics program built on the premise that interaction among **researchers, graduate students, undergraduates, and high school teachers** is essential to the optimal functioning of the mathematical enterprise.

➢***Research Program and Graduate Summer School Organizers*** : Yakov Eliashberg, Stanford University and Lisa Traynor, Bryn Mawr College.
Lecturers - Alexander Givental, University of California, Berkeley; Helmut Hofer, Eidgen Tech Hochschule, Zurich; Lisa Jeffrey, McGill University; Robert MacPherson, Institute for Advanced Study; Jerrold Marsden, California Institute of Technology; Dusa McDuff, SUNY, Stony Brook; Dietmar Salamon, University of Warwick; Clifford Taubes, Harvard University.
➢***Undergraduate Program Lecturers***- Robert Bryant, Duke University; John Polking, Rice University.
➢***High School Teacher Program Lecturers*** - Naomi Fisher, University of Illinois at Chicago; Cynthia Hays, McCallum High School, (Texas); James King, University of Washington; James Carlson, University of Utah.

The **Summer Session** will be held at the Inn at Prospector Square, Park City, Utah, June 29-July 19. All applicants are invited to apply for financial support. For **applications and information:** IAS/PCMI, Institute for Advanced Study, Olden Lane, Princeton, NJ 08540; 1-800-726-4427; e-mail: pcmi@math.ias.edu: url: http://www.ias.edu/.

PCMI is sponsored by the Institute for Advanced Study, Princeton, New Jersey, and receives major funding from the National Science Foundation and additional support from the Geraldine R. Dodge Foundation.
Application deadline is February 15, 1997

Summer Program For Women Undergraduates

During the summer of 1997, the Department of Mathematics at California State University Northridge will, **pending funding from NSF**, host a four-week summer program for talented undergraduate women who are interested in mathematics. The intent of the program is to encourage undergraduate women to pursue advanced degrees in the mathematical sciences.

The program will provide twenty women with the opportunity of learning mathematics in a setting that differs from what most of them experience during their undergraduate years. The participants will be taught by women mathematicians, and the topics they study will be different from what most students see in a standard undergraduate curriculum. Each student will choose one of two seminars that she will attend every Monday, Wednesday and Friday morning. In addition, she will take a common course that meets every Thursday plus some afternoons, and participate in weekly computer lab meetings. We will have several colloquia. There will be weekly panel discussions on topics related to careers in mathematics, going to graduate school and women in the sciences.

The program will be aimed at students who have finished their freshman or sophomore year, and will have finished a course in linear algebra and a minimal number of theoretical mathematics courses. Please announce this to your talented first and second year students. **For information and application material,** write to: Dr. M. Lien; Summer Math Program; Dept. of Math.; CSU, Northridge; Northridge, CA 91330-8313 *or* email: magnhild.lien@csun.edu *or* visit our home page at www.csun.edu/~hfmth009/index.html

Summer Program for Women Undergraduates

Carleton and St. Olaf Colleges will continue their NSF/NSA-funded successful, intensive, four-week summer program (June 29 - July 27, 1997) to encourage talented undergraduate women to pursue advanced degrees in the mathematical sciences.

Students will take two challenging courses in exciting areas of mathematics not normally offered in an undergraduate curriculum with female instructors who are active professionals and outstanding teachers. The students will receive instruction in the latest in mathematical computation and everyday electronic communication, participate in recreational problem-solving, visit the Geometry Center, receive information about graduate schools and careers in mathematics, and attend twice-weekly colloquia.

Participants in past programs reported:
This experience has revived my mathematical soul and charged me up.
The program has given me the confidence that I can succeed in math, both as a student and as a woman.
I feel like a future in math was opened for me through the program.

Please announce this to your talented first- and second-year female mathematics students. Applications are due 3/1/97. For information or application materials, e-mail Deanna Haunsperger at dhaunspe@carleton.edu, write to Summer Math Program, Math Dept., Carleton College, Northfield, MN 55057, or visit the program's home page at: http://www.mathcs.carleton.edu/smp.

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ALLEGHENY COLLEGE - DEPARTMENT OF MATHEMATICS - We invite applications from differential geometers and algebraists for a tenure-track position, commencing September 1997. Faculty are expected to demonstrate excellence in teaching and maintain professional and scholarly activity. Teaching load is six courses per year on a semester calendar. Allegheny has approximately 1,750 students and graduates 10-15 mathematics majors a year. There are eight full-time faculty in the mathematics department. Applicants must have a Ph.D. in mathematics by August 1997. Send a letter of application, a curriculum vitae, graduate transcripts, and three letters of recommendation (at least one should address teaching) in hard copy to: **Michael J. J. Barry, Dept. of Mathematics, Allegheny College, Meadville, PA 16335.** Candidates should indicate whether they intend to be at the January Meetings in San Diego. Applications received by e-mail will not be considered. The review of the applications will begin on December 1, 1996 and continue until the position is filled. Allegheny strongly encourages applications from women and minority candidates. We are an EEO employer.

AMERICAN UNIVERSITY - DEPARTMENT OF MATHEMATICS AND STATISTICS - Tenure-track Assistant Professor position in Mathematics Education beginning Fall 1997 in the Department of Mathematics and Statistics at American University, Washington, D.C. Responsibilities include teaching undergraduate mathematics and statistics courses and graduate level mathematics education courses. The position also includes assisting with the advising and coordination of the Ph.D. program in mathematics education. A strong potential in scholarship and a demonstrated excellence in teaching are required. Candidates with a Ph.D. in Mathematics Education, with at least master's level training in mathematics, and experience with middle or secondary public school education are preferred. Minority and women candidates are strongly encouraged to apply. American University is an EEO/AA university committed to 2 diverse faculty, staff, and student body. Send letter of application, CV, and three letters of recommendation to: **Search Committee c/o Dr. Robert W. Jernigan, Chair, Department of Mathematics and Statistics American University, 4400 Massachusetts Avenue, N.W., Washington, D.C. 20016-8050.** Email: mathstat@american.edu. Full consideration given to applications received before January 15, 1997.

BALL STATE UNIVERSITY - DEPARTMENT OF MATHEMATICAL SCIENCES - Tenure-track assistant professor position, pending final approval, available August 22, 1997. Responsibilities: teaching predominantly at the undergraduate level; research in mathematics; professional service. Minimum qualifications: doctorate degree in one of the mathematical sciences by August 22, 1997, successful college or university teaching experience; evidence of research potential. Preferred qualifications: research interests in the areas of Lie Groups, Symplectic or Differential Geometry, or Stochastic Analysis. Interested applicants should request a departmental application form from: **Dr. John Emert, Assoc. Prof., Dept. of Mathematical Sciences, Ball State Univ., Muncie, IN 47306.** (FAX: 317-285-1721; EMAIL: emert@math.bsu.edu). Please indicate if expecting to attend the 1997 Joint Meetings in San Diego. Review of applications will begin immediately, and continue until the position is filled or the search is closed. Ball State University is an EO/AA employer and is strongly and actively committed to diversity within it community.

BATES COLLEGE - DEPARTMENT OF MATHEMATICS - The Mathematics Department of Bates College invites computer scientists to apply for a tenure-track position. A Ph.D. in computer science is required, along with a strong commitment to undergraduate education and promise of continuing research. The position is at the assistant professor level and commences with the 1997-98 academic year. Bates is a private, highly-selective and nationally-recognized liberal arts college located in central Maine. It enrolls approximately 1,650 students and has a faculty of about 150. The Department of Mathematics has eight faculty positions. In addition to a major in mathematics, we offer a Computer Science curriculum that supports a minor program in computer studies. The annual teaching load is five semester courses, plus a short-term unit. The largest class size is usually around 30 students. We are particularly interested in candidates who will take a leading role in maintaining and improving our computer science curriculum. Since ability and interest in working with faculty trained in other mathematical fields are essential, we prefer applicants with strong mathematical backgrounds. We also encourage applications from candidates with professional interests in interacting with other disciplines. Please send letters of application, including curriculum vitae, statements on teaching and research, undergraduate and graduate transcripts, and three letters of reference to: **Professor John A. Rhodes, Chair, Department of Mathematics, c/o Secretarial Services, 2 Andrews Road, 7 Lane Hall, Bates College, Lewiston, Maine 04240.** Letters of reference should address both research potential and teaching abilities. Application materials must be received by January 30, 1997. Bates College values a diverse college community and seeks to assure equal opportunity through a continuing and effective affirmative action program.

