AWM

ASSOCIATION FOR WOMEN IN MATHEMATICS

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PRESIDENT'S REPORT

I am delighted to become the president of AWM at its 30th anniversary as we begin our fourth decade of working for the advancement of women in mathematics.

Once again AWM had an exciting program at the Joint Mathematics Meetings (see the article following my report for full details). The AWM reception featured an anniversary cake, the "Happy Birthday" song and lively jazz music. As a part of this celebration, Jean Taylor and I expressed our thanks to our members and to the various math organizations (AMS, MAA, SIAM, CBMS, and JPBM) for their continuing support. The panel discussion on "AWM and K–8 Education: What should we do" was very interesting and is detailed in Ginger Warfield's column in this issue. Immediately following the panel, we recognized the winner of the Alice T. Schafer Prize, Jaclyn Kohles Anderson, the University of Nebraska; the runners-up, Sami Assaf, University of Notre Dame and Suzanne Sindi, California State University, Fullerton; and the honorable mentions, Alice Chan, University of California, Berkeley and Crystal Hoyt, Texas A & M University.

Our Noether lecturer, Sun-Yung Alice Chang, Princeton University and the University of California, Los Angeles, gave an impressive lecture. We were pleased to present the Louise Hay Award for outstanding achievements in mathematics education to Patricia Shure, the University of Michigan. Patricia will be giving the AWM-MAA Lecture at the MAA Mathfest this August in Madison.

Our workshop in New Orleans was supported by the Air Force Office of Scientific Research, the National Science Foundation, and the Office of Naval Research. We are delighted to welcome AFOSR as one of our funding agencies. Thanks to Gail Ratcliff, Sue Geller and Jodie Novak for doing a great job in organizing a successful workshop.

IN THIS ISSUE

AWM
ASSOCIATION
FOR WOMEN IN
MATHEMATICS

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

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

Circulation: 4,000. © 2001, AWM

As president, I am interested in expanding AWM programs to include outreach to middle school students as well as to graduate students and postdocs in mathematics education. If you have any suggestions on how to achieve this, please contact me at lenhart@math.utk.edu.

Our SK High School Days Program is going strong. We appreciate the outstanding efforts of Genevieve Knight of Penn State University Harrisburg and Coppin State College and Sylvia Wiegand of the University of Nebraska in maintaining the strength of this program.

I would like to thank Jean Taylor for her extraordinary service to AWM as president. I would also like to thank Sue Geller of Texas A&M University for her service as clerk and welcome Renee Fister of Murray State University as our new clerk!

Volunteers built and supported AWM over these last 30 years, and I look forward to working with many volunteers over the next two years.

Suzanne Lenhart

Suzanne Lenhart
University of Tennessee
and Oak Ridge National
Laboratory
Knoxville, TN
January 25, 2001

AWM AT THE JOINT MEETINGS, NEW ORLEANS

Louise Hay Award for Contributions to Mathematics Education

In 1990, the Executive Committee of the Association for Women in Mathematics (AWM) established the annual Louise Hay Award for Contributions to Mathematics Education. The purpose of this award is to recognize outstanding achievements in any area of mathematics education, to be interpreted in the broadest possible sense. While Louise Hay was widely recognized for her contributions to mathematical logic and for her strong leadership as Head of the Department of Mathematics, Statistics, and Computer Science at the University of Illinois at Chicago, her devotion to students and her lifelong commitment to nurturing the talent of young women and men secure her reputation as a consummate educator. The annual presentation of this award is intended to highlight the importance of mathematics education and to evoke the memory of all that Hay exemplified as a teacher, scholar, administrator, and human being.

Citation: Patricia D. Shure

The AWM is pleased to present the eleventh annual Louise Hay Award to Patricia D. Shure because of her major contributions to the improvement of mathematics education, both locally at the University of Michigan in Ann Arbor as well as regionally and nationally.

Each fall term at the University of Michigan there are over 120 sections of the mainstream precalculus and calculus courses. With approximately 30 students enrolled in each section, this requires about 115 instructors, at least 50 of whom (graduate students, new assistant professors and visitors) are not familiar with Michigan's mathematics program. Pat Shure has developed a training program, called the Professional Development Program, which occupies the entire week before classes start and continues throughout the year. Some of the topics that are covered include cooperative learning, homework teams, interactive lecturing, and writing. During the first week, each new instructor gives a short lecture which is videotaped and then critiqued by a group of peers. During the semester, there are follow-up

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

Payment

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

Newsletter ad information

AWM will accept advertisements for the *Newsletter* for positions available, programs in any of the mathematical sciences, professional activities and opportunities of interest to the AWM membership and other appropriate subjects. The Director of Marketing, in consultation with the President and the Newsletter Editor when necessary, will determine whether a proposed ad is acceptable under these guidelines. *All institutions and programs advertising in the* Newsletter *must be Affirmative Action/Equal Opportunity designated.* Institutional members receive discounts on ads; see the AWM website for details. For non-members, the rate is $60 for a basic four-line ad. Additional lines are $6 each. See the AWM website for *Newsletter* display ad rates.

Newsletter deadlines

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

Addresses

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

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AWM DEADLINES

NSF-AWM Travel Grant: May 1 and October 1, 2001

AWM Workshop, January 2002: September 1, 2001

Alice T. Schafer Prize for Undergraduate Women: October 1, 2001

Louise Hay Award for Contributions to Mathematics Education: October 1, 2001

AWM CALENDAR

AWM Workshop, SIAM meetings, San Diego, July 8–10, 2001

AWM-MAA Lecture, Mathfest, Madison, August 2–4, 2001, Patricia D. Shure

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visits to the classrooms. The material that she has developed has been published by Wiley under the title of *The Michigan Calculus Program Instructor Training Materials* and has been instrumental in training new instructors not only in Michigan, but also at universities throughout this country and in Canada.

In 1982, Pat was hired by the University of Michigan as the Mathematics and Science Director of its Comprehensive Studies Program, a program whose main purpose was to support underrepresented minority students. She designed, directed, and taught in the special intensive classes which the program offered. She was also in charge of their pre-freshmen summer "bridge" programs. Since then she has been promoted to the position of regular lecturer in the mathematics department where she oversees the Introductory Program.

Throughout her career she has worked to attract young women into mathematics. In the early 1990s she was a co-investigator of a five-year Sloan Foundation project which sought to identify factors which influence women to do advanced work in mathematics and physics.

She has been involved in curriculum reform since the early 1960s. At the University of Michigan she was a co-investigator of a five-year NSF grant. The investigators designed and evaluated a series of instructional strategies to incorporate graphing calculators, writing, cooperative learning, and systematic testing of symbolic skills into first-year undergraduate mathematics courses.

Glenda Lappan, who is president of the National Council of Teachers of Mathematics, has known Pat for over twenty years. She writes:

> Pat has been a driving force in the calculus reform work at her university, the University of Michigan. She has always sought ways to improve teaching and learning at the undergraduate level. She has contributed greatly to the outstanding success of the Harvard Calculus at Michigan. She recognizes that curriculum materials alone will not bring about the desired student learning. Teaching that supports the goals of deeper understanding of fundamental concepts and procedures, as well as uses of the ideas, is as critical as the materials — if not more so. To this end, Pat has established a faculty and graduate student teacher training program to support the Harvard Calculus. All at Michigan who teach the course take Pat's training seminars. Imagine how much success we might have if more university professors were willing to give such time and energy to issues of teaching mathematics so that students learn!

Response from Patricia D. Shure

I am proud to have been chosen by the Association for Women in Mathematics to receive the Louise Hay Award for Contributions to Mathematics Education.

Patricia D. Shure

I am doubly proud to have been nominated by my colleagues. Over the years, I have worked closely with many talented people both in Ann Arbor and around the country, and I would like to thank them for their support, guidance, and companionship.

Because I came to the University from a background in elementary and high schools, I spent my early years listening to children explain their ideas, listening to fellow teachers talk about their teaching, and sharing my own teaching experiences with anyone who would listen. Those discussions could usually have been distilled down to a few questions. "What actually makes learning happen?" "What should we be teaching our students?" "How should a teacher act?" Today, I still hear the same questions from graduate students and postdocs, from Math Education researchers, and from our senior faculty.

Where should we turn for answers to our teaching questions? I would like to see us pursue a scholarship of collegiate teaching informed by the work of our colleagues in K–12 research. The search for answers is rewarding, and the answers can be surprising in their simplicity. At the University of Michigan, under a grant from the Sloan Foundation, we conducted one such study. We set out to look at the factors that influence women to persist in mathematics and physics. We canvassed the existing literature on women in schools and colleges and ran several studies on our own students. What we found was something that Louise Hay herself and the previous winners of this award also discovered as they taught. Our research indicated that the students who persist are those who: 1) value and enjoy mathematics and science, and 2) believe that they can succeed.

Our courses in Lie algebra and complex analysis would certainly look very different if each professor, guided by this research, tried to make you "like it" and "think you could do it."

In my work in mathematics education, I am indebted to a long stream of students and colleagues whose insightful questions continually forced me to reexamine my own ideas. Above all, I am grateful to my department. The Math Department at the University of Michigan is an exciting place — alive with work in many areas and at many levels. An atmosphere of inquiry drives this department; inquiry into mathematics itself, inquiry into the relationship of mathematics to our world, and, most importantly, inquiry into the learning and teaching of mathematics.

Emmy Noether Lecture

Alice Chang, Princeton University and the University of California, Los Angeles, delivered the 2001 Noether Lecture "Nonlinear equations in conformal geometry" on January 11, 2001.

Abstract

Elliptic equations have been and continue to be an important tool in the study of problems in geometry. In recent decades, non-linear second-order elliptic equations with critical exponents have played a special role in the solutions of several important problems in conformal geometry; e.g., the problem of prescribing Gaussian curvature and the Yamabe problem. In this talk, I will describe some recent efforts to extend the role played by second-order semilinear equations to higher-order semilinear equations as well as second-order fully non-linear equations. A common feature essential to understanding such equations is the analysis of blow-up in these equations. This analysis involves classifying entire solutions to such equations in Euclidean space. I plan to discuss examples of blow-up phenomena in several such situations.

Biographical Information

Sun-Yung Alice Chang was born in Cian, China. Her

Sun-Yung Alice Chang

family moved to Taiwan shortly after the Chinese revolution, and she grew up in Taiwan. She received her B.A. from the National Taiwan University in 1970 and attended graduate school at the University of California, Berkeley, where she wrote her Ph.D. thesis in 1974 under the supervision of Donald Sarason. Since then she has held many temporary/visiting positions at various universities, including the State University of New York at Buffalo; the University of California, Los Angeles; the University of Maryland, College Park; Institute for Advanced Study; Princeton University; and Mittag-Leffler Institute, Sweden. She settled down at UCLA in 1980 as an associate professor. She was promoted to full professor there in 1982 and has remained there except in 1989 when she was Professor at UC Berkeley. Since 1998, she has also been Professor at Princeton University.

In her thesis, Chang worked on problems in classical analysis, in particular the study of the boundary behavior of bounded analytic functions on the unit disc. Since then her research interest has gradually shifted to problems in real harmonic analysis, then to the spectral theory of the Laplacian, and further to problems in geometric analysis, using PDE methods to study problems in differential geometry. She is currently interested in the conformal geometry of a class of four-manifolds. She is developing new techniques involving higher-order partial differential equations to understand the conformal structures in four dimensions.

Chang was awarded an Alfred P. Sloan Fellowship in 1979 and a Guggenheim Foundation Fellowship in 1999. She served as Vice-President of the American Mathematical Society (AMS) from 1989 to 1991 and was awarded the AMS Ruth Lyttle Satter Prize for outstanding contributions to mathematics research by a woman in 1995. She gave invited AMS hour addresses at the Joint Mathematics Meetings in 1991 (Louisville, KY) and in 2000 (Washington, DC). She was an invited speaker at the International Congress of Mathematics in 1986 (Berkeley, CA).

Chang is a firm believer that, given a suitable environment in which to develop, women and men are equally talented in mathematics. In her undergraduate class at Taiwan, there were 12 women in a class of 40 mathematics majors. Partially due to the enriching interaction among the classmates, several went on to become successful mathematicians.

Chang has one daughter and one son. Her husband, Paul Yang, is also a mathematician and a long-term scientific collaborator of Chang. In her spare time, she enjoys reading novels, taking walks and listening to music.

Alice T. Schafer Prize for Excellence in Mathematics by an Undergraduate Woman

In 1990, the Executive Committee of AWM established the annual Alice T. Schafer Prize for excellence in mathematics by an undergraduate woman. The prize is named for former AWM president and one of its founding members, Alice T. Schafer (Professor Emerita, Wellesley College), who has contributed a great deal to women in mathematics throughout her career. The criteria for selection include, but are not limited to, the quality of the nominees' performance in mathematics courses and special programs, an exhibition of real interest in mathematics, the ability to do independent work, and, if applicable, performance in mathematical competitions.

AWM is pleased to present the Eleventh Annual Alice T. Schafer Prize to an outstanding young woman mathematician: Jaclyn Kohles Anderson of the University of Nebraska at Lincoln.

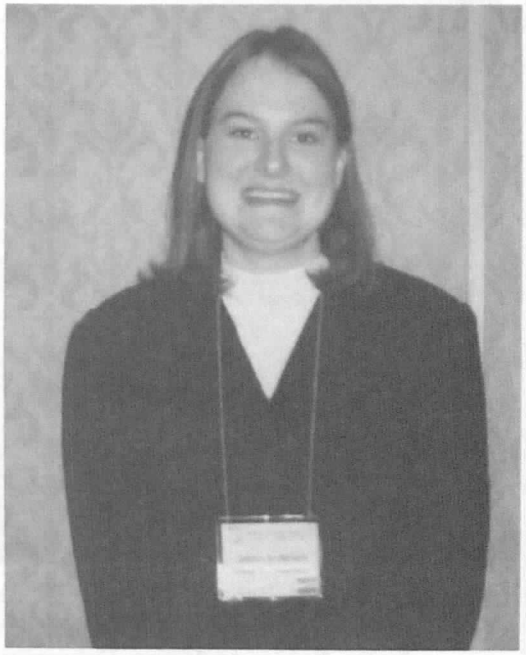
Citation: Jaclyn Kohles Anderson

Jaclyn Kohles Anderson is a senior mathematics major at the University of Nebraska at Lincoln (UNL).