BOSTON UNIVERSITY - DEPARTMENT OF MATHEMATICS - The Department of Mathematics invites applications for a tenure-track Assistant Professor position in the area of Statistics. The successful applicant should have a strong commitment both to research and teaching. Send CV, short statement of teaching and research interests, and three letters of recommendation to: **Statistics Search Committee, Department of Mathematics, Boston University, 111 Cummington Street, Boston, MA 02215.** Further information about our department can be found at our web site, http://www.math.bu.edu. AA/EOE

BOWLING GREEN STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS AND STATISTICS - The Department invites applications for a tenure-track position in algebra at the Assistant Professor level starting August 1997. Applicants should have the Ph.D. degree and be highly qualified for undergraduate and graduate teaching and independent research. Preference will be given to algebraists who have research programs that complement those of current faculty and are likely to make significant contributions to our active doctoral program. (See our home page; URL http://www.bgsu.edu/departments/math/) Usual duties consist of teaching two courses each semester, research, and service assignments. Applicants should send an AMS standard cover sheet, curriculum vitae, transcripts, selected preprints or reprints, and a research plan along with three to four letters of recommendation (one concerning teaching) to: **Search Committee, Mathematics & Statistics Department, Bowling Green State University, Bowling Green, OH 43403.** Applications reviewed beginning February 1, 1997 until position is filled. BGSU strongly encourages applications from women and minority candidates. AA/EOE

CLARKSON UNIVERSITY - DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE - The Department of Mathematics and Computer Science at Clarkson University invites applications for a tenure-track position in mathematics, with a specialization in applied mathematics, differential equations and/or numerical analysis. Research interests that mesh with present faculty will be a consideration. The candidate must be able and eager to teach undergraduate service courses, as well as to do solid research. Minimum qualifications are: a Ph.D. in mathematics or a related field; demonstrated potential in research; experience in teaching; ability to communicate readily in English. Women and minorities are encouraged to apply. Applications including AMS Application and cover sheet, vita and three reference letters must be received by March 1, 1997. Starting date is August 16, 1997. Applications should be submitted to: **Professor D.E. Powers, Department of Mathematics and Computer Science, Clarkson University, Potsdam, NY 13699-5815.** Clarkson University is an AA/EOE. (Pos.# 42-96)

CLARKSON UNIVERSITY - DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE - The Department of Mathematics and Computer Science invites applications for a tenure-track position with starting date of August 1997. We seek a person qualified to do research and supervise graduate students in either statistics or computer science and to teach at the undergraduate level in both areas. Minimum requirements are: a Ph.D. in computer science, statistics or mathematics by the date of appointment; demonstrated excellence in both research potential and teaching ability; ability to communicate readily in English. The candidate's research interests should mesh well with those of the faculty in the department and the university. We expect to fill this position at the assistant professor level, but appointment at the associate level may be considered for an exceptional candidate. Women and underrepresented minorities are urged to apply: Clarkson University is an AA/EOE. Send applications (curriculum vitae and three letters of reference concerning both teaching and research) by March 1, 1997, to: **D.N. Powers, Department of Mathematics and Computer Science, Clarkson University, Potsdam, NY 13699-5815.** (Position #52).

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DARTMOUTH COLLEGE - DEPARTMENT OF MATHEMATICS - John Wesley Young Research Instructorship - 2-yrs., new or recent Ph.D.'s whose research overlaps dept. member's. Teach 4 ten-week courses spread over 2 or 3 quarters. $38,000 for nine months; $8,444 summer research stipend. Send application letter, resume, research/thesis description, graduate transcript and 3 (prefer 4) references (1 discussing teaching) to: **Betty Harrington, Department of Mathematics, Dartmouth College, 6188 Bradley Hall, Hanover, NH 03755-3551.** Files completed by January 15, 1997 considered first. Dartmouth is committed to affirmative action and strongly encourages minorities and women to apply.

GEORGIA SOUTHERN UNIVERSITY - DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE - Three tenure track positions starting September 1, 1997. Commitment to excellence in teaching and scholarly activity, as well as excellent command of written and spoken English, required. Interest in teaching freshman/sophomore-level courses required. Fifteen credit hour teaching per quarter. Send letter of application indicating position desired, curriculum vitae, unofficial transcripts of all college work, evidence of commitment to excellence in teaching, and three letters of reference to: **Dr. John A. Rafter, [search number], Mathematics and Computer Science, Georgia Southern University, Statesboro, GA, 30460-8093.** Complete details at http://www.cs.gasou.edu/ Deadline: February 18, 1997. **Statistics.** Instructor or assistant professor. M.A. or M.S. in statistics or in mathematics with an emphasis in statistics required; Ph.D. preferred. Search #: 34420. **Mathematics.** Instructor or assistant professor. Master's degree in a mathematical science required; Ph.D. preferred. Search #: 34422. **Mathematics.** Assistant professor. Ph.D. in an applied mathematics area required. Search #: 34421. The names of applicants and nominees, resumes and other general non-evaluative information are subject to public inspection under the Georgia Open Records Act. Georgia Southern is an Equal Opportunity/Affirmative Action Institution. Persons who need accommodation(s) in the application process under the Americans with Disabilities Act should notify the search chair.

GEORGIA STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE - Three anticipated tenure track positions beginning Sept. 1997. Two positions are in math, one for assistant professor and another for assistant or associate professor. The third position is for assistant professor in statistics. Ph.D. and excellent record in publications are required with preference for extramural funding. Applicants from all fields of math and statistics are welcome, but with preference for math education or for experience in developing student projects in commercial and industrial applications. Send letter of reference and transcripts of all undergraduate and graduate work and postmarked by 2/28/97 to: **Chair, Department of Mathematics and Computer Science, University Plaza, Atlanta, GA 30303-3083.** Georgia State University, a unit of the University System of Georgia, is an equal opportunity educational institution, and an EOE/AA employer.

GETTYSBURG COLLEGE - DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE - Sabbatical Replacement - Gettysburg College invites applications for a visiting assistant professorship beginning August 1997. Appointment is for one year, renewable for a second year. Duties include teaching three courses each semester in mathematics and/or computer science. A Ph.D. in mathematics with a masters in computer science or a Ph.D. in computer science with a masters in mathematics, excellence in teaching, and a commitment to continued scholarship are essential. Send letter of application, curriculum vitae, statement of teaching interests in a liberal-arts environment, and three letters of recommendation to: **Search Committee, Department of Mathematics and Computer Science, Gettysburg College, Gettysburg, PA 17325.** At least one letter must address teaching effectiveness. Applications received by March 14, 1997 will receive full consideration. Gettysburg College, a highly selective liberal arts college located within an hour and a half of the Washington/Baltimore area, is an Equal Opportunity, Affirmative Action employer which offers among its benefits a Partner Assistance Program. Women and minorities are encouraged to apply.

GRINNELL COLLEGE - DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE - Two probable tenure-track positions as Assistant Professor of Mathematics starting Fall 1997. Ph.D. in mathematics, applied mathematics, or statistics expected. For at least one of these positions, we seek applicants with a background in statistics or an area of applied mathematics such as dynamical systems and mathematical modeling. Please include a statement describing your interests in teaching and research in an undergraduate liberal-arts environment. Send AMS cover sheet, vita, transcripts (copies ok), and three letters of recommendation to: **Mathematics Search Committee, Department of Mathematics and Computer Science, Grinnell College, Grinnell, Iowa 50112**. For more information, see http://www.math.grin.edu/1997-math.html. Deadline: February 21, 1997. Grinnell College, an affirmative action employer, encourages applications from women and persons of color, and considers applications without regard to gender, race, color, creed, age, national or ethnic origin, disability and sexual orientation.

HAMILTON COLLEGE - DEPARTMENT OF MATHEMATICS - One year position. A Ph.D., a commitment to, and excellence in, teaching are essential. Duties include teaching five courses per year at a variety of levels. Special attention will be given to senior level applicants; salary and teaching load for such candidates are negotiable. Hamilton is a small, highly selective, 4-year liberal arts college of 1,600 students located in rural upstate New York. The department has 8 members, and averages 20-25 majors per year. For more information about the college and department see http://www.hamilton.edu. To apply, please send the AMS Cover Sheet, a curriculum vitae, and three letters of reference (at least one about teaching), to: **Richard Bedient, Department of Mathematics, Hamilton College, Clinton, NY 13323.** Review of applications will begin January 1, and continue until the position is filled. Women and members of other underrepresented groups are especially encouraged to apply; Hamilton College is an Equal Opportunity/Affirmative Action Employer.

INDIANA UNIVERSITY, BLOOMINGTON - DEPARTMENT OF MATHEMATICS - One tenure track position will be available in the 1997-1998 academic year. Outstanding candidates with a Ph.D. in all areas of pure and applied mathematics and statistics are encouraged to apply. Excellent research potential as well as a commitment to teaching are required. Indiana University is an affirmative action/EEO employer. Please send a letter of application to: **Search Committee, Department of Mathematics, Indiana University, Bloomington, Rawles Hall, Bloomington, IN 47405-5701.**

INDIANA UNIVERSITY-PURDUE UNIVERSITY FORT WAYNE - DEPARTMENT OF MATHEMATICAL SCIENCES - The Department of Mathematical Sciences invites applications for one of several tenure-track appointments, effective Fall 1997, at the rank of assistant professor. Applicants should hold or expect to have completed the Ph.D. in mathematics or a closely related area by Fall 1997. One position will be given in mathematics education; for the others, preference will be given to those in statistics or other areas which relate to business and industrial applications, however, strong candidates in any area of mathematics will be considered. The department takes pride in its teaching. Faculty members are expected to teach approximately nine credits per semester while maintaining a significant program of scholarly work leading to publication in their professional areas. They are also expected to carry their fair share of the service required of the department. Indiana University-Purdue University Fort Wayne is a commuter campus of about 11,000 students. The Department of Mathematical Sciences offers degrees at the bachelor's and master's level. Courses are offered during the day and evening. Additional information about IPFW is available at http://www.ipfw.indiana.edu. Applicants should send a resume and arrange to have three letters of reference sent to: **Search Committee, Department of Mathematical Sciences, IPFW, Fort Wayne, IN 46805-1499.** Screening of candidates will begin February 10, 1997, and will continue until all positions are filled. IPFW is an AA/EEO employer.

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INDIANA UNIVERSITY-PURDUE UNIVERSITY INDIANAPOLIS - DEPARTMENT OF MATHEMATICAL SCIENCES - Chair - Applications and nominations are invited for the position of Chair of the Department of Mathematical Sciences, IUPUI. The Department of Mathematical Sciences offers programs of study leading to Purdue University BS, MS, and Ph.D. degrees. The Department has recently undergone substantial growth and currently has research groups in Functional Analysis, Mathematical Physics, Dynamical Systems, Index Theory and Operator Algebras, Mathematical Economics, Applied Mathematics, and Applied Statistics. The Department seeks applicants with administrative ability and strong research credentials who have a strong commitment to undergraduate education and teaching, who will continue the growth of the department in research, and who will work to further connections with local industry. IUPUI is a comprehensive urban state university situated near downtown Indianapolis, with an enrollment of over 27,000 students, many of whom are non-traditional students. Indianapolis is a diverse metropolitan area with a population near 1.2 million which offers rich cultural, social and athletic experiences for its residents. Museums and spacious park areas are outstanding as are the friendly communities offering comfortable and safe neighborhoods. Applicants should send a resume and the names and addresses of four references to: **Prof. Robert Rigdon, Department of Mathematical Sciences, IUPUI, 402 N. Blackford Street, Indianapolis, IN 46202-3216.** The closing date for applications is January 24, 1997. Late applications will be considered until the position is filled. IUPUI is an affirmative action/equal opportunity employer. Women and minority candidates are encouraged to apply.

INSTITUTE FOR ADVANCED STUDY/PARK CITY MATHEMATICS INSTITUTE - Symplectic Geometry and Topology - The IAS/Park City Mathematics Institute is a multi-level program for researchers, graduate students, undergraduates, and high school teachers. **Research Program and Graduate Summer School Organizers:** Yakov Eliashberg, Stanford University and Lisa Traynor, Bryn Mawr College. **Lecturers:** Alexander Givental, University of California, Berkeley; Helmut Hofer, Eidgen Tech Hochschule, Zurich; Lisa Jeffrey, McGill University; Robert MacPherson, Institute for Advanced Study; Jerrold Marsden, California Institute of Technology; Dusa McDuff, SUNY, Stony Brook; Dietmar Salamon, University of Warwick; Clifford Taubes, Harvard University. **Undergraduate Program:** Robert Bryant, Duke University; John Polking, Rice University. **High School Teacher Program:** Naomi Fisher, University of Illinois at Chicago; Cynthia Hays, McCallum High School, (Texas); James King, University of Washington; James Carlson, University of Utah. For applications and information contact: **IAS/PCMI, Institute for Advanced Study, Olden Lane, Princeton, NJ 08540; 1-800-726-4427; email: pcmi@math.ias.edu: url: http://www.ias.edu/.** All applicants are invited to apply for financial support. PCMI is sponsored by the Institute for Advanced Study, Princeton, New Jersey, and receives major funding from the National Science Foundation.

JAMES MADISON UNIVERSITY - DEPARTMENT OF MATHEMATICS - Tenure track position, Assistant Professor level, Applied Mathematics beginning August 1997. Teaching and research compatible with the applied and computational mathematics program, a commitment to undergraduate teaching and to research projects involving undergraduates, mathematical software, interdisciplinary projects, operations research, commitment to courses for non-mathematics majors. Forward a cover letter, a vita, transcript photocopies, an AMS application form, and have three reference letters sent to: **Mathematics Search, Department of Mathematics, James Madison University, Harrisonburg, VA 22807.** Screening will begin December 1, 1996.

KENT STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE - Tenure-Track Positions - We invite applications for three tenure-track positions at the rank of assistant professor effective August 18, 1997. We plan to fill one position in each of the following areas: applied mathematics, algebra, and analysis. Candidates are required to have a Ph.D. within the mathematical sciences. The Kent Campus is a spacious, residential campus serving more than 21,000 students. It is situated in a small university town within 30 miles of the major metropolitan area of Cleveland. The Department of Mathematics and Computer Science is in the College of Arts and Sciences and houses programs through the doctoral level in applied mathematics, computer science, pure mathematics, and statistics. It currently consists of 23 faculty in the mathematical sciences and 11 in computer science. The department recently moved to a new building and has an extensive network of computers and work stations for faculty and student use. Candidates with strong potential for excellence in research and teaching are invited to apply. Such applicants should send a cover letter, papers, if any, and have three letters of references sent to: **Mathematics Search Committee, Kent State University, Department of Mathematics and Computer Science, Kent, OH 44242.** In the cover letter applicants are requested say for which of the three positions they are applying. Further, applicants are requested to use the AMS standardized application format; forms are available through the American Mathematical Society. Applications may be submitted via email to math-pos@mcs.kent.edu. Screening of applicants will begin January 27, 1997, and will continue until the position is filled. Kent State University is an Equal Opportunity, Affirmative Action Employer.

LEWIS AND CLARK COLLEGE - DEPARTMENT OF MATHEMATICAL SCIENCES - The Department of Mathematical Sciences invites applications for a tenure-track faculty position in computer science at the assistant professor level, beginning August 1997. A Ph.D. in computer science is expected, and the promise of excellence in teaching and the ability to maintain a continuing research program is essential. Preference will be given to those applicants with expertise in computer architecture and/or algorithms, familiarity with parallel architecture and software tools, and a strong background in mathematics. Linux and Windows 95 savvy is a plus. The Department of Mathematical Sciences has five tenure-track positions in mathematics and two in computer science. The academic calendar consists of two semesters and the teaching load is five courses per year. Salary is competitive and commensurate with qualifications and experience. An application should consist of a letter of introduction describing your teaching and research goals, a curriculum vitae, transcripts, and three letters of reference. Address application materials to: **Robert Owens, Department of Mathematical Sciences, Lewis & Clark College, 0615 S.W. Palatine Hill Road, Portland, OR 97219.** Review of applications will begin February 1, 1997. Lewis & Clark College is an affirmative action/equal opportunity employer and particularly encourages applications from women and minorities.

LYNDON STATE COLLEGE - Tenure-track position, teach nine-credits undergraduate statistics to majors and non-majors, plus one course in introductory mathematics or computer science each semester. Doctorate in Statistics, Mathematics, or Mathematics Education required for tenure. Apply to: **Academic Dean Paul Tero, Lyndon State College, Lyndonville, VT 05851.**

LYNDON STATE COLLEGE - Tenure-track position, teach introductory math courses and coordinate small math education program. Doctorate in Math Education or Mathematics required for tenure. Research focus on learning of mathematics and teaching experience desirable. Apply to: **Academic Dean Paul Tero, Lyndon State College, Lyndonville, VT 05851.**

MASSACHUSETTS INSTITUTE OF TECHNOLOGY - DEPARTMENT OF MATHEMATICS - One or two assistant professor or higher levels in applied mathematics will probably become available in the fall 1997 for persons typically about two or more years beyond their doctorates. This time we are looking for unusual new talent in any area. Applications should be completed by January 15, 1997. Applicants please arrange to have sent (a) a vita; (b) three letters of reference; (c) a description of your most recent research; and (d) the research that you plan for the next three years to: **Committee of Applied Mathematics, Room 2-345, Department of Mathematics, Massachusetts Institute of Technology, Cambridge, MA 02139-4307.** M.I.T. is an Equal Opportunity, Affirmative Action Employer.