During her senior year of high school she placed first out of almost 1,200 students in the UNL Math Day competition. The summer after her freshman year she participated in the Carleton/St. Olaf Colleges Summer Mathematics Program for Women Undergraduates, and during her sophomore year she participated in the Mathematics Advanced Study Semesters (MASS) program at Pennsylvania State University during the fall semester and the Budapest Semesters in Mathematics program in the spring. Her work in the MASS program led to a paper entitled "Partitions which are simultaneously t1- and t2-core," which has been submitted to the journal *Discrete Mathematics*, and which her MASS mentor describes as "a very fine result in combinatorics."

Jaclyn has recently completed an NSF-sponsored Research Experience for Undergraduates (REU) in the representation theory of commutative local rings, and her advisor expects that her paper "Use of Gröbner bases in integer programming" will eventually be published. He describes it as "a remarkable piece of work."

In addition to her research, Jaclyn has taken many graduate-level courses and served as a teaching assistant for UNL's honors calculus courses. Last year she received an honorable mention for the Schafer Prize. According to her professors, her work "far surpassed that of the rest of the students," including the graduate students. They describe her as "the most talented undergraduate I have encountered in my 33 years of college teaching" and "a bona fide star" with "impressive talent, drive and enthusiasm for mathematics." They agree that she "will be much sought-after by graduate schools across the country."



Jaclyn Kohles Anderson

Response from Jaclyn Kohles Anderson

I am extremely honored that the Association for Women in Mathematics (AWM) has awarded me the Alice T. Schafer Prize. This award recognizes the achievements of women at the start of their mathematics careers and thereby supports their future mathematical endeavors. Many of my accomplishments would not have been possible without the support of the mathematics faculty at the University of Nebraska-Lincoln. I would like to thank Drs. Jim Lewis and Gordon Woodward who have encouraged me from day one. I would also like to thank Drs. Roger Wiegand, Sylvia Wiegand, and David Logan who said wonderful things about me in their nomination. These professors and the rest of the UNL mathematics faculty have made my undergraduate experience something far beyond what I could ever have imagined as a freshman. Finally, I would like to thank everyone involved in the Carleton/St. Olaf Summer Program, the Penn State MASS program, and the Budapest Semesters in Mathematics; you have all positively influenced my mathematics career.

Runners-up

Sami Assaf is a senior mathematics and philosophy major at the University of Notre Dame. One recommender says she "is the 'best' undergraduate student that I have ever taught." Her results from the Williams College REU program, on the Hermite problem in number theory, will be part of a research paper. She has written many expository papers on advanced undergraduate material, including one which won Notre Dame's Taliaferro Competition in the History of Mathematics. She is currently taking four graduate mathematics courses and is expected to be "courted by many of the nation's best graduate mathematics programs later this academic year."

Response from Ms. Assaf: It is a great honor for me

Jean Taylor, Rutgers University (President); **Suzanne S. Sindi,** California State University, Fullerton (runner-up); **Alice Chan,** University of California at Berkeley (honorable mention); **Jaclyn Kohles Anderson,** University of Nebraska at Lincoln (winner); **Crystal Hoyt**, Texas A&M University (honorable mention); **Sami Assaf**, University of Notre Dame (runner-up); **Suzanne Lenhart**, University of Tennessee and Oak Ridge National Laboratory (AWM President-Elect)

to be recognized as a runner-up for the Alice T. Schafer Prize for undergraduate women in mathematics. I would like to thank the Association for Women in Mathematics for establishing this prize and for recognizing me among the outstanding women mathematicians who have received this honor. I would also like to thank Dr. Peter Cholak for first recognizing and nurturing my ability in mathematics and for clearing the way for me to develop my ability, Dr. Frank Connolly for his encouragement and support both as a teacher and as a mentor, and also Sean Borman without whose encouragement I would not have become a math major.

Suzanne S. Sindi is a senior mathematics major and President's Scholar at California State University, Fullerton. She has excelled academically, both in her coursework and in two substantial research projects. Her results from the Cornell University REU program on a model of chromosome size evolution have been submitted for publication; her research at Cal State Fullerton on bifurcation for one-parameter families of scalar maps has already been published. In addition, Suzanne has won numerous awards, including Honorable Mention in the Mathematical Modeling Competition. Her nominations speak of her "exceptionally strong mathematical ability and professional promise."

Response from Suzanne S. Sindi: I feel greatly honored to have been named as a runner-up for the Alice T. Schafer Prize by the Association for Women in Mathematics. I would like to express my gratitude to the wonderful mathematics department at Cal State Fullerton and to Mario Martelli, Stephen Goode, Ernie Solheid and Richard Durrett for their support. These professors have inspired me tremendously. I would also like to thank my family and those involved with the Cornell REU program.

Honorable Mention

Alice Chan is a senior who is a double major in mathematics and computer science at the University of California, Berkeley. One recommender writes "I consider Alice to be one of the strongest two or three students I have ever had." Her nominations also speak of her "lively interest in mathematics" and her "mature and wide-ranging intellectual curiosity." Alice has presented her research on Konane ("Hawaian checkers") at an MSRI workshop on Combinatorial Games and submitted

it for publication. Her results are now "the strongest known on one-dimensional Konane." In addition to her research accomplishments, Alice has excelled in her coursework at Berkeley and is currently taking a graduate course, Introduction to Topology & Analysis.

Response from Alice Chan: I would like to thank the Association for Women in Mathematics for honoring me. It is a most welcome surprise and I cannot fully express my gratitude. I would also like to thank Professors Keith Miller, Charles Pugh, Richard Borcherds, Tom Hadfield and especially Elwyn Berlekamp for their help and encouragement.

Crystal Hoyt is a senior mathematics major at Texas A&M University. She studied representations of solvable Lie super-algebras as part of a REU program at Texas A&M and then in a graduate course; her results were of publishable quality. She is currently taking two graduate courses, in Algebra and Combinatorics. When the department discussed the Schafer Prize, "five different faculty members ... independently suggested Crystal as a potential nominee."

Response from Crystal Hoyt: I want to thank the Association for Women in Mathematics for this honor. I would like to thank the faculty of the Texas A&M Mathematics Department for their dedication to the education of their students, and especially Professor Jon McCammond for guiding and inspiring me.

AWM Workshop Featuring Graduate Students and Recent Ph.D.'s

The organizers were Gail Ratcliff, University of Missouri, St. Louis; Sue Geller, Texas A&M University; and Jodie D. Novak, University of Northern Colorado.

Research talks by recent women Ph.D.'s were:

Katrina Barron, University of California, Santa Cruz
"Factorization of Formal Exponentials and Uniformization"

Maria Basterra, University of Illinois at Urbana-Champaign
"The Witten Genus and Equivariant Elliptic Cohomology"

Jennifer E. Beineke, Trinity College, Hartford
"Hidden Symmetries for a Renormalized Integral of Eisenstein Series"

Christine E. Heitsch, University of British Columbia
"Computational Complexity of Generalized Pattern Matching"

Diane Maclagan, Institute for Advanced Study
"The Baues Problem and the Toric Hilbert Scheme"

Gretchen L. Matthews, University of Tennessee, Knoxville
"Gap Sets and Error-correcting Codes"

Irina Mitrea, Institute for Advanced Study
"Spectral Properties of Elliptic Layer Potentials on Non-Smooth domains"

Amy N. Myers, University of Pennsylvania
"Counting Permutations by Their Rigid Patterns"

Posters presented by the graduate students were:

Joni E. Baker, University of Wisconsin, Madison
"Weak $P_{\kappa+}$ -points in $u(\kappa)$"

Kristine Baxter, University of Illinois at Urbana-Champaign
"Goodwillie Calculus Towers of Functors of Hopf Algebra Type"

Mireille Boutin, University of Minnesota
"Moving Frames and Cartesian Lie Group Actions"

Kirsten J. Boyd, Stanford University
"Wavelet Homogenization Methods for Partial Differential Equations"

Dorothy Buck, University of Texas at Austin
"The Geometry of DNA and DNA-Protein Interactions"

Emma Carberry, Princeton University
"Harmonic Tori: An Algebro-Geometric Perspective"

Leah H. Gold, Cornell University
"A Bound on the Multiplicity for Codimension Two Lattice Ideals"

Melinda Evrithiki Koelling, University of Michigan, Ann Arbor
"Dynamics of Non-Abelian Toda-like Flows"

Aurelia Minut, Michigan State University
"L^p Estimates for Maxwell's Equations in Stratified Media"

Kathryn Nyman, Cornell University
"Incidence Numbers for Line and Pseudo-line Arrangements"

Dana P. Rowland, Stanford University
"Bott Periodic Phenomona in Holomorphic K-theory"

Victoria A. Sapko, University of Nebraska, Lincoln
"Questions on and Uses of Local Cohomology"

Małgorzata Stawiska, Northwestern University
"Hyperbolic Sets for Holomorphic Endomorphisms of $\mathbf{P}^k$"

Csilla Tamás, Purdue University
"Analytic Rigidity of K-Trivial Contractions in Dimension Three"

Kimberly Tysdal, Wesleyan University
"Dependent Edges in Acyclic Orientations of Graphs"

Lia Vas, University of Maryland, College Park
"A Note about Ext Functors of Group Von Neumann Algebras"

The panel discussion "Launching a Career in Mathematics" was moderated by Jodie Novak, University of Northern Colorado. The panelists were Carolyn S. Gordon, Dartmouth College; Tasha R. Inniss, Trinity College, Washington DC; Tamara G. Kolda, Sandia National Labs, Livermore, CA; and Lisa Mantini, Oklahoma State University.

AMS Prizes

Ruth Lyttle Satter Prize in Mathematics

The Satter Prize was established in 1990 using funds donated by Joan S. Birman in memory of her sister, Ruth Lyttle Satter, to honor Satter's commitment to research and to encourage women in science. The prize is awarded every two years to recognize an outstanding contribution to mathematics research by a woman in the previous five years. The 2001 Prize was shared by two outstanding women mathematicians. Their citations follow.

The Ruth Lyttle Satter Prize in Mathematics is awarded to Karen E. Smith of the University of Michigan for her outstanding work in commutative algebra, which has established her as a world leader in the study of tight closure, an important tool in a subject introduced by Hochster and Huneke. It is also awarded for her more recent work which builds new bridges between commutative algebra and algebraic geometry via the concept of tight closure. In particular, the prize is awarded for her papers (1) "Tight closure of parameter ideals," *Inventiones mathematicae*, 115 (1994), 41–60, (2) "F-rational rings have rational singularities," *American Journal of Mathematics*, 119 (1997), 159–180, and (3) (with Gennady Lyubeznik) "Weak and strong F-regularity are equivalent in graded rings," *American Journal of Mathematics*, 121 (1999), 1279–1290.

The Ruth Lyttle Satter Prize in Mathematics is awarded to Sijue Wu for her work on a long-standing problem in water wave equations, in particular for the results in her papers (1) "Well-posedness in Sobolev spaces of the full water wave problem in 2-D," *Inventiones mathematicae*, 130 (1997), pp. 39–72, and (2) "Well-posedness in Sobolev spaces of the full water wave problem in 3-D," *Journal of the AMS*, 12 No. 2 (1999), pp. 445–495. By applying tools from harmonic analysis (singular integrals and Clifford algebra), she proves that the Taylor sign condition always holds and that there exists a unique solution to the water wave equations for a finite time interval when the initial wave profile is a Jordan surface.

MAA Prizes

Deborah and Franklin Tepper Haimo Awards for Distinguished College or University Teaching of Mathematics

In 1991, the Mathematical Association of America instituted Awards for Distinguished College or University Teaching of Mathematics in order to honor teachers who have been widely recognized as extraordinarily successful and whose teaching effectiveness has been shown to have had influence beyond their own institutions. In 1993, the MAA Board of Governors renamed the award to honor Deborah and Franklin Tepper Haimo; Deborah was President of the MAA in 1991–1992. Evelyn Silvia received one of two 2001 Haimo Awards.

Evelyn Silvia is the consummate teacher whose hallmarks are complete dedication to the education of her students, the ability to make difficult concepts comprehensible, great energy, and personal qualities of integrity, helpfulness, and caring. Professor Silvia's students consistently give her outstanding evaluations, citing her enjoyment of mathematics, her excitement about teaching, her commitment to learning, and her genuine concern for them. They agree that she is not an easy teacher but one from whom they can learn much.

Professor Silvia is active in teaching at all levels from grade school to graduate school. In the public schools she has taught, without compensation, fifth grade special mathematics, supplemental mathematics to 9–11 year old deaf children as well as Pre-Algebra, Algebra 1, and Geometry. At the University of California Davis she has successfully taught a wide variety of subjects. Her students especially appreciate the extra materials that she prepares for them. These include self-help handouts and packets of supplementary notes. In particular, she has written a series of popular companion notes for courses where students find the textbook difficult. They are called "Working Excursions" and cover Introduction to Abstract Mathematics, Advanced Calculus, and Complex Variables.

As another aid to learning, Professor Silvia has her students keep journals in which they note points of confusion with the mathematics and aspects of the course they like or dislike. She spends a good deal of time responding to the questions and comments in their journal entries.

She has served as a mentor in an NSF-sponsored program "Minority Undergraduate Research Participation in the Physical and Mathematical Sciences" where minority students engage in research on a one-to-one basis with a faculty member.

Professor Silvia promotes good teaching at all levels. It is clear from unsolicited testimonials that she is a role model for numerous high school teachers as well as university faculty. From 1994 to 1999 she was Principal Investigator for the Northern California Mathematics Project, whose mission is to improve the quality of mathematics teaching in the schools through professional development programs. This work followed the primary authorship of *Handbook for Planning an Effective Mathematics Program* contracted with the California State Department of Education. In her department at UC Davis, she has played a major role in helping graduate students and new faculty with their teaching.

Professor Silvia's extraordinary success in teaching does not come at the expense of research. She is a well-respected researcher in functions of one complex variable. In view of Evelyn Silvia's remarkable dedication to teaching and great success in all of its aspects, it is fitting to honor her with a Deborah and Franklin Tepper Haimo Award for Distinguished College or University Teaching of Mathematics.