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MASSACHUSETTS INSTITUTE OF TECHNOLOGY - DEPARTMENT OF MATHEMATICS - The Department of Mathematics may make a few appointments at the lecturer and at the assistant professor or higher levels in pure mathematics for the year 1997 - 1998. The teaching load will be six hours per week in one semester and three hours per week in the other, or other combinations totaling nine hours. Open to mathematicians with doctorates who show definite promise in research. Applications should be completed by January 15, 1997. Applicants please arrange to have sent (a) a vita; (b) three letters of reference; (c) a description of your most recent research; and (d) the research that you plan for the next few years to: **Pure Mathematics Committee, Massachusetts Institute of Technology, Room 2-263, Cambridge, MA 02139-4307.** M.I.T. is an Equal Opportunity, Affirmative Action Employer.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY - DEPARTMENT OF MATHEMATICS - C.L.E. Moore Instructorships in Mathematics - Open to mathematicians with doctorates who show definite promise in research. Teaching loads are six hours per week during one semester, and three hours per week during the other. Applications should be completed by January 1, 1997. Please arrange to have sent (a) a vita; (b) three letters of reference (c) a description of the research in your thesis; and (d) the research which you plan for next year to: **Pure Mathematics Committee, Massachusetts Institute of Technology, Room 2-263, Cambridge, MA 02139-4307.** M.I.T. is an Equal Opportunity, Affirmative Action Employer.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY - DEPARTMENT OF MATHEMATICS - A limited number of instructorships and lectureships in applied mathematics are available for recent Ph.D.'s. Appointments will be made mainly on the basis of superior research potential. Applications should be completed by January 15, 1997. Applicants please arrange to have sent (a) a vita; (b) three letters of reference; (c) a description of your most recent research; and (d) the research that you plan for the next few years to: **Committee of Applied Mathematics, Room 2-345, Department of Mathematics, Massachusetts Institute of Technology, Cambridge, MA 02139-4307.** M.I.T. is an Equal Opportunity, Affirmative Action Employer.

MEREDITH COLLEGE - DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE - Meredith College, a church-related college for women, invites applications for Assistant/Associate Professor of Mathematics. Concentration in statistics preferred. Qualifications: Ph.D.; commitment to undergraduate teaching. Apply to: **Dr. Virginia Knight, Head, Department of Mathematics and Computer Science, Meredith College, 3800 Hillsborough Street, Raleigh, North Carolina 27607; knightv@meredith.edu.** Equal Opportunity Employer; minorities encouraged to apply.

MICHIGAN STATE UNIVERSITY - COLLEGE OF NATURAL SCIENCE - The College of Natural Science invites applications from mathematics educators for the position of Co-Director of the Division of Science and Mathematics Education. The person appointed will have a full-time academic year appointment with at least 51% time as Co-Director. Candidates should hold, or be qualified to hold, the rank of tenured Full Professor in the Mathematics or Statistics and Probability Departments of the College of Natural Science and/or in the Department of Teacher Education of the College of Education. Applicants or nominees should possess an established record of scholarship and proven administrative and leadership skills in mathematics education, excellent communications and interpersonal skills, experience in working with inservice teachers, and a broad vision of what Science and Mathematics Education can become in the twenty-first century. Applicants should submit a curriculum vitae, three letters of reference, and a statement (not more than three pages) of the candidate's vision for mathematics and science education at Michigan State University, by February 1, 1997 to: **Dr. George E. Leroi, Dean, 103 Natural Science Building, Michigan State University, East Lansing, MI 48824-1115**, Fax: (517) 432-1054, Email: geleroi@msu.edu. Women and underrepresented minorities are encouraged to apply. MSU is an affirmative action/equal opportunity employer.

MICHIGAN TECHNOLOGICAL UNIVERSITY - DEPARTMENT OF MATHEMATICAL SCIENCES - Applications are invited for an anticipated tenure track position in Statistics starting August 1997. The position requires a Ph.D., outstanding research potential, and a demonstrated record of teaching effectiveness. Responsibilities include teaching graduate and undergraduate students, research, and appropriate service. Send vita and 3 letters of reference to: **Statistics Search Committee, Department of Mathematical Sciences, Michigan Technological University, 1400 Townsend Drive, Houghton, MI 49931-1295.** Michigan Technological University is an equal opportunity educational institution/equal opportunity employer/affirmative action employer.

NORTH CAROLINA STATE UNIVERSITY - CENTER FOR RESEARCH IN SCIENTIFIC COMPUTATION - The Center for Research in Scientific Computation at N.C. State University expects to make several post-doctoral appointments beginning in the Summer or Fall 1997 (availability of the positions is contingent upon funding). The appointments will be in the area of applied mathematics and scientific computation. The research interests of the Center include mathematical modeling, analysis and control of partial differential equations, numerical optimization, computational fluids and flow control, numerical methods for transport in porous media, stochastic partial differential equations, high-performance computation and biomathematics. The successful applicants will be involved in research programs between the Center and other research groups at NCSU that offer a unique opportunity for post-doctoral research on mathematical projects arising in industrial/governmental laboratories. Applicants should send a vita and brief description of research interests and have three letters of recommendation sent to: **Professor K. Ito, Dept. of Mathematics, Box 8205, N.C. State University, Raleigh, NC 27695-8205**. Applications will be considered at any time after January 15, 1997, as funding becomes available. NCSU is an AA/EOE. In its commitment to diversity and equity, NCSU seeks applications from women, minorities, and the disabled.

NORTH CAROLINA STATE UNIVERSITY - CENTER FOR RESEARCH IN SCIENTIFIC COMPUTATION - The Center for Research in Scientific Computation at North Carolina State University in collaboration with Lord Corporation's Thomas Lord Research Center, Cary, NC, expects to make a University/Industry Cooperative Postdoctoral Research appointment starting August 16, 1997 (availability of the position is contingent upon funding). The appointment will be in the area of applied mathematics and scientific computation. The successful candidate for this position is expected to participate in a collaborative multidisciplinary team carrying out fundamental research investigations to provide a better understanding and predictive capabilities of the overall magnetic and theological properties of magnetorheological (MR) fluids. The research efforts will involve the modeling, analysis and computation of the magnetic response of nonlinear MR composites in the presence of magnetic fields and of their viscoelastic behavior when subjected to deformations. Since the project involves knowledge of electromagnetics and theology, applied partial differential equations and computational science, candidates who are outstanding in at least one of these areas and willing and able to learn quickly in the others will be given highest priority. This position offers a unique opportunity for multidisciplinary mentored post-doctoral research on a mathematical project arising in an industrial/university collaborative effort. Applicants should send a vita and brief description of research interests and have three letters of recommendation sent to: **Search Committee, University/Industry Cooperative Postdoctoral Research Associate, Center for Research in Scientific Computation/Department of Mathematics, Box 8205, NC State University, Raleigh, NC 27695-8205.** Applications will be considered at any time after January 15, 1997, as funding becomes available. NCSU is an AA/EOE. In its commitment to diversity and equity, NCSU and the CRSC seeks applications especially from women, minorities, and the disabled.

APPLICATION DEADLINE FOR SONIA KOVALEVSKY DAY IS JANUARY 20, 1997 **(SEE PAGE 10)**

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OAKLAND UNIVERSITY - DEPARTMENT OF MATHEMATICAL SCIENCES - Chairperson - Applications and nominations are invited for the position effective August 15, 1997. The Chairperson is appointed for a three-year, renewable term and is sought to lead the implementation of a recently approved Ph.D. program in Applied Mathematical Sciences with an emphasis on industrial applications and collaboration. Must have an earned Ph.D. in a mathematical science, significant post-Ph.D. academic experience, or comparable activity. A substantial research record, an active commitment to research and to quality instruction, the ability to foster the development of innovative and effective teaching including a willingness to explore ways to integrate technology into instruction, have demonstrated experience in various academic or professional leadership positions and the ability to interact effectively with the various components of an academic community. The academic record must justify appointment at the rank of Professor with tenure. Oakland University is a vital, growing public institution with nearly 14,000 students. The Department has 26 full-time faculty members and offers baccalaureate and masters degrees in mathematics, industrial and applied mathematics, and applied statistics. Further information, contact http://www.acs.oakland.edu/links/math/. Applicants should submit a curriculum vitae and the names, addresses, and telephone numbers of at least three references. Please send nominations and applications to: **Darrell Schmidt, Chairperson Search Committee, Department of Mathematical Sciences, Oakland University, Rochester, MI 48309-4401.** [Phone: (810) 370-3433, Fax: (810)370-4184, Email: schmidt@oakland.edu]. Review of applications begins on February 1, 1997. Oakland University is an Affirmative Action and Equal Opportunity Employer. The search committee especially encourages women and minorities to apply.

OBERLIN COLLEGE - DEPARTMENT OF MATHEMATICS - One-year, full-time, non-continuing positions beginning the 1997-98 academic year. Responsibilities include teaching undergraduate courses in mathematics and/or statistics (5/year), supervising honors students, and sustained scholarly production. Ph.D. degree (in hand or expected by August 31, 1997) required. All specialties considered. Candidates must demonstrate potential excellence in teaching. Send letter of application, curriculum vitae, academic transcripts (graduate and undergraduate), and 3 letters of reference to: **Susan Colley, Department of Mathematics, Oberlin College, Oberlin, OH 44074** by March 1, 1997. Use of AMS Application Cover Sheet appreciated. Oberlin College admitted women since its beginnings in 1833 and has been historically a leader in the education of blacks. AA/EOE.

OHIO UNIVERSITY - DEPARTMENT OF MATHEMATICS - Applications are invited for a tenure-track assistant professor position in differential equations, effective September 1, 1997. A Ph.D. in mathematics is required. Applicants must show exceptional promise in research and teaching. Preference will be given to candidates whose research interests complement the existing strengths of the department; in particular, priorities will be placed on the following areas: abstract differential and integral equations, functional-differential equations, optimal control for partial differential and integral equations, and boundary value problems. A familiarity with numerical methods for differential and integral equations will be viewed favorably. The salary is competitive and there is an excellent benefits package. We will begin reviewing applications January 15, 1997. Send a letter of application and a resume, and have three letters of recommendation sent to: **Chair Search Committee, Department of Mathematics, Ohio University, Athens, Ohio 45701.** Ohio University is an Equal Opportunity/Affirmative Action Employer, women and minorities are encouraged to apply.

ROSE-HULMAN INSTITUTE OF TECHNOLOGY - DEPARTMENT OF MATHEMATICS - Tenure track and non-tenure track openings at the Assistant Professor level or possibly higher rank for the fall of 1997. Successful candidates will have a Ph.D. in mathematics or statistics. We expect a strong commitment to teaching at all undergraduate levels, and continued scholarly activity and professional development. Exceptional candidates in all areas will be considered, though we are especially seeking those with background in applied mathematics or applied statistics. To apply, a letter of application, resume, personal statements on teaching and scholarship, and three letters of recommendation (with at least one of them addressing the applicant's teaching ability) should be sent to: **Professor Allen Broughton, Department of Mathematics, Rose-Hulman Institute of Technology, Terre Haute, IN 47803.** Rose-Hulman is a small, private, engineering, mathematics and science undergraduate institution, with a well motivated and talented faculty and student body. We are committed to excellence and innovation in undergraduate teaching, have a strong component of the liberal arts, and seek a diversified, constantly improving faculty. Applications from women and minorities are especially encouraged. For full consideration, applications should be received by 15 January 1997. Applications received by 20 December 1996 will be considered for interviews at the January AMS meetings. For further information on our department and institute visit our website at http://www.rose-hulman.edu/ . The Mathematics Department is under Academics. Rose-Hulman Institute of Technology is an equal opportunity employer.

RUTGERS UNIVERSITY, NEWARK - DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE - Assistant Professor of Mathematics - The Department of Mathematics and Computer Science invites applications for an anticipated tenure-track assistant professorship in pure mathematics to begin in September 1997. Applications for a higher level appointment may be considered if a position becomes available. Candidates must have a Ph.D. and a strong research record, show outstanding promise for future work in mathematics, and demonstrate a commitment to effective teaching. Preference will be given to candidates with research interests related to those of faculty in the department. Each candidate should include an AMS cover sheet and a curriculum vitae with the application. At least four letters of recommendation, one of which addresses teaching, should be sent in support of the application. The application and letters should be sent to: **Personnel Committee, Department of Mathematics and Computer Science, Rutgers University, Newark, NJ 07102.** Applications received by December 16, 1996 will receive first consideration. Rutgers University is a Equal Opportunity/Affirmative Action Employer.

SANTA CLARA UNIVERSITY - DEPARTMENT OF MATHEMATICS - Two tenure track positions, Assistant Professor level, beginning September 1997. Required: recent Ph.D. or Ph.D. and evidence of recent scholarship. Fields: A variety of fields will be considered, but for **position A**, preference will be given to those who exhibit a background and demonstrated experience in foundational computer science (introductory programming, data structures, algorithms and other upper division course work), and for **position B**, preference will be given to those who exhibit background and experience in probability/statistics. Undergraduate teaching only. Limited funds are available to support undergraduate research participation. Successful candidates should be able to engage Departmental majors in research projects and be able to mentor students interested in going on for graduate studies or professional work in these fields. The Department is in the College of Arts and Sciences in a comprehensive university and emphasizes (roughly equally) both excellent teaching and continuing research. The course load is seven quarter courses per year with downward adjustments typically made for research. The University's location in Silicon Valley offers many opportunities for contacts with high tech industry. Applications should be sent to: **Professor Robert Bekes, Chair, Search Committee, Department of Mathematics, Santa Clara University, Santa Clara, CA 95053-0290.** Further information about the University is available at www.scu.edu. Santa Clara University, a Jesuit institution, emphasizing education in the liberal arts and sciences, is an equal opportunity/affirmative action employer-Title IX M/F/H.

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SIMON FRASER UNIVERSITY - DEPARTMENT OF MATHEMATICS AND STATISTICS - The Department of Mathematics and Statistics of Simon Fraser University invites applications for a tenure-track position in Applied and Computational Mathematics at the Assistant Professor level starting September 1, 1997. At this time our emphasis is on complementing current strengths in mechanics (fluids and solids) and scientific computing, and developing new expertise in industrial and environmental modeling. Applicants are expected to have completed a Ph.D. degree at the time of appointment, have post-doctoral experience or a proven research record, and be able to demonstrate strong potential in both research and teaching. Applications, including curriculum vitae, descriptive statements on research plans and teaching activities should be sent, by 15 February 1997, to: **Dr. J. L. Berggren, Chair, Department of Mathematics and Statistics, Simon Fraser University Burnaby, British Columbia V5A 1S6 Canada.** Please arrange for three letters of reference to be sent directly from the referees. Further information on the department and the university can be found on the web site http://www.math.sfu.ca/mast_home.html. The position is subject to final budgetary approval. Simon Fraser University is committed to the principle of equity in employment and offers equal employment opportunities to all qualified applicants. In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents of Canada. The Department of Mathematics and Statistics at Simon Fraser University currently has a dozen faculty members working in applied and computational mathematics and has research excellence in solid and fluid mechanics, numerical analysis, relativity, symbolic computation and optimization. We have approximately 20-25 graduate students (roughly 1/3 of the departmental total) working in these areas, and we offer a graduate degree in Applied and Computational Mathematics. In total, the department has 34 faculty and 5 lab instructors and offers undergraduate programs in applied & computational mathematics, pure mathematics, and statistics and actuarial mathematics. In addition to a high quality research program, we with teaching assistants and instructors and an environment designed to develop a community of learning. Research and instruction are supported by an extensive university computing network and the department itself has a research network of more than 40 Sun stations and over a dozen Silicon Graphics machines (many of which are located in the Centre for Experimental and Constructive Mathematics). Being located atop Burnaby Mountain in Vancouver, one of the most beautiful cities in the world, the University offers a marvelous working environment .

SONOMA STATE UNIVERSITY - MATHEMATICS DEPARTMENT - invites applications from Ph.D.'s (Mathematics Education or Mathematics) for tenure track faculty position in Mathematics Education starting AY 1997-98. Obtain the full position opportunity announcement on the internet at www.sonoma.edu/math/ or by return mail. Send letter of application, vita, teaching evaluations, and three reference letters: **William Barnier, Sonoma State University, Mathematics Department, Rohnert Park, CA 94928-3609.** Review begins 1/21/97. An AA/EO Employer.

SOUTHEAST MISSOURI STATE UNIVERSITY - DEPARTMENT OF MATHEMATICS - Assistant Professor Positions in Statistics (doctorate in statistics or applied statistics) and in Mathematics Education (doctorate; elementary or middle school emphasis preferred) beginning in August 1997. **Complete position descriptions (specify statistics or mathematics education) are available at c609scm@semovm.semo.edu or Department of Mathematics MS6700; Southeast Missouri State University; Cape Girardeau, MO 63701.** Review of applications will begin 12-31-96 and continue until the positions are filled. An Equal Opportunity/M-F/Affirmative Action Employer.