Chauvenet Prize

The Chauvenet Prize for expository writing, first awarded in 1925 to Gilbert Bliss of the University of Chicago, is given for an outstanding expository article on a mathematical topic by a member of the Association. The prize is named for William Chauvenet, a professor of mathematics at the United States Naval Academy. It was established through a gift in 1925 from J. L. Coolidge, then MAA President. This year the prize was awarded to Carolyn S. Gordon and David L. Webb for their article "You can't hear the shape of a drum," *American Scientist* 84 (1996), 46–55, (January–February).

In this article, Carolyn Gordon and David Webb describe work they carried out jointly with Scott Wolpert in response to a question raised by Mark Kac in a 1966 *Monthly* article entitled "Can one hear the shape of a drum?" which won him the Chauvenet Prize in 1968. The problem posed by Kac is a prototype of many arising in spectral theory.

Though it does not set out all the technical details of the Gordon-Webb-Wolpert construction, this expository article gives insight into how it works. The underlying ingenious idea is to use group-theoretic reasoning to construct a pair of isospectral plane polygons that are not geometrically congruent, thereby answering Kac's question in the negative. These plane regions can be thought of as two drumheads of different (and rather peculiar) shape that have the same vibration frequencies.

The article is exciting, its mathematical content understandable by anyone with a minimal knowledge of differential equations, group theory, and linear algebra; and it contains a great deal of historical information concerning what can be inferred about vibrating systems from their frequencies. Although one cannot hear the shape of a drumhead, one can hear other properties such as its area, as was proved by Hermann Weyl early in the last century.

Certificate of Meritorious Service

The Certificates of Meritorious Service are presented for service to the MAA at the national level or for service to a Section of the Association. The first such awards were made in 1984. At each January meeting of the Association, honorees from roughly six sections are recognized.

The Southwestern Section of the Mathematical Association of America is pleased to nominate Dr. Joanne Peeples for the Certificate of Meritorious Service. Dr. Peeples received her B.S. and M.S. degrees in mathematics from Wichita State University and a Ph.D. in mathematics from New Mexico State University. She has been a faculty member at El Paso Community College since 1989.

Dr. Peeples has contributed more to the operation of the Southwestern Section during the past decade than any other person. She served six years as Secretary-Treasurer (1991–1997) and three years as Governor (1997–2000). As Secretary-Treasurer, she was instrumental in the organization of annual section meetings, providing guidance to new section chairs and helping with logistics and general arrangements. Since 1991, she has chaired or served on every selection committee for the section Award for Distinguished Teaching of Mathematics.

In other regional activities, Dr. Peeples serves on the board of NMMATYC, the New Mexico affiliate of AMATYC. She is the NMMATYC delegate to AMATYC and is a member of the Teachers of Teachers Committee. She also contributed to the development of the El Paso Standards and is now helping to revise a glossary of mathematical terms in Spanish.

At the national level, in addition to her role as section governor, Dr. Peeples helped organize a session on preservice preparation of elementary teachers at the 1999 Joint Mathematics Meetings. She is also a reviewer for *The Mathematics Teacher*.

She has truly provided distinguished service to the mathematics community. We are proud to award the Certificate of Meritorious Service to Dr. Joanne Peeples.

AMS, MAA, and SIAM Prize

Frank and Brennie Morgan Prize for Outstanding Research in Mathematics by an Undergraduate Student

The Frank and Brennie Morgan Prize stands to recognize mathematical research by undergraduate students. Undergraduates are working on problems of current research interest, proving theorems, writing up results for publication, and giving talks on their work. There is undergraduate research today at the highest standards of professional excellence. The prize was endowed by Mrs. Frank Morgan and also carries the name of her late husband. The Prize was won this year by Jacob Lurie for his paper "On simply laced Lie algebras and their miniscule representations"; he is currently a first-year graduate student at Princeton University.

The members of the 2000 Morgan Prize committee are pleased to award Wai Ling Yee with an Honorable Mention. Ms. Yee's application focused on her extension of the theory developed by D. Ragozin on the properties of the convolution on compact Lie groups of continuous measures that are invariant under conjugations (central measures). Ragozin showed that a convolution product of sufficiently many such measures yields an absolutely continuous measure. Ms. Yee improved the result, showing that an absolutely continuous measure can be made to have an L^2 density function, and she gave sharp estimates for the minimum number of factors required, depending on the particular group. Her work was based on precise pointwise estimates on the characters of the groups, which in itself is an important contribution.

Ms. Yee is a student at the University of Waterloo, and her work is the result of a summer research program with her advisor. As part of her research program she first had to familiarize herself with and understand the basic theory of Lie algebras and representation theory. Not only was she able to master the necessary material but was able to simplify an earlier result of her advisor as well as extend those results to all classical Lie algebras. Ms. Yee's joint work with Kathryn Hare, her advisor, and David Wilson has been accepted for publication in the *Journal of the Australian Mathematics Society*, and a second paper on their work has been submitted to *Studia Mathematica.*

The 2000 Morgan Prize committee recognizes that Wai Ling Yee is not only an outstanding undergraduate student but has also contributed to the profession. It is our great pleasure to name Ms. Yee as this year's Honorable Mention.

Note: See the Prize Brochure at www.ams.org for biographical information and responses from the awardees of the AMS and MAA prizes reported on above.

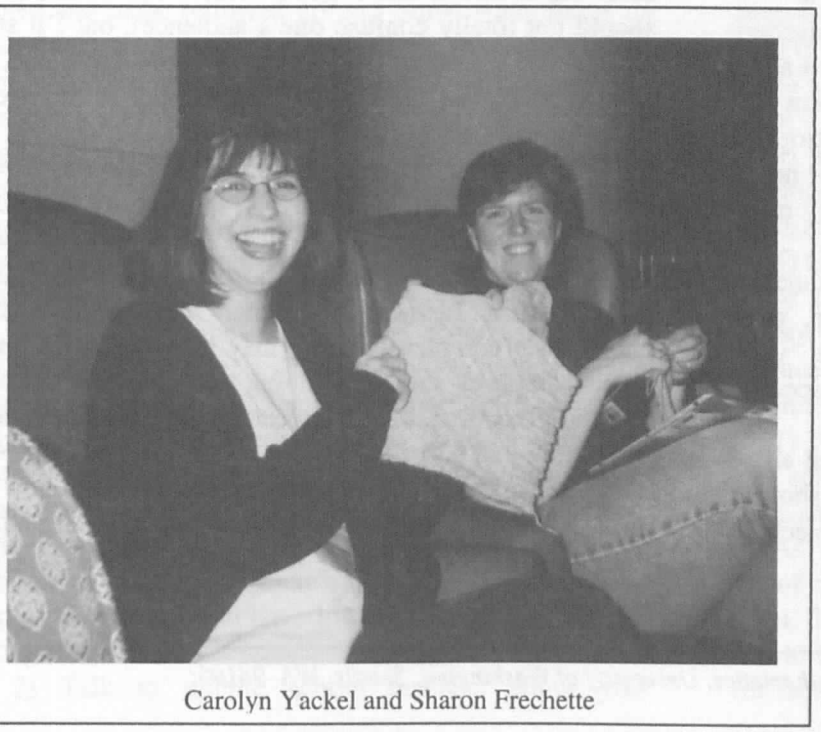
MAA Session on Outreach Programs for Women and Girls

The presentations described below by Renee Fister, our new Clerk, were delivered at the MAA Session on Outreach Programs for Women and Girls.

Hope McIlwain described the program at Mercer University (www.mercer.edu/camps/message) for fifth and sixth grade girls selected from the surrounding area. The purpose of this program is to encourage young women to be successful in mathematics and science as well as to connect them to successful science women.

With a community action grant from the American Association for University Women, a grant from the American Honda Foundation, and assistance from the Mercer Center for Community Development, they coordinated a program for 24 campers from Title One schools. Also they had six high school mentors from the schools into which the elementary schools feed; four of the seven college mentors from mathematics, biology, pre-pharmacy and other sciences were women. The two-week program lasted from 9 A.M. to 5 P.M. each day. They investigated tangrams and tessellations, color analysis, consumer mathematics, fraction bingo, women in math and science via the internet, and much more! The students and mentors went on field trips to a medical lab, Hitchiti National Forest, and an OB-GYN's office. At the end of the program, they presented science projects. This developed their communication and comprehension skills.

Bonnie Oppenheimer discussed the MAA Tensor Foundation Mississippi University for Women Math Camp 2000 for eighth grade girls. This program was widely publicized to every public school in Mississippi and to nearby private schools. The first twenty girls who applied were selected, and then a waiting list was created. For this week-long program, the girls were divided into two groups of 10 (they named their groups Tigerettes and Hott Girlz). Of the twenty campers, three were Caucasian, one Indian, and 16 African-American. They had a busy schedule each day with algebra skills, Maple activities, field trips to the engineering center with virtual reality displays, games/puzzles of the day, and a concert on the green. They have, as did Mercer, a program to follow up with the girls through the mentors during the succeeding school year as well as pre- and post- tests to determine if this experience has changed the girl's attitudes toward math and science.



Carolyn Yackel and Sharon Frechette

Joint Meetings Knitting Circle

This year at the Joint Meetings in New Orleans sarah-marie belcastro (University of Northern Iowa) and Carolyn Yackel (University of Indiana) organized a "knitting circle" as a means for craft oriented mathematicians to gather and network. Sharon Frechette (College of the Holy Cross), Leah Gold (Cornell University), Joyce Macabea (Boston University) and sarah-marie belcastro knitted, Melinda Koelling (University of Michigan), Carolyn Yackel, and Mary Shepherd (SUNY Potsdam) crocheted, Diane Herrmann (University of Chicago) did counted cross stitch, Cathy Hayes tatted, and Catherine Miller (Northern Iowa) beaded. The attendees exchanged techniques, mathematical observations about their crafts, patterns, and compliments. Two of us were working on mathematical objects, in fact: Mary was crocheting a hyperbolic plane using Daina Taimina's pattern (which appears on pp. 49–51 of David Henderson's *Experiencing Geometry*) and showed us how to calculate the curvature by examining the stitches, while sarah-marie was knitting a striped Klein bottle. We were also visited by Tamara Veenstra (crochet; Northern Iowa), Tom Hull (origami; Merrimack College), and Daniel Isaksen (Notre Dame University), who studies knitting but doesn't actually know how to knit. Carolyn and sarah-marie plan to have such gatherings at future meetings, so be sure to bring your projects when you go!

EDUCATION COLUMN

AWM and K–12

This month's column is simultaneously a report, a challenge and an offer, all in one bundle. All have their origins in a single event, the AWM panel discussion at the New Orleans Joint Mathematics Meetings, entitled "AWM and K–8 Education: What should we do?" The event itself had its origins in a more general collection of questions which are very much in the AWM consciousness: How can we support the future of mathematics and of mathematicians, especially women mathematicians? What can we do to encourage bright young folks to become mathematicians? What are areas that need help of a kind we are able to supply? What are some ways in which to invest our energy that will genuinely be of benefit?

This particular panel was assembled and moderated by Suzanne Lenhart, who progressed from president-elect to president of AWM a couple of weeks after it occurred. A bare bones account of the session goes as follows:

Shirley Malcom, of the AAAS, set the scene by observing that mathematical education is a civil rights issue and pointing out the obstacles that students, especially but by no means exclusively women and minority students, must overcome in order to participate in it.

I followed, propounding my view that K–8 teachers have more influence and face more challenges than all of the rest of us, and that while attempts to "fix them up" are both wrong-headed and guaranteed catastrophic, efforts to support them by finding out where their needs are and trying to meet those needs are absolutely mandatory.

Erica Voolich, a seventh-grade teacher and winner of a presidential award for excellence in teaching, gave depth and reality to my views by supplying the "view from the trenches" and by making some very specific suggestions of things to do (and not to do.)

Judy Roitman of the University of Kansas tied all of our messages together and reaffirmed them, then showed us the way to find mathematics problems and projects to use in following some of Erica's suggestions.

Afterwards the last three of us (Shirley having, alas, zoomed back to DC) met with our moderator. We also succeeded in nabbing one member of the Education Committee. Together the five of us came up with a scheme which we hope will encourage lots of you to follow up on the suggestions. Be warned; this is the opening salvo of said scheme!

I'll start by filling in a bit on the panel comments. Shirley first presented a highly upbeat image: that of the three African-American young women who simultaneously completed their doctorates last year at the University of Maryland. She paused to celebrate them and their achievement, then stepped back to broaden the view out to how bleak the situation is around them. One of the factors contributing to their unambiguously magnificent accomplishment is what they had to struggle through in order to achieve it. And that struggle may be theirs especially, but it is certainly not theirs alone. Studies from all sides point up how many bright young people are turned away from the field by a whole battery of factors. The factors affect everyone, but disproportionately they affect women and minorities. Women and minorities, observes Shirley, are like the canaries on the shoulders of miners. The canary keeling over carries definite implications with regard to the health of the miner.

I followed with content largely abstracted from a talk I once gave entitled "Who's looking after the twig-benders?" As a title it left a good deal to be desired (one should not totally confuse one's audience), but I'll still hold to the message. One of my favorite aphorisms is Alexander Pope's "Just as the twig is bent so the tree's inclined," and there is no question that the bending of the little twigs of mathematical minds occurs way down in the early grades. That heavy responsibility therefore rests on the shoulders of the teachers in those grades. With this weight in mind I chose my verb carefully: looking after. Elementary teachers have a huge and enormously complex job. We may have strong feelings about what they should be doing with one part of their job, but given that there is no earthly way we can understand how that part fits into the rest of their job, there is no sense whatever to our attempting to tell them how to do it. What does make sense is for us to be interested in what they are doing mathematically (which is easy —

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Virginia M. Warfield, Senior Lecturer, University of Washington; **Judith Roitman**, Professor, Mathematics, University of Kansas; **Shirley Malcom**, Head, AAAS Directorate for Education and Human Resources Programs; **Jean E. Taylor**, Professor, Mathematics, Rutgers University; **Erica Voolich**, seventh grade teacher, Solomon Schechter Day School, Newton, Massachusetts

it's absolutely fascinating when you get into it) and to listen with every faculty available for ways to support and sustain them.