ST. BONAVENTURE UNIVERSITY - SCHOOL OF THE ARTS AND SCIENCES - Pending funding, the university will have a tenure-track position available at the assistant professor level. The successful candidate must have an earned doctorate in mathematics (pure or applied) and a demonstrated commitment to excellence in college teaching, scholarly activity, and service. Candidates having previous experience with technology in the classroom will be given preference. Send letter of application, curriculum vitae, and letters from at least three references, one of which must address the teaching ability of the candidate, to: **James P. White, Dean of the School of Arts and Sciences, St. Bonaventure University, St. Bonaventure, New York 14778.**

ST. CLOUD STATE UNIVERSITY - DEPARTMENT OF STATISTICS - Two Tenure Track Positions as an Assistant Professor of Statistics - SCSU invites applications for two tenure track positions in the Department of Statistics as an Assistant Professor of Statistics to begin September 2, 1997. Appointment at higher rank is possible for candidates with exceptional qualifications. Current salary range is $29,000-$43,000. The successful candidate will primarily teach undergraduate courses in statistics and contribute to the vitality of the statistics program. The normal teaching load is 12 hours/week. In addition, he/she will advise students majoring or minoring in statistics, be involved in curriculum development and be involved in a program of scholarly/professional activity. A doctorate in statistics by the appointment date is required. Applications from recent Ph.D.'s are encouraged. Candidates must have a strong commitment to undergraduate teaching, possess excellent communications skills, be able to demonstrate teaching effectiveness, and have a record of or strong potential for scholarly and professional activity. The successful candidate will also have had extensive statistical computing experience. Preference may be given to those candidates with course work emphasis, research interests, or job experience related to quality control, biological science or social science. To apply, submit letter of inquiry, vita and transcripts, along with names addresses and phone numbers of three references to: **Dr. James W. Johnson, Department of Statistics, St. Cloud State University, 720 Fourth Ave. S., St. Cloud, MN 56301-4498.** Phone: (320) 255-3001, fax: (320) 255-4262, email; jvj@tigger.stcloud.msus.edu. In addition, arrange to have three letters of reference sent to the above address. In order to assure full consideration of your application we must receive all of your materials no later than February 1, 1997. Additional information may be requested of semifinalist and finalist candidates. SCSU is an AA/EEO Employer.

TRINITY COLLEGE, WASHINGTON, D.C. - DEPARTMENT OF MATHEMATICS - Tenure Track Assistant Professor position, contingent upon funding, starting August 1997. Qualifications include a Ph.D. in the mathematical sciences and a strong commitment to teaching in a liberal arts setting. Background in statistics preferred; background in computer science desirable. Responsibilities include the possibilities of teaching weekdays, evenings, and weekends for a diverse student population. Send cover letter, resume, a statement on teaching mathematics in a liberal arts setting, and 3 letters of recommendation by February 10, 1997 to: **Mathematics Search Committee, Department of Human Resources, Trinity College, 125 Michigan Avenue, N.E., Washington, D.C. 20017.** Trinity College is an Affirmative Action/Equal Opportunity Employer and encourages applications from women and minority candidates

TUFTS UNIVERSITY - DEPARTMENT OF MATHEMATICS - Applications are invited for two Assistant Professorships to begin September 1, 1997. Initial one-year contracts, renewable to a maximum of three years. Ph.D., promise of strong research and evidence of strong teaching ability required. Research interests preferred: numerical linear algebra or numerical elliptic PDE's or mathematical biology. Candidates with the ability to be successful at teaching students from underrepresented groups are encouraged to apply. Send application and three letters of recommendation to: **Christoph Börgers, Hiring Committee Chair, Tufts University, Medford, MA 02155.** Review of applications will begin January 31, 1997 and continue until the positions are filled. Tufts University is an Equal Opportunity/Affirmative Action employer. Members of underrepresented groups (including people of color, persons with disabilities, Vietnam veterans and women) are strongly encouraged to apply.

ADVERTISING DEADLINE for the March/April 1997 issue is: FEBRUARY 1, 1997.

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UNITED STATES NAVAL ACADEMY - DEPARTMENT OF MATHEMATICS - Applications invited for up to three anticipated tenure-track positions (subject to funding) in mathematics at the Assistant Professor level to start in August 1997. Candidates must have a Ph.D., demonstrate a strong commitment to undergraduate teaching and show potential to continue an active scholarly program. Faculty members receive full federal government service benefits. Promotion and tenure evaluations follow AAUP guidelines. Information about the U.S. Naval Academy and the Mathematics Department can be found at Web site http://www.nadn.navy.mil. Applicants should provide a letter of application that includes a statement of professional goals, a C.V., three letters of reference (at least one of which comments on the applicant's experience and promise as a teacher.), and undergraduate and graduate transcripts. Applications will be evaluated starting in February 1997. Send all materials to: **Search Committee Mathematics Department, 572 Holloway, Rd., U.S. Naval Academy, Annapolis, MD 21402-5002.** Tel: 410-293-6700; Fax: 410-293-4883; Email: search@sma.usna.navy.mil. The United States Naval Academy is an EO/AA employer.

UNIVERSITY OF AKRON - DEPARTMENT OF MATHEMATICAL SCIENCES - Assistant Professor - Two Assistant Professor (tenure-track) positions are available starting Fall 1997. Applicants should demonstrate potential for excellence in teaching and research. Two-thirds of the teaching responsibility consists of general education courses. The remainder of the teaching load may consist of other undergraduate and graduate courses. Applicants should possess a Ph.D. in the mathematical sciences. Preference will be given to candidates with expertise in any of the areas of algebra and number theory, discrete mathematics, geometry, materials/fluids process modeling, optimization and control theory, or applied probability and stochastic processes. The University of Akron is the third largest state university in Ohio. The Department offers Bachelor and Master degrees in Applied Mathematics, Mathematics, Statistics, and Computer Science. An Engineering Applied Mathematics doctoral program emphasizing interdisciplinary applied mathematics, is offered cooperatively with the College of Engineering. See http://www.math.uakron.edu/ for more information about the Department. All materials (application letter, curriculum vitae, unofficial copy of graduate transcripts, and three letters of recommendation) should be sent to: **Chair, Mathematical Sciences Search Committee, Ref. #Gl, Department of Mathematical Sciences, The University of Akron, Akron, OH 44325-4002.** Inquiries may be sent to stef@uakron.edu. Review of completed applications will begin March 1, 1997, and will continue until the positions are filled. Women and minorities are encouraged to apply. The University of Akron is an equal education and employment institution.

UNIVERSITY OF CALIFORNIA, LOS ANGELES - DEPARTMENT OF MATHEMATICS - Temporary Positions - Subject to availability of resources and administrative approval: **(1) Three E.R. Hedrick Assistant Professorships.** Applicants must show very strong promise in research and teaching. Salary $42,900. Three year appointment. Teaching load: four quarter courses per year, which may include one advanced course in the candidate's field. Preference will be given to applications completed by January 6, 1997. **(2) One or two Research Assistant Professorships in Computational and Applied Mathematics.** Applicants must show very strong promise in research and teaching. Salary $42,900. One year appointment, probably renewable up to two times. Teaching load: at most four quarter courses per year, which may include one advanced course in the candidate's field. Preference will be given to applications completed by January 6, 1997. **(3) One Adjunct Assistant Professorship or Lectureship in the Program in Computing (PIC).** Applicants for the Adjunct position must show very strong promise in teaching and research in an area related to computing. Teaching load: four quarter programming courses and one more advanced quarter course per year, One-year appointment, probably renewable once. Salary $45,800. Applicants for the Lectureship must show very strong promise in the teaching of programming. An M.S. in Computer Science or equivalent degree is preferred. Teaching load: six quarter programming courses per year. One-year appointment, probably renewable one or more times, depending on the needs of the program. Salary is $38,904 or more, depending on experience. Preference will be given to applications completed by February 1. 1997. **(4) An Adjunct Assistant Professorship.** One year appointment, probably renewable once. Strong research and teaching background required. Salary $39,900-$41,800. Teaching load: five quarter courses per year. **(5) Possibly one or more positions for visitors.** To apply, send electronic mail to: **search@math.ucla.edu** or open **"http://www.math.ucla.edu/~search"** on the World Wide Web, or write to: **John B. Garnett, Chair, Department of Mathematics, University of California, Los Angeles, CA 90095-1555. Attn: Staff Search.** UCLA is an equal opportunity/affirmative action employer.

UNIVERSITY OF CALIFORNIA, SANTA CRUZ - MATHEMATICS DEPARTMENT - expects to have visiting positions, effective Fall 1997, subject to availability of future funding. We invite applications from qualified mathematicians in all fields. Appointees are expected to teach, pursue their research, and perform some department or university service. Positions available range from one quarter to the full academic year, with possible second year. Salary: $39,600. Qualifications: Ph.D. (or equivalent) in Mathematics. Demonstrated or potential for excellence in research and teaching. Deadline: January 31, 1997. Full consideration is only guaranteed to on-time applications. Applicants should send curriculum vitae, a summary of research and teaching experience and three letters of recommendation (at least one addressing teaching experience and ability) to: **Recruitment Committee, Mathematics Department, University of California, Santa Cruz, CA 95064.** Please refer to provision #T96-06. UCSC is an EEO/AA employer.