Next came Erica, with some good nuts-and-bolts ideas. Some were for the AWM as an organization (duly noted and to be followed up on.) Some were things for individual mathematicians to refrain from doing, and reinforced my intended message: don't walk in and tell a teacher what to do. The rest were for how an individual mathematician can become involved in ways that will both be helpful to the teacher and provide an opportunity for the mathematician to find out more. Those I will now present almost straight from her notes, which she was kind enough to let me copy:

1) Volunteer time at your local school. You might tutor on a regular basis or offer a twice weekly mathematics enrichment class so the classroom teacher can have more time to work with the children who need extra help. You could mentor a child who has a talent that needs nurturing, resources and guidance. One of Erica's students got so deeply into polyhedra that he wound up writing to Coxeter (who sent a wonderful reply) — Erica would have loved some support for him along the way.

2) Talk to middle school teachers about your specialty in mathematics and volunteer to come as a guest speaker when the class is studying a topic you are expert on. She gave some examples from her class that would be hard acts to follow (the grandmother who drives an 18-wheeler, for instance), but others one could imagine emulating (the college professor who showed how to analyze an Escher drawing for symmetry).

3) Offer an after-school or lunch-time mathematics club.

4) Provide monthly family math problem-solving questions for the school newsletter. Correct the submissions and publish the names and solutions.

5) Organize monthly family mathematics nights.

6) Organize a day at your university for middle school girls to see what is happening in mathematics and science. One of the mothers in Erica's school organized an annual day at MIT which is very popular.

7) Work with teachers to offer a family project day. Her school had one last year building toothpick structures and this year building hot air balloons.

As you can see, she provided a nice comprehensive set of suggestions, with a variety of levels of commitment. The only thing that still might be a bit daunting would be the finding of problems of an appropriate level for those newsletters, mathematics clubs and the like —

and right on cue, Judy Roitman produced a list of ways to find them on the internet (already photocopied, no less). I'll finish with that list, but first mention a few of the warnings Judy sounded. I should point out, though, that she prefaced her warnings with a firm disclaimer to the effect that these views are her own, and not necessarily those of the AWM or anyone else.

1) Avoid political involvement. Attempting to solve educational problems through politics leads directly into a quagmire.

2) Avoid conversations with people with an agenda. She had a wonderful list of loaded questions to duck, of which two that stand out in my mind were "Do you think the word 'exploration' should appear in a set of mathematical standards?" and "Do you think that rote memorization is an appropriate activity for a mathematics classroom?"

3) Avoid — and here she used a word which Erica was too polite and I too wimpy to use — arrogance. Our own advanced level of mathematical education does not imply an advanced level of understanding of the process of teaching and learning mathematics. Unfortunately what it does carry with it is an automatic danger of being assumed arrogant. We need not only to have but to project a genuine humility in dealing with the areas which are not within our expertise.

Enough of the negative. At the end of this column is Judy's list, with her commentary. Before I get to it, though, I want to produce the promised challenge and offer:

The Challenge: Between now and the end of the school year, I challenge you to follow up on one (any one) of Erica's suggestions.

By way of encouraging other people to do likewise, I would like to report further on such efforts. On the other hand, I don't want to overload the challenge by adding extra tasks to it, so we have

The Offer: If you do carry out any of them, just drop me a brief email note that you have done so (warfield@math.washington.edu) and I will phone you and get your report, so that you don't have to write up a thing.

For that matter, the same offer holds if you are already doing something, even without our inspiration. I think it would help for people to know what other people are doing.

To finish on a high, keen note, here's Judy's list:

Some interesting Web sites in K–12

http://mathforum.com/

The offspring of the estimable and visionary Gene Klotz, this is the first place to look for anything in mathematics or in mathematics education. It is a good place to get a sense of the landscape in K–12.

http://mathforum.com/mathed/mime/index.html

Sponsored by the Math Forum, this is a site meant to inspire you by stories of other mathematicians involved in K–12. Some of the projects on this site should be cross-referenced elsewhere in the Math Forum but aren't easily found, for example, the Kovalevsky Days program of the AWM, EDC's Making Mathematics project, Expanding Your Horizons, and the Bay Area math circles. New material is always welcome; speak to me if you're interested in putting something on this site.

http://mathforum.com/pow/

This is the Math Forum's Problem of the Week site. Your local schools' math clubs should know about it (and probably do — teachers are pretty savvy about using the Web).

http://mathforum.com/pow/other.html

There are lots of problem sites. This is a fairly comprehensive (but, as you will see below, far from complete) list. Be warned that the sites are uneven; while some of them are wonderful (I'm quite partial to Aunty Math myself) some of them are not.

http://mathforum.com/students/

Another Math Forum site with resources to encourage students.

http://www.edc.org/LTT/PROMYS/

This is the site for the PROMYS program, a wonderful program bringing high school students and high school teachers together for intense mathematics workshops. A project of EDC.

http://www2.edc.org/makingmath/

Another EDC project, a combination of problem site and mentoring (think of it as an electronic Gelfand correspondence school). They are looking for mentors. A great way to be involved in K–12.

http://www.gunn.palo-alto.ca.us/bamo/

This is the main site for the Bay Area math circles.

AWM ACTIVITIES, FEBRUARY 1999 – JANUARY 2001

Back in July 1998, after I had several months of experience being President-elect, the then-President, Sylvia Wiegand, and I corresponded about priorities and goals for AWM. Here is an excerpt from a message I sent her: "My first priority [will be] for the AWM to be sure its finances, office staff and governing procedures are in good order. We need to ensure continued grant support for the many things we do well. Then I'd like to see the AWM grow both in financial resources and adventurousness. In particular, I'd like to see the AWM become a more active source of information and projects concerning all women in mathematics, including women in industry and girls in school.''

I believe AWM has made major strides over the past two years "to be sure its finances, office staff and governing procedures are in good order.'' AWM *has* become a more active source of information concerning all women in mathematics, via its web page; it has sponsored several conferences featuring women in industry. With regard to girls, it was decided at the end of last year to proceed with plans to make a career video for girls about women in mathematics, and the current AWM President-elect, Suzanne Lenhart (who will be President by the time this is published), plans to make significant additional efforts of outreach to girls in school. Financial resources have not significantly grown, but it was decided at the recent AWM Executive Committee meeting that AWM will mount a fund-raising drive this year.

Here is a list of what AWM has done over the past two years: Activities within meetings of other societies: AWM held its usual (by now!) activities at each Joint Math Meeting: EC meeting, panel, business meeting, dinner for Noether Lecturer, and reception on Wednesday; Noether Lecture and Joint Prize session (at which AWM awards its Alice T. Schafer Prize Louise Hay Award) on Thursday; Workshop dinner on Friday; and Workshop on Saturday. In 1999, AWM additionally organized one session of the four MER-AMS-MAA sessions on education and an AMS-AWM-SIAM Special Session. At the SIAM annual meetings and at the International Congress of Industrial and Applied Mathematics (held in Edinburgh in July 1999), AWM Workshops were also held. At each MAA-sponsored Mathfest in August, AWM organized a joint AWM-MAA lecture and a reception. In August 2000, AWM sponsored an additional lecture and reception at the AMS-sponsored meeting "Mathematical Challenges of the Twenty-first Century." Finally, AWM sponsored five AWM Scholars at the Annual Meeting of the American Association for the Advancement of Science in February 2000.

AWM directly sponsored two conferences, the Olga Taussky Todd Celebration of Careers in Mathematics for Women (at Mathematical Sciences Research Institute, July 16–18, 1999) and the career workshop "Connecting Women in Mathematical Sciences to Industry" at the Institute for Mathematics and its Applications in September 2000, organized jointly with the IMA (which now has a Liaison Committee with AWM). AWM continued to operate two major grants programs, the AWM-NSF Travel Grants and the Sonia Kovalevsky Days for high school girls. The travel grants program was expanded to include mentoring travel grants.

AWM initiated the following additional ongoing activities: It set up and developed a permanent web site www.awm-math.org (prior to this, the web site had changed location and content with each president, residing as a subdirectory of her personal directory), with extensive and ever-expanding content, including online job ads. It began an online forum and continued the offline email network AWM-Net. It began the work of creating an AWM mentor network. AWM joined the Combined Membership List, www.ams.org/cml. Some efforts did not work out: an attempt to resuscitate the Speakers Bureau, and the organization of an AWM booth at Science on the Mall event proposed by AAAS (which died due to insufficient funding).

And, for the past two as well as the previous 28 years, the AWM *Newsletter* was published regularly, every two months.

As President, I represented AWM in various ways: as a member of Conference Board of the Mathematical Sciences; as a member of the Board of IMO 2001, Inc.; as a speaker at the AWIS luncheon of the Arctic Science Conference, The College of New Jersey during their Women in Science Month in March 2000, a national

Jean E. Taylor, AWM President (as of January 27, 2001 when this is being written)

meeting of chairs of math departments, the 5th Pan African Congress of Mathematicians 2000, and the retirement lunch for Hope Daly (reading a wonderful citation written by Sue Geller); on an NCTM panel on mathematics competitions; at Mary Wheeler's talk on Capitol Hill; at the Beijing Plus 5 meeting at the United Nations in New York; as an early reader of the play *Proof* and then a member of a panel in a symposium about the play at the Courant Institute; at the Congressional Visits Day; in discussions with various reporters; through email responses to dozens of messages from schoolchildren; through writing letters or bringing letters to the EC for endorsement on issues ranging from congressional support of the NSF budget to the software which came with the (now defunct) Barbie computer.

Internally to AWM, I appointed a new Clerk, Sue Geller (the previous Clerk Jenny Baglivo is now our resident agent in Massachusetts); Sue is now resigning for health reasons and being replaced by Renee Fister. Upon my request, the Clerk drafted guidelines for various committees, which were endorsed by the EC this past January. I appointed a bylaws revision committee; various of its proposals were adopted by the EC, and the business meeting in January 2000 agreed to have them appear on the ballot in November 2001. I appointed a task force for corporate support; its recommendations were accepted by the EC in January 2000 (including establishing corporate membership categories and beginning online job ads). I appointed a long-range planning committee, which came up with a number of proposals.

There was an expansion of the AWM office staff. Dawn Wheeler continues as Director of Membership, Meetings, and Marketing. Doug Farquhar left in June 2000, and Roya Jaseb was promoted to the position of Program and Grant Administrator; Muriel Daley was hired part-time as our Accountant. The AWM staff is completed by a part-time student who helps Dawn and a part-time employee who posts job ads online.

AWM was enabled to do all of the activities listed above through the financial support of many organizations: AFOSR, AMS, Coppin State University, ExxonMobil Foundation, IMA, MAA, Microsoft Research Corporation, MSRI, NIST Mathematics and Computational Sciences Division, NSA, NSF, ONR, SIAM and the University of Maryland. Equally essential were the efforts of all the unsung heroes who labor on the various selection committees, program committees,

NSF-AWM TRAVEL GRANTS FOR WOMEN

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

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

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

Target dates. There are three award periods per year. An applicant should send *five* copies of 1) a cover letter, including the conference name, conference dates and conference location (city/state/country), 2) a description of her current research and of how the proposed travel would benefit her research program, 3) her curriculum vitae, 4) a budget for the proposed travel, and 5) information about all other sources of travel funding available to the applicant to: Travel Grant Selection Committee, Association for Women in Mathematics, 4114 Computer & Space Sciences Building, University of Maryland, College Park, MD 20742-2461. If you have questions, contact AWM by phone (301-405-7892) or email (awm@math.umd.edu). Applications via email or fax will not be accepted. The next deadlines for receipt of applications are **May 1** and October 1, **2001**.

joint committees with other societies, other AWM committees, and web site volunteers.

They include: Susan Addington, Dawn Leigh Anderson, Jenny Baglivo, Leticia Barchini, sarah-marie belcastro, Syliva Bozeman, Susanne Brenner, Lynne Butler, Bettye Anne Case, Rosemary Chang, Jennifer Chayes, Fan Chung, Jeanne Clelland, Amy Cohen, Pam Cook, David Dobson, Teresa Edwards, Etta Falconer, Joan Feigenbaum, Joan Ferrini-Mundi, Doris Fischer-Colbrie, Naomi Fisher, K. Renee Fister, Sharon M. Frechette, Sue Geller, Glenda Lappan, Carolyn Gordon, Sigal Gottlieb, Mary Gray, Judy Green, Yvonne Greenleaf, Cheryl Grood, Deborah Tepper Haimo, Victoria Hamilton, Diane Herrmann, Pao Hsu, Deborah Hughes-Hallett, Svetlana Katok, Linda Keen, Paula Kemp, Cathy Kessel, Barbara Lee Keyfitz, Ellen Kirkman, Denise Kirschner, Genevieve M. Knight, Tamara Kolda, Rachel Kuske, Carol Lacampagne, V. Lakshmibai, Glenda Lappan, Anne Leggett, Suzanne Lenhart, Barbara Tongue Ling, Dawn A. Lott, Dusa McDuff, Joyce R. McLaughlin, Jill Mesirov, Cathleen Morawetz, Helen Moore, Jodie Novak, Hilary Ockendon, Dianne O'Leary, Ruth Pfeiffer, Eileen Poiani, Anna Rappaport, Gail Ratcliff, Catherine Roberts, Judy Roitman, Linda Rothschild, Jean E. Rubin, M. Beth Ruskai, Paula Russo, Cora Sadosky, Elsa Schaefer, Alice T. Schafer, Tara Smith, Christina Sormani, Janet C. Talvacchia, Chuu-Lian Terng, Abigail Thompson, Lesley Ward, Virginia Warfield, Sylvia Weigand, Tilla Weinstein, Ruth Williams, Carol Wood and Margaret Wright.

Enormous thanks to all of the above.

IN MEMORIAM

Neal H. McCoy, Professor Emeritus of Smith College, died on January 4, 2001, in Northampton, MA, at the age of 95. He was born in 1905 in Oklahoma Territory, received his Ph.D. from the University of Iowa, spent two years on a fellowship at Princeton University, and then began his 39 years of teaching and writing at Smith College. He was a consummate teacher and a pioneer in introducing advanced and abstract mathematics to his students through his teaching and his prolific writing. His books on algebra (e.g., *Algebra: Groups, Rings, and Other Topics*) were some of the first written for undergraduates. These books including those on number theory and ring theory (e.g., *Rings and Ideals*, Carus Mathematical Monographs, No 8), underwent numerous revisions and extensions; the latest version of *Introduction to Modern Algebra*, rewritten with G. J. Janusz, is still in print. He was also a distinguished research mathematician, working in ring theory; the "M radical" was named for his discoveries. He declined opportunities to teach in a university setting, preferring to teach several generations of Smith women, many of whom have gone on to careers in mathematics research, teaching, and applications. A conference this spring, a Conference in Celebration of Smith College Alumnae Mathematicians (April 21–22), will bring together many of his students; for more information, see the AWM *Newsletter*, January–February 2001, p. 29, or www.cs.ubc.ca/~egethner/announcement.html.

We, his students, colleagues, and readers of his books, have benefited immensely from his life and work, and many of us attempt to blend his insightful and clear logic, his love of the beauty of mathematics, and his sensitive pedagogical skills into own work and teaching — he has been and continues to be an inspiration to us. He was ever the true gentleman, as a teacher, a friend, and as a gracefully aging senior citizen. His wife, Ardis, and son, Paul, died before him, and he is survived by his older sister, Dorothy McCoy, also a mathematician, of Plainview, Texas.

Joan P. Hutchinson, Professor of Mathematics and Computer Science, Macalester College, hutchinson@macalester.edu

KOREAN MATH MEETING

In conjunction with its annual meeting this year, the Korean Mathematical Society held a conference on "Mathematics in the New Millennium" and invited a number of foreign speakers. At the time that I was invited, I asked if an informal chat with women mathematicians could be arranged. To my surprise, I learned a few weeks before the meeting that a one-hour session

Carolyn Gordon, Dartmouth College

entitled "Women's Panel Discussion" had been included in the meeting's program. The moderator, Professor Kyung-Hwa Kim, Dean of the College of Natural Sciences in Ewha Womans University, suggested that I talk for a few minutes and then answer questions posed by a panel of women. They were interested in learning about the AWM and in exploring whether a similar organization would be helpful in Korea. The panelists asked many thoughtful questions concerning the AWM programs, methods of obtaining funding, the effectiveness of the AWM in combating discrimination, etc. As someone who has enjoyed the tremendous impact of the AWM without having been involved in its initial courageous founding, I felt excited and humbled to discuss the AWM with a group of energetic, enthusiastic, and thoughtful women whose efforts could similarly impact women mathematicians in Korea. I was also quite impressed with the support given by the Korean Mathematical Society both in arranging the panel and in publishing the text of the discussion in their newsletter afterwards.

Through informal discussions with several women before and after the panel discussion, I learned a little about what it's like being a female mathematician in Korea. Women are entering undergraduate mathematics programs in large numbers. Moreover, a substantial percentage are continuing into graduate school. At the major universities, the percentage of women among the graduate students is perhaps a little under 30%. I was told of one graduate program in which roughly 80% of the students were women. The high percentage of women in graduate school was explained to me as due to a decrease in the number of men entering mathematics in a difficult economic climate. Nonetheless, I find it impressive that so many women are continuing to this level.

Unfortunately, the numbers drop dramatically at the level of faculty. Women have a difficult time obtaining faculty positions, especially at the strongest universities. Currently, there are two women mathematicians on the faculty of Seoul National University. Approximately 15% of the members of the Korean Mathematical Society are women.

My overall impression was that women in Korea face more open discrimination in obtaining academic positions than women here in the U.S. There were some encouraging signs, however, including of course the fact that the Korean Mathematical Society was so supportive of the panel discussion. The Korea Science and Engineering Foundation has recently introduced special research grants for women. While the number of such grants is very small, it is a positive step.

On a personal note, I was deeply touched by the warmth and generosity of the many mathematicians, female and male, that I met in Korea.

IMO 2001

The International Mathematics Olympiad will be held July 1–14, 2001, in Washington, DC. This prestigious event will bring to the USA 500 of the most talented mathematicians of high school age from more than 80 countries. The American mathematics community will use this opportunity to promote the importance of mathematics for all students and to celebrate the accomplishments of our best and brightest students.

IMO 2001, including the outreach and research activities, will be under the supervision of a non-profit corporation, IMO 2001 USA, Inc., formed by twenty-one different professional associations in mathematics and related fields. This coming together of many different interests within the mathematical sciences and their applications is itself remarkable. The member organizations, whose Presidents or Executive Officers serve on the Board of Directors, are: American Mathematical Association of Two-Year Colleges, American Mathematical Society, American Statistical Association, Association for Symbolic Logic, Association for Women in Mathematics, Association of State Supervisors of Mathematics, Benjamin Banneker Association, Casualty Actuarial Society, Conference Board of the Mathematical Sciences, Consortium for Mathematics and its Applications, Institute for Operations Research and Management Sciences, Institute of Mathematical Statistics, Mathematical Association of America, Mu Alpha Theta, National Alliance of State Science and Mathematics Coalitions, National Association of Mathematicians, National Council of Supervisors of Mathematics, National Council of Teachers of Mathematics, Pi Mu Epsilon, Society for Industrial and Applied Mathematics, and the Society of Actuaries.

For further information see imo2001.usa.unl.edu.

WOMEN BECOMING MATHEMATICIANS

Women Becoming Mathematicians: Creating a Professional Identity in Post-World War II America is a wonderful book by our very own Book Review Editor, Margaret A. M. Murray, that was published in the fall by The MIT Press. The jacket blurbs say it all:

> By making vivid the constraints facing the women mathematicians coming of age in the 1940s and 1950s, Murray enhances our understanding of the legacy of the discriminatory structure under which they worked. *Mary W. Gray, Department of Mathematics and Statistics, American University*

> This book is not only an insightful and useful study of women in mathematics — it is a page-turner. As thirty-six women mathematicians come alive in these pages, Margaret A. M. Murray destroys the myth of the cloistered mathematical life and implicitly challenges us to find a new mythology that works for the next century. I couldn't put it down. *Howard Georgi, Mallinckrodt Professor of Physics, Harvard University, and Former Co-chair, Committee on Women in Science and Engineering, National Research Council*

> A sophisticated, scholarly, and readable study — this is without a doubt the best book yet written on American women mathematicians. It is a "must read" for women (and men) of the mathematical community, as well as for specialists in history of science, sociology of the professions, and women's studies. *Ann Hibner Koblitz, Women's Studies Program, Arizona State University*

A review of this book written by Norean Radke Sharp, to appear soon in the *Journal of Women and Minorities in Science and Engineering*, will be reprinted in the next issue of this newsletter. In the meanwhile, I'm going to tell you a little about a recent broadcast on National Public Radio.

Kojo Nnamdi is the host of the nationally syndicated talk show Public Interest, which is produced at WAMU 88.5 FM, the radio station of American University, Washington, DC. The two-hour program airs on WAMU from noon till 2 p.m. each weekday, and the second hour is distributed to more than 40 public radio stations across the county by National Public Radio; NPR Worldwide distributes the program internationally.

Anne Leggett, Newsletter Editor

On November 2, 2000, the second hour of the show was called Women in Mathematics. The theme on the website was described thusly: a look at the two hundred women who earned Ph.D.'s in mathematics from 1940 to 1959, and the complex changes in our society during that era affecting their career development and identities as mathematicians. The guests were Margaret Murray, author, Associate Professor of Mathematics at Virginia Polytechnic Institute and Cora Sadosky, past president of AWM and Professor of Mathematics at Howard University. Evelyn Boyd Granville, Professor Emerita, California State University, Los Angeles, residing in Texas, made a brief appearance via telephone.

The host had clearly read the book beforehand — this is NPR, after all! — and asked a series of articulate questions. The audience was also invited to ask questions, via either an 800-number or email.

His first question was *why* did the production of women Ph.D.'s in mathematics reach an all-time low in the post-WWII period. Marge explained that although Rosie the Riveter had helped win the war, afterward there was backlash. Academic programs that had been very open to women, to keep up the numbers of students, were suddenly awash with male students attending college under the G.I. bill. As math became a more high-status career option, the numbers of men pursuing math soared, while the numbers of women remained fairly flat. In answer to a later question about institutional barriers faced by women, Marge mentioned that many women were fired during the Depression, especially when they married. Anti-nepotism rules were instituted, ostensibly to prevent conflicts of interest, but in fact making it much more difficult for married women mathematicians to find academic jobs, as so many of them were married to mathematicians or other academics.

When Marge and Cora were asked about their personal experiences, Marge said she felt that Title IX, signed by Richard Nixon in 1972, which established gender equity as a requirement for institutions to receive federal funding, was tremendously important. Including more women in fields in which they were underrepresented became a stated commitment on the part of universities, no matter what the privately held opinions of some of the male faculty may have been. Cora remarked

that as a mathematician she was a child of Sputnik, another great force for encouraging US development in science and technology, rather than a child of Title IX. In answer to another question, Cora gave a little info on AWM and our programs.

But I don't need to summarize the entire show for you: you can listen to it for yourself in RealAudio! Visit www.wamu.org/pi/shows.

Women Becoming Mathematicians is $29.95 hardbound. You can find it in bookstores or order directly from MIT Press: 800-356-0343; mitpress-orders@mit.edu; mitpress.mit.edu.

UNIVERSITIES ISSUE STATEMENT ON EQUITY FOR WOMEN FACULTY

Presidents, chancellors, provosts and 25 women professors of nine top research universities met all day January 29, 2001 at MIT in an unprecedented dialogue on equitable treatment of women faculty in science and engineering. The meeting was sponsored by the Ford Foundation, which has funded MIT's Gender Equity Project in recognition of the leadership of MIT women faculty and Dr. Vest, who publicly acknowledged gender bias within universities, as described by MIT women scientists in the 1999 report, "Study on the Status of Women Faculty in Science at MIT."

President Vest and MIT Professors Nancy Hopkins, Lotte Bailyn and Lorna Gibson were the hosts of the Presidents Workshop on Gender Equity in Academic Science and Engineering. Provost Robert A. Brown, Dean of Engineering Thomas K. Magnanti, Dean of Science Robert J. Silbey and Professor of Physics Lisa Randall also participated in the workshop.

The workshop agenda was built around four questions: 1) What are the issues in your institutions and the successful or unsuccessful strategies you have pursued? 2) What are the systemic causes of the problems we face? 3) What new actions could each institution take? 4) What might we do collectively?

press release, MIT

Dr. Shirley Malcom, director of the Association for the Advancement of Science Education and Human Resources Programs, started the meeting with a discussion of "Stories and Statistics."

"Clearly you need both," Dr. Vest commented. "Data has to go together with individual women's experiences. Sometimes that's not easy for people to hear, and sometimes that's not believed the first time around. [At a future meeting] we will gather again to report what further things we have learned, and collectively assess 'best practices.' "

Presidents David Baltimore of the California Institute of Technology, Charles Vest of MIT, Lee Bollinger of the University of Michigan, Harold Shapiro of Princeton University, John Hennessy of Stanford University and Richard Levin of Yale University; Chancellor Robert Berdahl of the University of California at Berkeley; and Provosts Harvey Fineberg of Harvard University (representing President Neil Rudenstine) and Robert Barchi of the University of Pennsylvania (representing President Judith Rodin) unanimously approved this statement:

> Institutions of higher education have an obligation, both for themselves and for the nation, to fully develop and utilize all the creative talent available. We recognize that barriers still exist to the full participation of women in science and engineering. To address this issue, we have agreed to work within our institutions toward:
>
> 1. A faculty whose diversity reflects that of the students we educate. This goal will be pursued in part by monitoring data and sharing results annually.
>
> 2. Equity for, and full participation by, women faculty. This goal will be pursued in part by periodic analysis of data concerning compensation and the distribution of resources to faculty. Senior women faculty should be significantly involved in this analysis.
>
> 3. A profession and institutions in which individuals with family responsibilities are not disadvantaged.
>
> We recognize that this challenge will require significant review of, and potentially significant change in, the procedures within each university, and the scientific and engineering establishment as a whole.

We will reconvene to share the specific initiatives we have undertaken to achieve these objectives.

Women professors at the meeting were delighted and startled at the unanimous agreement. "I think it's extraordinary that all these people came together and agreed there was a problem," said Dr. Barbara Grosz, the Gordon McKay Professor of Computer Science at Harvard. "All these people agreed that barriers exist. They agreed that the issue wasn't simple numbers, but a whole complexity of factors. I think MIT did a fabulous thing by having this meeting."

Professor Hopkins, who initiated the study which resulted in senior women science professors getting greater recognition, equity increases in compensation and more lab space, said, "The fact that this topic was discussed today by these participants was almost a historic event, not just another meeting. I thought it was a milestone that never could happen in my lifetime."

"The women who write these reports tell the same story over and over again. When an individual person tries to raise this issue, people don't hear them. Each woman [who faces marginalization] is trapped alone, living in a state of suspended misery. There have been hundreds of reports just like MIT's, collecting dust. When the president says 'it's true,' then it's true.

"Since the study came out in 1999, we now have equity committees in all five schools at MIT, analyzing primary data. It's a different world for women here now," said Dr. Hopkins, who is the Amgen Inc. Professor of Molecular Biology.

In an interview after the workshop, Dr. Vest said that in years past, "there were those of us who idealistically thought that if we built the undergraduate base [of female students], it was going to define the future" in terms of women moving up the academic ladder to professorships. "But you can see that is really not happening," he said.

Howard Georgi, the Mallinckrodt Professor of Physics at Harvard, said the problems were similar everywhere. "Problems at Harvard are different, but no less severe. The marginalization is there, but the ways in which [it] manifests itself is different."

Looking towards the next meeting in about a year, Professor Georgi said, "If we reach agreement on this problem here, it will have an enormous impact everywhere in the country."

BE A PART OF THE AWM MENTOR NETWORK!

The goal of the new AWM Mentor Network is to match mentors with girls and women who are interested in mathematics and/or are pursuing careers in mathematics. The network is intended to link mentors with a variety of groups: recent Ph.D's, grad students, undergrads, high school and grade school students, and teachers. Matching is based on common interests in careers in academics or industry, math education, balance of career and family, or general mathematical interests. These topics will also be part of the new Mentor Forum on the AWM Forum Website.