UNIVERSITY OF LOUISVILLE - DEPARTMENT OF MATHEMATICS - Applications are invited for a tenure-track assistant professor of Mathematics beginning July 1, 1997. Candidates must conduct research in an area compatible with present faculty interests. Preferred areas are applications of analysis to dynamical systems, differential equations and partial differential equations. Requirements include the potential for excellence in teaching undergraduate and graduate mathematical courses, an active research program and Ph.D. in Mathematics or Mathematical Sciences. Send an AMS Application Cover Sheet, curriculum vitae, description of current research and arrange for three letters of recommendation to be sent to: **Search Committee Chair, Department of Mathematics, University of Louisville, Louisville, KY 40292.** Application deadline is February 1, 1997. Additional information can be found on the Internet at http://www.louisville.edu/a-s/math/ or mail to: //math@homer.louisville.edu. African-Americans, women and other minorities are encouraged to apply.

UNIVERSITY OF MEMPHIS - DEPARTMENT OF MATHEMATICAL SCIENCES - Applications are invited for two anticipated tenure-track faculty positions for the 1997-98 academic year. The Department offers degrees at all levels, including the Ph.D., and provides a very favorable research environment in terms of library and computing facilities, teaching load, and travel opportunities. Desired specialty areas in computer science include software development and related areas, object-oriented languages and systems, distributed information systems, multimedia, and user interfaces. In statistics, the desired areas include spatial statistics, state space models, time series, applied stochastic processes, Bayesian analysis, statistical risk assessment, and analysis of correlated data. In mathematics, the desired areas include approximation theory, ergodic theory and dynamical systems, functional analysis, graph theory and combinatorics, operator theory, partial differential equations and applied analysis. Applicants must have a Ph.D. by September 1, 1997, and a strong potential for excellence in teaching and research. Applications for possible visiting positions are encouraged. Selection will begin on January 15, 1997. Applications will continue to be accepted until all positions are filled. Women and minorities are strongly urged to apply. Applicants should submit a resume and direct three letters of reference to: **Prof. Seok P. Wong, Chair-Faculty Recruiting, Department of Mathematical Sciences, The University of Memphis, Memphis, TN 38152. AA/EOE.**

APPLICATION DEADLINE FOR THE AWM WORKSHOP AT SIAM IS MARCH 1, 1997 **(SEE PAGE 7)**

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UNIVERSITY OF MINNESOTA - SCHOOL OF MATHEMATICS - Assistant Professor, Mathematics, 2-year Temporary Position - For recent Ph.D.'s especially interested in several areas of curriculum development and mathematics education in a major mathematics department. These areas include graduate training, undergraduate curriculum reform, distance education and programs for mathematically gifted secondary school students. This position will be a 9-month, non-tenure track appointment with the School of Mathematics, with a 2-year initial period, and renewable for up to two additional years. Work under the supervision of the Director of the Mathematics Special Projects Office with the University's Talented Youth Mathematics Program (UMTYMP), departmental initiatives, and developing various grants. Projected salary $33,000-$35,000 for the academic year September 1 - June 15 depending on qualifications. Summer appointments on externally funded projects may be available. Responsibilities: Teaching undergraduate and UMTYMP calculus component coursework. Work with the Director on undergraduate curriculum development, distance education and K-12, undergraduate and graduate programs and activities which are educationally innovative. Conduct research with the Director and senior staff leading to the publication of articles and materials related to these programs. Qualifications: Ph.D. degree in Mathematics, with extensive teaching experience at the undergraduate level required. Research and publication experience and involvement in educationally related programs, and mathematics research publications desirable. Experience with innovative educational programs for talented secondary school students or undergraduates (especially reformed calculus programs) desirable. Send curriculum vitae, 3 letters of recommendation (including at least one letter detailing teaching experience and educational involvement), and statements on both teaching educational and mathematical interest and background to: **Dr. Harvey B. Keynes, School of Mathematics, University of Minnesota, 206 Church Street S.E., 127 Vincent Hall, Minneapolis, MN 55455-0487.** Closing date for receipt of application is February 15, 1997. The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation.

UNIVERSITY OF MISSOURI, COLUMBIA - DEPARTMENT OF MATHEMATICS - Our department is now in the last stage of completing its enhancement program. In the last three years, we have successfully hired 11 outstanding young faculty members in competition with some of the best departments in the country. We have created several postdoctoral positions and several graduate fellowships. Salary increases for our department averaged between 6.5% to 9% during the last three years. To join this successful department, you are invited to apply for a **tenured or tenured-track position at the Associate Professor level** or to one of our **seven (7) postdoctoral positions** beginning August 1997. The Associate Professor position requires a Ph.D. in Mathematics, six to seven years experience after the Ph.D., quality teaching, and a distinguished research record in Algebraic Geometry/Number Theory. The postdoctoral positions will be in the three enhanced areas which include Modem Analysis/Harmonic Analysis, Algebra/Algebraic Geometry and Mathematical Physics for a period of one to three years. Applicants for the postdoctoral positions should have received their Ph.D. in 1995 or after. Send a curriculum vitae along with a letter of application, a completed AMS Standard Cover Sheet, and arrange for three letters of recommendation to be sent to: **Elias Saab, Chair, University of Missouri-Columbia, Department of Mathematics, Columbia, Missouri 65211.** The application deadline is January 31, 1997, or until the positions are filled thereafter. Applications after February 28, 1997, will not be guaranteed consideration. See also our ad for two assistant professors at the advanced assistant professor level by visiting our homepage at http://math.missouri.edu. For more information about our department, please read our recent newsletter at http://math.missouri.edu/~news/issue1/front.html. AA/EEO.

UNIVERSITY OF NEBRASKA, LINCOLN - DEPARTMENT OF MATHEMATICS AND STATISTICS - We invite applications for an Assistant Professor tenure-track position starting In Fall 1997. Candidates must have a Ph.D. in mathematics by August of 1997. Candidates must demonstrate evidence of excellent teaching ability and outstanding research potential in an area that complements existing areas of expertise in the department. Strong preference will be given to candidates with strengths in operator algebras/operator theory, although outstanding candidates in other areas may also be considered. Ability to contribute to the department's mathematics education activities is a plus. Send vita and three letters of recommendation to: **Modem Analysis Search Committee, Department of Mathematics and Statistics, University of Nebraska-Lincoln, Lincoln, NE 68588-0323**. The review of applications will begin February 1, 1997, and continue until suitable candidates are selected. Women and minority candidates are particularly encouraged to apply. The University of Nebraska is committed to a pluralistic campus community through Affirmative Action and Equal Opportunity, and is responsive to the needs of dual career couples. We assure reasonable accommodation under the Americans with Disabilities Act, please contact Mavis Hettenbaugh at 402-472-4395 for assistance.

UNIVERSITY OF NORTHERN IOWA - DEPARTMENT OF MATHEMATICS - Assistant Professor in Statistics - Applications are invited for a tenure-track assistant professorship starting August 1997. Teaching duties will include leadership and coordination of the multi-section general education statistics course. Applicants must possess a Ph.D. in Statistics, high potential for excellence in teaching and research, excellent communication skills, and familiarity with modern statistical computing. Demonstrated excellence in teaching and research will be preferred. Submit a letter of application, CV, transcripts, a statement of professional interests and goals; and arrange for three letters of reference to be sent directly to: **Professor Syed Kirmani, Chair, Statistics Search Committee, Department of Mathematics, University of Northern Iowa, Cedar Falls, IA 50614-0506,** kirmani@math.uni.edu. To be assured of full consideration, the completed application must be received by February 7, 1997. The University of Northern Iowa is an EOE with a comprehensive plan for affirmative action.

UNIVERSITY OF OKLAHOMA - DEPARTMENT OF MATHEMATICS - The Department invites applications for a tenure-track assistant professor position in Mathematics beginning August 1997; Candidates must have a Ph.D. or equivalent degree in mathematics and demonstrate potential for excellence in both research and teaching. Preference will be given to candidates whose research interests are compatible with existing faculty in the area of algebra, analysis/applied math, geometry and topology. Post-doctoral experience is desirable but not essential. Faculty members normally teach two classes each semester, do research, and contribute University and Department service appropriate to their experience. Salary will be commensurate with qualifications and experience. For full consideration send a completed AMS Cover Sheet, curriculum vitae, and a description of current and planned research; and, have three letters of recommendation, at least one of which discusses the candidate's teaching, sent by January 15, 1997. Applications will be considered until the position is filled. All correspondence should be directed to: **Search Committee, Department of Mathematics, University of Oklahoma, 601 Elm, Phsc 423, Norman, OK 73019-0315, USA.**. Telephone 1-405-325-6711; FAX: 1-405-325-7484; email: search@math.ou.edu. The University of Oklahoma is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply. The University of Oklahoma has a policy of being responsive to the needs of dual-career couples.