Request a mentor: Do you need some advice as you pursue your mathematical studies or career? Do you have questions for someone who has experience and expertise as a mathematician? Then request to be matched with a mentor from the AWM Mentor Network!

Be a mentor: Volunteer to mentor someone in their pursuit of their mathematical interests. As a mentor you don't have to have all of the answers, but you can help to make the connection to someone or someplace that does!

Contact: Professor Rachel Kuske, School of Math/University of Minnesota, 127 Vincent Hall, 206 Church St. SE, Minneapolis, MN 55455; phone: (612) 624-5541; fax: (612) 624-2333; email: rachel@math.umn.edu.

NWHP RESOURCE CATALOG

The theme for National Women's History Month, March 2001, is Celebrating Women of Courage and Vision. This theme emphasizes the joy in recognizing women's accomplishments. We hope to provide a beacon of inspiration for future generations.

This year's poster, also available printed on mug or totebag, is available in the latest catalog from the National Women's History Project, online at www.nwhp.org. There are many great items, including some in the areas of science/math and diversity.

SONIA KOVALEVSKY HIGH SCHOOL MATHEMATICS DAYS

The Sonia Kovalevsky High School Mathematics Days below were funded by a grant awarded to AWM by Coppin State University, Microsoft Corporation, and the National Security Agency. Hearty thanks to all the funding agencies!

Cleveland State University

The Sixth Greater Cleveland Sonia Kovalevsky High School Mathematics Day was held on Saturday, October 7, 2000 under the sponsorship of the Association for Women in Mathematics, the National Security Agency, Cleveland State University Office of Minority Affairs and Community Relations, Cleveland State University College of Arts and Sciences and the Mathematics Department.

Our recruiting efforts to attract students and teachers to the event started in May 2000. At the end of May, 76 high school principals in the Greater Cleveland area received a letter informing them about the event. In the first week of September, 90 letters were sent to high school teachers and/or high school principals. In this second mailing, there was detailed information about speakers, panelists, presenters, registration, contacts, the CSU Sonia Kovalevsky Website (www.csuohio.edu/math/Sonia.htm) and parking. Two weeks later, the organizing committee telephoned teachers and math coordinators at each high school in the area. Upon request, information was faxed to eleven teachers. In addition, members of the College of Education hand-distributed about thirty packages with information about the event to high school teachers.

Despite these focused recruiting efforts by the organizing committee, the event was attended by only 28 students (four boys and 24 girls) and eight teachers from six schools in five different cities. The schools ranged from parochial to suburban to inner-city. The attendance this year was more modest in part due to extreme bad weather on the morning of October 7. The fact that a sizable number of principals (we estimate it to be around 60%) did not pass the information on to their faculty also contributed to the low level of attendance. According to registration prior to the event and teacher response to our phone calls, we were expecting 60 students and 12 teachers to attend the event.

Ieda W. Rodrigues, Cleveland State University

The day's activities began with a warm welcome by Professor Laura Martin, Associate Dean of Arts and Sciences and Professor of Anthropology and Spanish. Her opening remarks centered on the mathematics of the Mayan civilization. She also made several remarks about her career choices and the advantages of a strong background in science in high school. This was followed by a short talk by Pratibha Ghatage giving a biographical sketch of Sonia Kovalevsky's life. Next, students went to their first mathematical application 50-minute session. The following topics were covered in the four concurrent sessions: statistics in the news, icosahedrons and other platonic solids, taking things apart and putting things together, and creating Web pages and using java. According to student evaluations, all activities were well received. After the first mathematical activities session the participants were divided into two groups for a panel discussion of math-related careers. Women who had achieved success as aerospace engineers, computer scientists, architects, pediatricians, educators and professional mathematicians staffed the panels.

The students and teachers also participated in a second mathematical application activity. The following topics were covered: statistics in the news, the man who made parallel lines meet, icosahedrons and other platonic solids, and design of a bioartificial pancreas.

We had scheduled a special session on the use of cooperative learning for teachers, but this was cancelled. All teachers met briefly in the designated room; most of them wanted to be with their students in the first session of hands-on mathematical activities. Two of the teachers used the time to share classroom experiences, and another wanted to talk to members of the organizing committee. Audrey Schneider, a dedicated teacher of mathematics at James Ford Rhodes High School, an inner city Cleveland school, proposed that Cleveland State University be the host of a mathematical competition event involving students in the Cleveland Municipal District. The competition will be held in the spring of 2001. Ieda Rodriques and Audrey Schneider scheduled a planning meeting in fall 2000 for Cleveland mathematics teachers and Cleveland State University faculty.

Our principal means of generating interest among students is through dedicated teachers and counselors, and next time we intend to strengthen our list of contacts

in the schools by enlisting the help of members of these three groups: high school teachers who attended previous Sonia Kovalevsky events at CSU, teachers who obtained or are pursuing their master's degree in mathematics at CSU, and current and former students of the College of Education.

Kent State University

The first annual Sonia Kovalevsky Day at Kent State University was originally scheduled for Saturday, October 14, but in mid September we were forced to move it to Saturday, October 28. We did this because our keynote speaker, Dr. Mohobobeh Vezvaei, was unable to attend on the 14th. Dr. Vezavei has done extensive research on the history of women in mathematics and she has taught courses and published in this area. We felt one of our most important goals — informing young women about how many obstacles female mathematicians have overcome — could not be achieved without Dr. Vezvaei. She presented a fascinating history of women in mathematics, starting from a special emphasis on the life of Sonia Kovalevsky. The talk was extremely well received and well worth the two-week delay of our conference.

We invited ninth through twelfth grade girls and their math teachers from six area high schools. We estimated that about 2500 people were invited, and so we expected many more responses than we received. About 50 people signed up to attend, but only about 30 of them came, and some came but could not stay for all the workshops. About one fourth of the students who attended were ethnic minorities and two of our five speakers were also. We had four workshops, which ranged from fun math problems involving only arithmetic to exploring deep questions at current math research frontiers. We ended the day with a competition which allowed students to use some of the math skills we had discussed to solve problems and win prizes. The competition was a lot of fun and we were surprised at how quickly some of these students found very clever solutions. (We actually ran out of prizes and started giving IOUs!)

Organizers used our breaks, lunch hour and final snack time to interview participants about our conference. Participants were asked to evaluate a number of aspects of our program. The technique of replacing participant evaluation forms with personal interviews had both advantages and disadvantages. For example, we received specific suggestions and feedback which most likely would not have emerged from a standard questionnaire. However, much of the feedback we have is difficult to analyze statistically.

Our conference theme and goal was "Making the Connection," and we had many successes in that capacity. We helped young women to see the connection between success in mathematics and in life. Our competition gave these students a chance to connect some of the things they had learned in different workshops. Moreover, as a direct result of this conference, I have established lines of communication with teachers from six area high schools and our math department has created a new area of university service called Community Outreach. I am now our department's first Outreach Coordinator. In that capacity, I am continuing to cultivate strong ties with area schools and have used these connections to provide local schools with resources such as volunteer tutors for "at risk" students.

Thank you again for your support. Your grant made it possible to open lines of communication which are already benefiting our community, and we expect many more benefits in years to come.

Towson University

The Sonia Kovalevsky Day held at Towson University on October 27, 2000 began at 9:00 A.M. in the Potomac Lounge of the University Union. Upon their arrival the girls were asked to register and to sign up for two of the four workshops held later that morning. Each student and teacher received, as a memento for the day, an AWM tote bag containing a copy of Abbott's book *Flatland*, AWM post-it notes (courtesy of AWM), a folder and a pencil (courtesy of Towson University), the program and an evaluation form for the day, a brief biography of Sonia Kovalevsky, and an AWM brochure. The participants had breakfast and talked informally.

At 9:40 A.M. our keynote speaker Dr. Doris Schattschneider of Moravian College began her talk "Marjorie Rice: Ingenious mathematical amateur." The

Laura Smithies, assistant professor of Mathematics, Kent State University

Tiziana Giorgi and Caryn Werner, Towson University

talk was very nicely delivered, with plenty of visual aids, and the audience followed it very closely. At about 10:45, we walked the students to Hawkins Hall for the workshops. From 10:55 to 11:35 there were two simultaneous workshops: "Circles, spheres, and symplectic packings" conducted by Dr. Jean Mastrangeli of Immaculata College and "Soap films and bubbles" conducted by Dr. Tiziana Giorgi and Dr. Caryn Werner. They were followed from 11:40 to 12:10 by the next two workshops: "Tilings" conducted by Dr. Schattschneider and "Instant Insanity: Using graphs to solve puzzles" conducted by Dr. Katherine McGivney of Shippensberg University. At the same time, a workshop for teachers was led by Dr. Betsy McShea of Rowan University and Dr. Maureen Yarnevich of Towson University.

After the workshops, lunch was served. The second part of the day was centered on the career panel. Dr. B. Ann Cox of the National Security Agency, Dr. Annalisa Crannell of Franklin & Marshall College, her mother Dr. Carol Jo Crannell of Goddard Space Flight Center, and Dr. Kathleen Hoffman of the University of Maryland Baltimore County led a lively discussion of careers in mathematics and their own experiences as mathematicians and scientists. The day ended with the serving of a cake depicting the 1951 commemorative Russian stamp of Sonia Kovalevski.

We believe the day was a success, and the evaluation forms appear to confirm this. The girls liked the hands-on workshops and asked many questions of the panelists. In general, they were all very interested and open to the opportunity of learning from the experiences of women in mathematics. The teachers were very happy as well, and many of them expressed positive opinions regarding the day. They believed their students were gaining confidence and benefited from the day. We must add that the teachers were very interested in and appreciative of the teacher's workshop as well.

We need to thank warmly the workshop leaders and the panelists for providing a very friendly and interesting environment for the girls; special thanks go to Doris Schattschneider for presenting both the keynote address and the tiling workshop. Finally, we express our appreciation to all the teachers who found the time and encouraged their students to attend, in the belief that encouraging female students to pursue mathematics is of high importance.

We had a very good mix of public and private schools. Two private high schools in Baltimore, six Baltimore County public schools, one Baltimore city school, and one high school from outside Baltimore County participated, for a total of 39 students and nine teachers.

AWM CONFLICT OF INTEREST POLICY

A conflict of interest may exist when the interest (financial or other) or concerns of any member of 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.

FEDERAL FUNDING

FY 2001 Appropriations

In October 2000, President Clinton signed into law the FY 2001 appropriations for the NSF and other scientific agencies. The 106th Congress, distracted by the election and then the legal challenges over the presidential election, did not agree on final FY 2001 appropriations until further than two months into fiscal year FY 2001; the budget was signed into law by President Clinton in late December. In its final week, Congress passed a 0.22 percent across-the-board cut for most appropriations bills, including those already signed into law.

Record increases for R&D programs throughout the federal government were agreed to, and substantial increases were provided to nearly all categories of R&D spending and most R&D funding agencies. See www.aaas.org/spp/dspp/rd/rdwwwwpg.htm for a comprehensive report, "Congressional Action on Research & Development in the FY 2001 Budget." In the highlights of that report, we read that in FY 2001, total federal support for R&D exceeds $90 billion for the first time, thanks to a record dollar increase of $7.6 billion (9.1 percent) over FY 2000. Nondefense R&D increases by more than 11 percent, while defense R&D increases by a small but still substantial by 7 percent.

Of the major R&D funding agencies, only the National Science Foundation (NSF) receives less for R&D than requested, but NSF still receives 13.2 percent more for R&D than in FY 2000.

Nondefense R&D reaches an all-time high in FY 2001, the fifth year in a row that it has increased in inflation-adjusted terms. Much of the recent increase, however, has been due to steady growth in the NIH budget. The large FY 2001 increases for non-NIH nondefense agencies follow several years of stagnant or declining budgets.

CNSF Statement

The Coalition for National Science Funding (CNSF), a group of eighty professional societies, universities, and corporations, commends Congress and the Administration for providing the National Science Foundation (NSF) with the largest dollar increase in the agency's history. The Coalition appreciates the efforts of Senators Christopher "Kit" Bond and Barbara Mikulski to double the NSF's budget, and the support of Representatives James Walsh and Alan Mollohan for the NSF. We applaud the goal of doubling the NSF budget and the FY 2001 appropriation clearly sets us on the right path.

To maintain this momentum, CNSF strongly urges the Administration and Congress to provide no less than $5.1 billion, a 15% increase, for the NSF in FY 2002. We believe this increase to be a necessary step toward doubling the NSF's budget by 2006.

Our national knowledge base in the sciences, mathematics, and engineering is increasingly important to broad economic and social interests. Doubling the NSF budget by 2006 will fund the crucial investments that the agency makes in key components of this vital knowledge base. These funds will permit investments in the basic research needed to rejuvenate and stimulate core disciplines of science, mathematics, and engineering, which are the underpinnings of technological innovation.

The primary source of federal support for non-medical basic research in colleges and universities, the NSF is the only federal agency whose mission consists of comprehensive support for the sciences and engineering. Equally important are investments in people who will apply new knowledge and expand the frontiers of science and engineering. Through its support of research and education programs, the agency plays a vital role in training the next generation of scientists, engineers, and mathematicians. Currently, the NSF must decline almost as many highly rated grant proposals as it can fund. Increased funding for the NSF will not only enable the funding of more outstanding proposals that will help broaden the nation's knowledge base, it will also enable the agency to increase the size and duration of its grants.

Over the past half century the NSF has had monumental impact on our society. The NSF investment has paid dividends in building the infrastructure of the individual scientific disciplines, as well as laid the groundwork for innovative interdisciplinary research to meet modern day scientific and technical challenges. Many new methods and products arise from the NSF investment in research, such as geographic information systems, World Wide Web search engines, automatic heart defibrillators, product bar codes, computer aided modeling (CAD/CAM), retinal implants, optical fibers,

AWM has endorsed this statement.

magnetic resonance imaging technology, and composite materials used in aircraft. NSF-sponsored research has triggered huge advances in understanding our planet's natural processes, which lead to providing a sound scientific framework for better decision-making about earth's natural environment. These methods, products, and advances in understanding accrue from basic research performed over many years, not always predetermined research efforts aimed toward a specific result. Furthermore, the NSF traditionally receives high marks for efficiency — less than four percent of the agency's budget is spent on administration and management.