UNIVERSITY OF TEXAS AT AUSTIN - DEPARTMENT OF MATHEMATICS - Openings for Fall 1997 include a number of Instructorships, some of which have R.H. Bing Faculty Fellowships attached to them, and two or more positions at the tenure-track/tenure level. Instructorships at The University of Texas at Austin are postdoctoral appointments, renewable for two additional years. It is assumed that applicants for Instructorships will have completed all Ph.D. requirements by August 31, 1997. Other factors being equal, preference will be given to those whose doctorates were conferred in 1996 or 1997. Candidates should show superior research ability and have a strong commitment to teaching. Consideration will be given only to persons whose research interests have some overlap with those of the permanent faculty. Duties consist of teaching undergraduate or graduate courses and conducting independent research. The projected salary is $33,500 for the nine-month academic year. Each R.H. Bing Fellow holds an Instructorship in the Mathematics Department, with a teaching load of two courses in one semester and one course in the other. The combined [➔]

-more-

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[←] Instructorship-Fellowship stipend for nine months is $36,500, which is supplemented by a travel allowance of $1,000. Pending satisfactory performance of teaching duties, the Fellowship can be renewed for two additional years. Applicants must show outstanding promise in research. Bing Fellowship applicants will automatically be considered for other departmental openings at the post-doctoral level, so a separate application for such a position is unnecessary. An applicant for a tenure-track or tenured position must present a record of exceptional achievement in her or his research area and must demonstrate a proficiency at teaching. In addition to the duties indicated above for Instructors, such an appointment will typically entail the supervision of M.A. or Ph.D. students. The salary will be commensurate with the level at which the position is filled and the qualifications of the person who fills it. Those wishing to apply for any of the aforementioned positions are asked to send a vita and a brief research summary to: **University of Texas at Austin, Department of Mathematics, Austin, Texas 78712, c/o Recruiting Committee.** Transmission of the preceding items via e-mail (address: **recruit@math.utexas.edu)** is encouraged. Applications must be supported by three or more letters of recommendation, at least one of which speaks to the applicant's teaching credentials. The screening of applications will begin on December 1, 1996. The University of Texas at Austin is an equal opportunity employer.

UNIVERSITY OF WISCONSIN, SUPERIOR - DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE - Faculty Position in Mathematics - Applications are invited for a full-time tenure-track position in the Department of Mathematics and Computer Science at the University of Wisconsin-Superior starting in August 1997. The person filling this position will be expected to teach mathematics courses including probability and statistics (both calculus and non-calculus based), mathematical modeling, and operations research. Other responsibilities include student advising and service on university and department committees. A Ph.D. in mathematics or statistics is expected. Formal background in probability, statistics, mathematical modeling, operations research, or computer science is desirable. Excellence in teaching is required, and an active research program is expected. Send application letter, AMS Standard Cover Sheet, resume, and transcripts to: **David F. Beran, Statistics Search Coordinator, University of Wisconsin-Superior, Superior, WI 54880.** Also have three letters of recommendation (at least one of which must address teaching ability) sent to the same address. Deadline for applications is January 31, 1997. Women and minorities are encouraged to apply. The University of Wisconsin-Superior is an AA/EO employer/educator. We are required to provide a list of nominees and applicants if requested. A written request may exclude one from this list. Names of all finalists must be disclosed upon request.

UNIVERSITY OF WYOMING - DEPARTMENT OF MATHEMATICS - The Department of Mathematics invites applications for tenure-track Assistant Professorships in applied mathematics. We seek candidates with an earned doctorate, proven teaching ability, and strong research in areas of interest in the Department, including numerical analysis and the mathematics of porous-media flows, Applications received by January 15, 1997, will receive first consideration. For more information, visit our Web site, http://math.uwyo.edu/. The University of Wyoming is an equal opportunity employer, and we welcome applications from women and underrepresented minorities. Please send vitae, three letters of reference, and a statement of teaching qualifications to: **Myron B. Allen, Head, Department of Mathematics, University of Wyoming, Laramie, WY 82071, USA.**

WAKE FOREST UNIVERSITY - DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE - Applications are invited for a tenure track position in mathematics at the assistant professor level beginning August 1997. Duties include teaching mathematics at the undergraduate and graduate levels and continuing research. A Ph.D. is required. Only applicants whose research expertise is in topology or geometry will be considered. Women and minorities are encouraged to apply. The department has 24 members and offers a B.S. and M.A. in mathematics and a B.S. and M.S. in computer science. Send a letter of application and resume to: **Richard D. Carmichael, Chair, Department of Mathematics and Computer Science, Wake Forest University, P. 0. Box 7388, Winston-Salem, NC 27109-7388.** AA/EO Employer.

WARTBURG COLLEGE - DEPARTMENT OF MATHEMATICS, COMPUTER SCIENCE AND PHYSICS - Tenure-track assistant professor of mathematics beginning September 1997. Teach seven undergraduate courses per year. Seeking person with a doctorate in mathematics or related field with qualifications to teach applied mathematics courses. Teaching experience is preferred; must demonstrate interest in teaching and promise of teaching excellence. Qualifications to teach reform calculus or background and interest in teaching some physics, pre-engineering, or general education science courses will influence the hiring decision. Supportive of the mission of a liberal arts college of the Lutheran Church. As an affirmative action, equal opportunity institution, Wartburg College actively seeks applications from women and members of ethnic and minority groups. Review of applications begins January 27, 1997. Send letter of application addressing qualifications, resume, a statement of teaching philosophy, unofficial transcripts of undergraduate and graduate work, names and addresses of three references and at least one letters of recommendation addressing teaching qualifications to: **Lynn J. Olson, Chair, Mathematics, Computer Science and Physics Department, Wartburg College, 222 9th Street N.W., Waverly, IA 50677.**

WESLEYAN UNIVERSITY - DEPARTMENT OF MATHEMATICS - The Department of Mathematics invites applications for a two-year non-renewable visiting Assistant Professorship to begin in the Fall 1997. The teaching duties associated with this position will be two courses per semester. Applicants should have demonstrated excellence in teaching and should have a strong research record/potential, preferably in Algebra. Some post-doctoral experience preferred. Review of applications will begin January 31, 1997, and continue until the position is filled. Applications and letters of reference should be sent to: **Search Committee, Department of Mathematics, Wesleyan University, Middletown, CT 06459.** Wesleyan University is an equal opportunity/affirmative action employer.

WORCESTER POLYTECHNIC INSTITUTE - MATHEMATICAL SCIENCES DEPARTMENT - Department Head - Worcester Polytechnic Institute (WPI) is an innovative technological university of engineering, science, management, humanities, arts and social sciences with an enrollment of 2,600 undergraduate and 400 full-time graduate students, located in central Massachusetts. The WPI Mathematical Sciences Department, currently with 22 full-time faculty, provides undergraduate and graduate education through the doctoral level. Active areas of faculty research include applied mathematics, optimal control, stochastic processes, statistics, operations research, discrete mathematics, scientific computation and mathematics education. The department has an expanding industrial partnership projects program and has been in the national forefront in educational innovations. Its support facilities include state of the art research computers and networked workstation laboratories. For more information, see http://www.wpi.edu/Academics/Depts/Math/. WPI seeks a dynamic individual who can promote growth in the department's internationally recognized research program by personal participation and by attracting several outstanding faculty to fill anticipated openings. Applicants must have a strong international research reputation. The new department head will be expected to take a leadership role in educational innovation. He/she will have the opportunity to expand and develop new research activities, educational programs, and cooperation with industry. The beginning date for the appointment will be July 1, 1997. Nominations for and applications from persons holding a Ph.D. should be directed to: **The Mathematical Sciences Department Head Search Committee, Department AWM, Office of Human Resources, Worcester Polytechnic Institute, 100 Institute Road, Worcester, MA 01609-2280 or email human-resources@wpi.edu.** To enrich education through diversity, WPI is an affirmative action, equal opportunity employer.

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ASSOCIATION FOR WOMEN IN MATHEMATICS

1996/1997 MEMBERSHIP FORM

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

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

The AWM Newsletter is published six times a year and is part of your membership. Questions? (301) 405-7892, or awm@math.umd.edu

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

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DEGREES EARNED:

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J/F97

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AWM

Newsletter Volume 26, Number 6, November–December 1996

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