For these reasons, CNSF highly recommends that Congress and the Administration continue to invest in NSF by providing, at a minimum, $5.1 billion for FY 2002, and work to double the NSF's budget by 2006.

Science and Math Education: Big Talk, Little Substance.

Education has been the talk of Washington this week, but with the focus on a "reading first" agenda, science learning may suffer. Announcing his education reform plan on Tuesday, Bush followed the lead of his CEO advisors declaring science and mathematics "the very subjects most likely to affect our future competitiveness." Unfortunately, his proposals don't quite reflect this. They eliminate dedicated funds for math and science teacher professional development at the local district level, block granting the funds for general education purposes instead. And although the Bush plan calls on states to "set challenging standards in history and science," it does not require science testing. A recent Washington State study shows that state testing in reading and math has reduced the priority for teaching science. An alternative education package introduced by Senator Joe Lieberman (D-CT) also absorbs science and math funds into block grants, but does include science in required testing programs. Other legislation in play includes the science and math education bills of Vern Ehlers (R-MI) and Rush Holt(D-NJ).

WHAT'S NEW, Robert L. Park, Friday, 26 Jan2001, Washington, DC, The American Physical Society (Park's note: Opinions are the author's and are not necessarily shared by the APS, but they should be.)

WANTED: YOUR UNWANTED BOOKS AND JOURNALS

Teachers and students in Asian developing countries urgently need your college, graduate and professional-level textbooks, reference books and journals. The scale of the need is great. In China alone, hundreds of schools and libraries need books and journals. Bridge to Asia (www.bridge.org) is a nonprofit organization which ships donated materials overseas. Donations may be used or new — contents take priority over condition — but used books should still be presentable. The most urgent needs are in science and engineering, but materials in other fields are needed as well.

Textbooks are needed in many fields. Journals and issue- or science- oriented magazines are desired, in continuous runs of at least ten years which reach the 1990s. Reference works wanted include indexes, dictionaries, the current (or most recent previous) edition of encyclopedias, almanacs, atlases, glossaries, and thesauruses. Other materials may include newsletters, conference proceedings, syllabi, lecture notes, teaching aids, maps and audio tapes.

The following are *not needed*: computer books keyed to specific systems, foreign language (other than English), "life-style" books, and books that proselytize a religion or political view.

Please pack your donations in an envelope or box and address them to: Bridge to Asia, Foreign Trade Services, Pier 23, San Francisco, CA 94111. Please send them by UPS or at the USPS Discounted Special Standard Mail rate. We appreciate the hard work of packing, lifting, and mailing books and journals, and regret that we cannot reimburse you for domestic US shipping costs.

Your materials are tax-deductible, together with your out-of-pocket expenses for forwarding them. Please contact our San Francisco office to request an acknowledgment of your gift for tax purposes, and we will be pleased to provide a letter of thanks and an IRS form (for gifts greater than $500 in value).

Contact information (for correspondence only): Bridge to Asia, 665 Grant Avenue, San Francisco, CA 94108-2430; phone: 415-678-2990; fax: 415-678-2996; email: asianet@bridge.org.

Thank you for caring and sharing your books with faculty and students on the other side of the world who would thank you in person if they could.

OPPORTUNITIES

Project NexT

Project NexT (New Experiences in Teaching) is a program for new or recent Ph.D.'s in the mathematical sciences who are interested in improving the teaching and learning of undergraduate mathematics. It addresses the full range of faculty responsibilities in teaching, research, and service, and it provides professional support for new faculty as they undertake these activities. Each year, about sixty faculty members from colleges and universities throughout the country are selected to participate. Faculty for whom the 2001–02 academic year will be the first or second year of full-time employment with significant teaching responsibilities at the college/university level are invited to apply to become Project NexT Fellows.

The first event for the 2001–02 Project NexT Fellows will be a Workshop, July 30 – August 1, 2001, just prior to the MAA Mathfest in Madison, Wisconsin (August 2–4, 2001). At this Workshop and at Project Next sessions during the Mathfest, Fellows will explore and discuss issues that are of special relevance to beginning faculty, including: effective strategies for teaching calculus, precalculus, and differential equations; innovative approaches to liberal arts mathematics, statistics, and more advanced courses; alternative methods of assessing student learning; perspectives from pedagogical research; getting your research off to a good start and writing grant proposals; and balancing teaching and research. The Fellows will also have an opportunity to meet with Fellows who began the program in previous years.

Following the Workshop, Project NexT Fellows will attend the Mathfest, participating fully in the meeting and choosing among special short courses organized by Project NexT. During the following year, Project NexT Fellows will participate in: an electronic network that links Project NexT Fellows with one another and with distinguished teachers of mathematics; special events at the Joint Mathematics Meetings in San Diego, CA, January 6–9, 2002; and a one-day workshop in 2002 and the MAA Mathfest immediately afterwards (probably in Burlington, Vermont, July 31 – August 3).

There is no fee for participation in Project NexT itself, and Fellows will be provided with room and board at the Project NexT Workshop in Madison. The special Project NexT short courses at the summer Mathfest are free to Fellows. Institutions employing the Project NexT Fellows are expected to provide all other expenses associated with the meetings, and the level of institutional support is a consideration in the application process.

Application forms may be found on the Project NexT web page (archives.math.utk.edu/projnext/). The application deadline is **April 13, 2001**. For more information, contact one of the following: T. Christine Stevens, Director of Project NexT, Department of Mathematics and Mathematical Computer Science, Ritter Hall 104, Saint Louis University, 220 N. Grand Blvd., St. Louis, MO 63103 (phone: 314-977-2436; email: stevensc@slu.edu); Joseph Gallian, Co-director, Department of Mathematics and Statistics, University of Minnesota-Duluth, Duluth, MN 55812 (phone: 218-726-7576; email: jgallian@d.umn.edu); or Aparna Higgins, Co-Director, Department of Mathematics, University of Dayton, Dayton, OH 45469 (on sabbatical at USMA, West Point, NY 10996) (phone: 845-938-2719; email: higgins@saber.udayton.edu).

Workshop on Precalculus: Functions, Models and Data

This NSF summer institute, based on the new Workshop Precalculus materials developed by Nancy Baxter Hastings and Allan Rossman of Dickinson College, will be held June 24–30, 2001 at Dickinson College, Carlisle PA. It will prepare participants to utilize the interactive teaching techniques and innovative technology that characterize the workshop approach. It will provide them with the necessary background and support to adapt the Workshop Precalculus materials for use in their own environments. Faculty from high schools, community colleges, four-year colleges and universities are encouraged to apply. Applications are requested by **March 31, 2001**. View and download application at calc.dickinson.edu/SummerInstitute. Contact: Joanne R. Weissman, weissman@dickinson.edu.

WISC PROGRAM

The Women's International Science Collaboration (WISC) Program is funded by the National Science Foundation (NSF) and administered by the Program on Europe and Central Asia of the American Association

for the Advancement of Science (AAAS). Because the application rate of women scientists and engineers to the Central and Eastern Europe Program of the Division of International Programs has been disproportionately low, the goal of this Program is to increase the participation of women as PIs and co-PIs in international research projects. This program provides grants to individual US scientists who plan to establish new research partnerships with their colleagues in Central/Eastern Europe (CEE) and the Newly Independent States of the former Soviet Union (NIS).

The grant, up to $4,000, will provide travel and living support for the US woman scientist and, when appropriate, an additional grant of $4,000 to her American male or female co-PI. Each scientist will be responsible for arranging accommodations. The grant does not cover salary or institutional expenses. US scientists can spend up to four weeks in the partner country to develop a research program and design. Expenses can also be used to cover material and supplies needed during the stay. Where excess funds exist and with the approval of AAAS administrators, grants funds can also be used to support a second visit to the partner country or for a foreign partner to travel to the US. The grants are not to be used for the sole purpose of attending conferences or workshops or teaching or training. The grantee's home institution will be responsible for overseeing the grantee's adherence to NSF and federal guidelines regarding administration of the grant.

Foreign partnerships from the following countries will be considered: Albania, Armenia, Bosnia, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Hungary, Kazakstan, Kyrgyzstan, Latvia, Lithuania, Macedonia, Moldova, Poland, Romania, Russia, Slovakia, Slovenia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan. Note that as a result of recent determinations made by the US Government, we are not permitted to award grants to support visits to or the hosting of researchers from certain Russian institutions (for further information, please contact kgrill@aaas.org).

Further information and application forms are available at www.aaas.org/international/eca/wisc.shtml. For questions or hardcopies of the forms, please contact (preferably by email): Karen Grill, phone: (202) 326-7027; fax: (202) 289-4958, email: kgrill@aaas.org. Deadlines are **March 15, 2001** (notification by May 1), **July 15, 2001** (notification by October 15), and **January 15, 2002** (notification by April 15).

IPSE Program

Few things are more important to the future of science and engineering in the United States than illustrating for the public at large the value of a strong US effort in these areas. Indeed, NSF Director Dr. Rita Colwell has stated that "there is no group of people who should feel more responsible for science and math education in this nation than our scientists and scientists-to-be." In order to promote the involvement of the research community in public educational activities, NSF's Directorate for Mathematical and Physical Sciences (MPS) announces the MPS Internships in Public Science Education (IPSE) program. IPSE is intended to bring the most recent science research results from MPS disciplines to the public by promoting partnerships between the MPS research community and professionals in public science education. The IPSE activity will provide support for undergraduate and graduate students and K–12 teachers to work in conjunction with MPS research scientists, and with professionals at science centers and museums, on projects in public science education.

Here are some intended emphases: For students and teachers the activity is intended to provide valuable training by establishing a close working relationship with scientists and with professionals in public science education. For undergraduate and graduate students considering careers in science and/or in education, this opportunity is intended to provide experience with activities that will be important in their future. The intention is to provide a solid basis for understanding the process and concepts of science and the experience of communicating them to the public. For K–12 teachers, the activity is intended to provide valuable experience that will enrich their classroom environment. For science centers and museums, the activity is intended to provide the opportunity to collaborate with talented interns and research scientists who bring new skills and ideas to the development of museum programming and exhibits. For faculty and researchers in the MPS disciplines, the activity provides opportunities to bring their latest scientific research results to the public and to gain experience in effective public outreach and education.

Proposals will be accepted from individuals or groups of faculty members at universities and colleges working with a local science center or museum, from a science center or museum working with departments at a university or college, or from MPS-supported research

centers, facilities, or institutes with an outreach or educational program. Proposals should show evidence of active collaborative planning among all the institutions and individuals involved.

IPSE activities should be designed to increase the museum or science center's effectiveness in outreach and science education through specific projects or exhibits that bring new scientific ideas to museum programming. Possibilities include the development of new or expanded exhibits, creation of programs such as museum shows and public lectures, and the development of specific curricular activities for K–12 teachers or students. The involvement of minority-serving institutions and the development of projects that serve diverse populations are encouraged.

The IPSE program will support projects with durations of up to three years. We anticipate that a total of up to $1 million will be available for eight to ten new awards in fiscal year 2001. The deadline for submission of proposals is **April 2, 2001**. Details of the IPSE program and guidelines for proposal submission are available in the Program Solicitation (NSF 01-39).

Career Awards at the Scientific Interface

In recognition of the vital role mathematical and physical scientists play in furthering biomedical research, the Burroughs Wellcome Fund announces a new award program, Career Awards at the Scientific Interface. These awards are intended to foster the early career development of researchers with backgrounds in the physical, mathematical, and computational sciences whose work addresses biological questions and who are dedicated to pursuing a career in academic research. Applicants are expected to draw from their training in a scientific field other than biology to propose innovative approaches to answer important questions in the biological sciences. Examples of approaches include, but are not limited to, physical measurement of biological phenomena, computer simulation of complex processes in physiological systems, mathematical modeling of self-organizing behavior, building probabilistic tools for medical diagnosis, applying nanotechnology to manipulate cellular systems, developing novel imaging tools or biosensors, predicting cellular responses to topological clues and mechanical forces, and developing a new conceptual understanding of the complexity of living organisms. Proposals that include experimental validation of theoretical models are particularly encouraged.

The awards provide up to $538,000 over five years to support up to two years of advanced postdoctoral training and the first three years of a faculty appointment. During both the postdoctoral and the faculty periods, awards must be taken at degree-granting institutions in the United States or Canada. Up to ten awards will be made.

Candidates must hold a Ph.D. degree in the fields of mathematics, physics, chemistry (physical, theoretical, or computational), computer science, statistics, or engineering. Exceptions will be made only if the applicant can demonstrate significant expertise in one of these areas, evidenced by publications or advanced coursework. Candidates who are not citizens of the United States or Canada must provide documentation of their visa status at the time of application.

The application deadline is **May 1, 2001**. For more information and complete application materials, visit www.bwfund.org/interfaces_in_science.htm. For additional questions about the program contact Debi Linkous, program associate, at 919-991-5116.

Maria Mitchell Women in Science Award

Since 1998, the Maria Mitchell Association has offered an annual award of $10,000 to recognize an individual, program or organization that encourages the advancement of girls and women in the natural and physical sciences, mathematics, engineering, computer science and technology. The award honors Maria Mitchell (1818–1889), the first woman astronomer and first woman astronomy professor in the US.

Encouragement for the advancement of girls and women in the fields mentioned above may take the form of special initiatives designed to foster interest and participation in science, mathematics and technology for school-age girls, college students, graduate students, or professional women. These initiatives should serve as models for other programs. They should be well documented, with demonstrated follow-through, outcome and evidence of broader impact. However, organizations that are relatively new or smaller scale may indicate past achievement and future potential through letters of support. Nominations of individuals are encouraged. Examples include, but are not limited to: an individual who has consistently served as a mentor, role model or key player in a program that meets the above criteria; a

university or department that mentors or otherwise encourages female students so that the percentage entering or continuing in math and science is increased; corporations with on-going programs giving women entry-level science positions and a clear promotion process; educational institutions and organizations with programs for decreasing gender bias among teachers of math, science and technology; and scientific institutions that have significantly enhanced their recruitment, retention and advancement of women in the science.

Application forms are available from Maria Mitchell Association, 4 Vestal Street, Nantucket, MA 02554; 508-228-9198. Applications must be postmarked by **April 30, 2001**. The award winner will be announced by June 30, and the award ceremony will be September 29 in Nantucket, MA.

NAMEPA/WEPAN Conference

The National Association of Minority Engineering Program Administrators, Inc. (NAMEPA, Inc.) and Women in Engineering Programs & Advocates Network (WEPAN) will hold their 2001 Joint National Conference "Co-Champions for Diversity in Engineering" April 21–24, 2001 in Alexandria, VA. Issues to be explored include: What are some "best practices" for encouraging young women and students of color to pursue careers in engineering? How can NAMEPA and WEPAN collaborate with each other, and with industry, government, and other advocates to increase the visibility and support of our efforts? The new millennium brings a new government — how can we prepare ourselves to engage our representatives in meaningful and productive discussions to further our efforts? What new retention initiatives are yielding dramatic improvements in our student's successful pursuit of engineering degrees? With the increasing emphasis being placed by sponsors on outcomes assessment, how are MEP and WIE directors designing and implementing assessment programs for various recruitment and retention activities?

Maria Klawe, long-time AWM member, is currently the Dean of Science at the University of British Columbia. She will be a member of a panel of deans, "A Dean's Perspective on MEP/WIE Efforts."

The early registration deadline is **March 23, 2001**. See www.eng.vt.edu/namepawepan2001 for further information.

NSF-CBMS Regional Conferences

The National Science Foundation has funded seven NSF-CBMS regional research conferences to be held in 2001 and in January 2002. These seven will bring to 283 the total number of such conferences since the NSF-CBMS Regional Research Conference Series began in 1969.

Support for about thirty participants is provided for each conference; the organizer invites both established researchers and interested newcomers, including post-doctoral fellows and graduate students, to attend. The topics are: Algebraic Combinatorics, Equivalence of Dynamical Systems under Smooth Changes of Variables and Rigidity, Environmental Statistcs, Modular Elliptic Curves, New Horizons in Multiple Comparison Procedures, Using Spectral Data to Solve Inverse Problems (our own Joyce R. McLaughlin will be lecturer), and Arrangements and Mathematical Physics.

Proposals for 2002 conferences are requested; the closing date is **April 9, 2001**. 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 the series and guidelines for submitting proposals may be obtained from: CBMS, 1529 Eighteenth Street, NW, Washington, DC 20036; 202-293-1170; http://www.maa.org/cbms/cbms.html.

CORRECTION

"Women Mathematics Faculty: Recent Trends In Academic Rank And Institutional Representation" by Norean Radke Sharpe and Gerhard Sonnert appeared in the January–February issue. This credit was inadvertently omitted: Reprinted from *Journal of Women and Minorities in Science and Engineering, Volume 5*, Number 3, by permission of the authors and the publisher. Copyright © 1999, Begell House, Inc.

We regret the error.

AWM IN NEW ORLEANS

Jean E. Taylor (AWM President, Rutgers University) cutting the AWM 30th Anniversary cake at the AWM Reception

"Passing of the Silver Bowl": Since January 1989, as a symbolic gesture to mark the end of one presidential term and the beginning of another, this ceremony has been performed. **Jean Taylor**, Rutgers University (now Past President), hands the bowl to **Suzanne Lenhart**, University of Tennessee and Oak Ridge National Laboratory (now AWM President).

ADVERTISEMENTS

GETTYSBURG COLLEGE - DEPARTMENTS OF MATHEMATICS AND COMPUTER SCIENCE - One-Year Position in Mathematics - The Dept. of Math invites applications for a one-year position at the Assistant Professor level beginning Aug. 2001. Applicants must have a Ph.D. in mathematics or applied mathematics or expect to complete all requirements for the degree by Sept. 2001. Excellence in teaching and a commitment to research are essential. Preference will be given to an individual who is willing to teach a broad range of undergraduate mathematics courses and who has the desire to involve undergraduate students in research. Gettysburg College is a highly selective liberal arts college located within 90 minutes of the Baltimore/Washington area. Established in 1832, the College has a rich history and is situated on a 220-acre campus with an enrollment of 2,300 students. The College is committed to creating a more diverse campus environment. As a part of that process, the College gives candidates from historically underrepresented groups strong consideration. Included in an attractive benefits package is a Partner Assistance Program. Please send a letter of application explaining your interest in our dept., a curriculum vitae, a brief description of your teaching methods & objectives, & a summary of your research goals to: **Mathematics Search Committee, Dept. of Mathematics, Gettysburg College, Gettysburg, PA 17325.** Also arrange for the committee to receive 3 letters of recommendation addressing teaching effectiveness & research potential. If you applied for our tenure-track position beginning Aug. 2001, then please send only an email (bhelm@gettysburg.edu) or a letter indicating that you wish to be considered also for the one-year position, and do not resubmit your application materials. Completed applications received by March 19, 2001, will receive full consideration.

GRINNELL COLLEGE - DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE - One Year Term Position - Math - Grinnell College seeks applicants to fill a one-year term position in mathematics beginning August 2001. Assistant Professor (Ph.D.) preferred, Instructor (ABD) or Associate Professor possible. Candidates will be expected to demonstrate excellence in teaching; we seek the best teacher/scholars regardless of mathematical specialty. In their letters of application, candidates should discuss their interest in teaching in an undergraduate liberal arts environment that emphasizes close faculty-student interaction and values diversity. Send letter, c.v., transcripts unofficial are acceptable), and three letters of reference to: Math Search, Department of Mathematics and Computer Science, Grinnell College, Grinnell, Iowa 50112-1690; (641) 269-4205; fax (641) 269-4285. To be assured of full consideration, submit all application materials by March 19, 2001. The search will remain open until the position is filled. Grinnell College is an equal opportunity/affirmative action employer committed to employing a highly qualified staff that reflects the diversity of the nation. No applicant shall be discriminated against on the basis of race, national or ethnic origin, age, gender, sexual orientation, marital status, religion, creed, or disability. For further information about Grinnell College, please see our website at www.grinnell.edu.

PURDUE UNIVERSITY - DEPARTMENT OF STATISTICS - Faculty Position(s) in Statistics - The department has one or more openings for faculty positions. Screening will begin Dec. 1, 2000, and continue until the position(s) is (are) filled. Essential Duties: Conduct advanced research in statistical sciences, teach undergraduate and graduate students and maintain service in the Statistics Department. Essential Qualifications: Require Ph.D. in Statistics or related field, in hand or expected by August 13, 2001. Candidates must demonstrate potential excellence in research and teaching. Salary and benefits are competitive and commensurate with qualifications. Rank and salary are open. Candidate for assistant professor should send a letter of application, curriculum vita and three letters of reference. For senior positions, send a letter of application or nominations, curriculum vita, and the names of three references. Purdue University is an AA/EO employer & educator. Send applications to: **Mary Ellen Bock, Head, Dept. of Statistics, Purdue University, 1399 Mathematical Sciences Bldg. West Lafayette, IN 47907-1399, USA.**

SOUTHERN ILLINOIS UNIVERSITY, CARBONDALE - DEPARTMENT OF MATHEMATICS - Temporary Positions Lecturer - Anticipated for the 01-02 AY. Starting date Aug. 16, 2001. Master's degree in mathematics or admission to candidacy required, Ph.D. preferred. Applicants must provide evidence of excellence in teaching and evidence of ability to teach effectively in English. Preference given to applicants with research interests compatible with those of faculty members in the dept. Duties consist of 12 credit hrs. of undergraduate mathematics instruction each semester. Review of applications will begin April 2, 2001, & continue until positions are filled. Send applications (including transcripts) to: **Temporary Positions, Dept. of Mathematics, MC 4408, Southern Illinois Univ. Carbondale, Carbondale, IL 62901-4408.** SIUC is an equal opportunity/affirmative action employer. Women & minorities are particularly encouraged to apply.

SWARTHMORE COLLEGE - DEPARTMENT OF MATHEMATICS AND STATISTICS - Applications invited for a two-year position as Visiting Assistant Professor in mathematics, beginning in Fall 2001. It is likely that the candidate will be asked to teach several upper-division analysis courses in the next two years, such as partial differential equations or complex analysis. Thus, he/she should be highly qualified and eager to teach courses in analysis. Candidates whose field is either analysis or one which overlaps with a current departmental member are preferred. Candidates should possess a commitment to undergraduate education and promise in research. A Ph.D. in mathematics by the starting date is also expected. The annual teaching load will be three courses in one semester, two courses in the other. Please send a letter of application, resume, a concise letter about teaching in a liberal arts setting, and three letters of recommendation to: **Mathematics Search Committee, Dept. of Mathematics & Statistics, Swarthmore College, 500 College Ave., Swarthmore, PA 19081** (paper copies preferred; email: msdept@swarthmore.edu, fax: 610-690-6854). At least one letter should specifically address teaching experience. Review of applications will begin no later than January 1, 2001, and will continue until the position is filled. All completed applications received by January 15, 2001 will receive full consideration. Swarthmore College is an Equal Opportunity employer. Women minority candidates are encouraged to apply. **http://www.swarthmore.edu/NatSci/Math/posit ion.html**

UNIVERSITY OF LOUISVILLE - DEPARTMENT OF MATHEMATICS - The Department of Mathematics at the University of Louisville invites applications for one tenure-track (Assistant Professor) position in actuarial science and applied mathematics to begin July 1, 2001. Preference given to candidates whose research interests lie in actuarial science, financial mathematics, or applied analysis. A Ph.D. in mathematics or related area is required. The successful candidate will preferably have passed at least one Actuarial exam and be interested in continuing the development of an existing actuarial science program. In addition, candidates must show strong potential in research and teaching and have effective communication skills. Applications should include: (1) the American Mathematical Society's standard cover sheet, (2) curriculum vitae, (3) summary of research interests (4) statement of teaching qualifications, and (5) at least four letters of recommendation including letters which discuss, in some detail, the candidates' teaching qualifications and interest in actuarial science. Applications should be sent to: **Search Committee, Department of Mathematics, University of Louisville, Louisville, Kentucky 40292.** Review of applications will begin January 2, 2001 and continue until the position is filled. The University of Louisville is an Affirmative Action/Equal Opportunity Employer and encourages women and underrepresented minorities to apply. Applicants must comply with the provisions of the Immigration Reform and Control Act.

UNIVERSITY OF MICHIGAN - DEPARTMENT OF MATHEMATICS - Seeks candidates for a Lecturer position beginning Sept. 2001, involving the operation and direction of its introductory program in precalculus & calculus and the training of instructors for these courses. Duties will include the direction of one large multi-section precalculus or calculus course per semester, the teaching of one or two sections of the course being directed, assistance with our program to train & supervise new teachers in the introductory program, and general help with the planning, direction, and administration of the program. Applicants should have demonstrated excellence in the teaching of college mathematics, experience directing multi-section courses in the first two years of college mathematics, & expertise in modern pedagogical methods. Experience in working with outreach programs is also desirable. Those who do not precisely fit this description but who are very strong in several of these areas will also be considered. A Doctorate in Mathematics or a closely related area is preferred but all strong candidates will be considered. Preference will be given to candidates who are also involved in mathematical research or scholarship, including mathematics education. Rank and salary commensurate with experience. Non-discriminatory Affirmative Action Employer. Applicants should send a cv/bibliography, description of experience, a statement on teaching, and have three letters of recommendation sent to: **Professor B.A. Taylor, Chair, Dept. of Mathematics, University of Michigan, Ann Arbor, MI 48109-1109;** mathchr@math.lsa.umich.edu. Further information is available on our home page (http://www.math.lsa.umich.edu). Applicants considered on a continuing basis.

AWM

Association for Women in Mathematics

2000/2001 MEMBERSHIP FORM

AWM's membership year is from October 1st to September 30th.
Please fill-in this information and return it along with your DUES to:
AWM Membership
4114 Computer & Space Sciences Building
University of Maryland
College Park, MD 20742-2461
The AWM Newsletter is published six times a year and is part of your membership. Any questions, contact AWM at awm@math.umd.edu; (301) 405-7892 or refer to our website at: **http://www.awm-math.org**

LAST NAME FIRST NAME M.I.

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

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

DEGREES EARNED:

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

MA_01

INDIVIDUAL DUES SCHEDULE

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

	REGULAR INDIVIDUAL MEMBERSHIP	$ 50 _____
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	STUDENT or UNEMPLOYED MEMBERSHIP (circle one)	$ 15 _____
	ALL FOREIGN MEMBERSHIPS (INCLUDING CANADA & MEXICO)....**FOR ADDITIONAL POSTAGE ADD**	$ 8 _____
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❑	I am enclosing a DONATION to the **"AWM GENERAL FUND"**	$ _____
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❑	CATEGORY **1** (includes 10 student memberships; 1 free ad; 25% off additional Newsletter & online ads✶)..	$250 _____
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ADVERTISING: Institutional members on Categories 1 and 2a receive ONE FREE job link ad **or** ONE FREE Newsletter ad (up to 4 lines) for the membership year Oct. 1st to Sept. 30th. All institutional members receive discounts on other eligible✶ advertisements (25% off for Category 1 and 10% off for Categories 2a and 2b). ✶Eligible advertisements: The institutional discount applies to both classified and job link online ads as well as classified *Newsletter* ads, but it does not apply to *Newsletter* display ads. If institutional dues have not been received by the invoice date, the full advertising rate will be charged. *Newsletter* advertising deadlines are the 1st of every EVEN month. All institutions advertising are Affirmative Action/Equal Opportunity Employers. **STUDENT NOMINEES:** Institutions have the option to nominate students to receive the newsletter as part of their membership. List names and addresses of student nominees on opposite side or attach a separate page. [ADD $15 ($23 for foreign members) to the listed institutional rate for each student add-on over the initial 10 students for Category 1; over the initial 3 students for Category 2a & over the initial 6 students for Category 2b]. For more advertising/membership info see **www.awm-math.org**

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

AWM

Volume 31, Number 2, March–April 2001

ADDRESS CORRECTION FORM

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(Please Print)

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Maryland 20742-2461

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