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ASSOCIATION FOR WOMEN IN MATHEMATICS

NEWSLETTER

Volume 6, Number 4 May-June 1976

REPORT FROM THE PRESIDENT

National Academy of Sciences elects first woman to the mathematics section: Congratulations to Dr. Julia Robinson of Berkeley, California who has just been elected to the National Academy of Sciences. She is the first woman member of the mathematics section. Julia Robinson works on various aspects of mathematical logic and number theory. Her work combining these two areas (along with the work of M. Davis, H. Putnam, and Y. Matiyasevič) was instrumental in the solution of Hilbert's Tenth Problem. The problem was to find a general computing algorithm for deciding whether or not any given Diophantine equation (i.e. polynomial equation with integer coefficients) has a solution in integers. The solution was that no such algorithm exists. The key result was that if the Julia Robinson hypothesis were true (i.e. if there were a Diophantine function of "exponential growth") then Hilbert's Tenth Problem would be unsolvable. (A function f is Diophantine if there is a polynomial P with integer coefficients such that $y = f(x) \iff \exists\ z_1,\ldots,z_n\ (P(x,y,z_1,\ldots,z_n) = 0)$.) Matiyasevič then showed that the "exponential growth" function f(n) = 2nth Fibonacci number was Diophantine (the nth Fibonacci number a(n) is defined recursively by letting a(1)=a(2)=1 and a(n+1)=a(n)+a(n-1)). For a complete account of the solution see Martin Davis, "Hilbert's Tenth Problem is Unsolvable" in the American Mathematical Monthly, Vol. 80, No. 3, March, 1973, pp. 233-269. (Also see below.)

Expanding the Scope of AWM activities and increasing the representation on the executive committee: This year we began a program aimed at broadening the scope of AWM activities in order to address the concerns of and reflect the interest of women involved in a variety of areas and capacities in the mathematical community. We also aimed at educating ourselves about various alternatives to academic employment. For example, our January panel in San Antonio focused on women mathematicians in business, industry and government. In addition, letters were sent to many educational, industrial, and governmental institutions describing the AWM and inviting new membership. As a direct result of this endeavor, our membership has increased. As a further result we have been invited to sponsor a panel at the next annual meeting of the NCTM (National Council of Teachers of Mathematics) in Cincinnatti in April 1977. (If you would like to participate on this panel, or if you have suggestions for topics to be discussed, please let me know. See last page of this Newsletter.) This will be a good opportunity for us to make contacts with people involved in elementary and high school education and to see what additional role we can play encouraging young women to study mathematics. Already many new programs with these goals have been started across the country as both direct and indirect results of AWM activity. For example, the Los Angeles area AWM section has been active talking to high school girls and discussing careers in mathematics and related fields. (For information, contact Ruth Afflack at Cal State, Long Beach or Sue Montgomery at UCS.) AWM members in the San Francisco Bay Area belong to a consortium which has recently sponsored a pilot conference for high school girls on "Expanding yourhorizons". Contact Nancy L. Krienberg at Lawrence Hall of Science, Berkeley. Members in the New York, San Francisco, and Chicago areas have been giving talks in high schools under the auspices of the MAA-IBM Women and Mathematics program. Contact Eileen Poiani, St. Peter's College, New Jersey. Collegiate programs and special courses are being implemented at Mills (contact me), Wellesley (contact Alice Schafer), Wesleyan (contact Sheila Tobias and see article in this issue), and the University of New Mexico (contact Nancy Martin), among others.

Our recent membership in the CBMS (Conference Board of the Mathematical Sciences) and representation on its council will further increase our contact and influence in the mathematical community since all major mathematical associations belong to the CBMS. In addition, an article about the AWM appeared in the last CBMS newsletter and we have been invited to write and editorial or feature article for a future issue.

However, this is just a start and much more needs to be done. A letter in this newsletter speaks to this issue. In particular, it is pointed out that the AWM executive committee right

now is a fairly homogeneous body, reflecting predominantly academic interests. Certainly, this is due to the origins of the AWM and the fact that most of its active members in the past have been from the college or university scene. However, it is time that the executive committee be expanded to include, besides its regional representatives and officers, representatives from a variety of professional areas. We will be discussing this issue at the next open executive committee meeting in Toronto (see below). In the mean time, if you have ideas about groups that should be represented, or other ideas about reorganization, please let me know. (See last page of newsletter.)

We also need your help in other ways. For example, an article for the newsletter reflecting your interests, job, research or special projects, or a letter airing your views would be most welcome and should be submitted to the Wellesley office. In the area of fundraising, we desperately need some bright ideas and hard work (contacting foundations, writing proposals). We would like to have funds to support research and special projects, to provide travel grants and legal aid.

AMS Positions: The AMS committee on committees is assemblying a roster of AMS members who are available to fill appointed positions. Female representation of AMS committees is sparse. So if you're interested, I urge you to send your name, proposed assignments, and qualifications to Committee member Chandler Davis, Department of Mathematics, University of California, Berkeley, 94720.

Toronto Meeting: The AWM will hold a panel and open executive committee meeting at the Summer Joint Mathematics Meeting at the University of Toronto in August.

The open executive committee meeting will be held on Wednesday, August 25 from 5:30 to 6:30 p.m. in 2129 Sidney Smith Hall (the mathematics building). We will be discussing ways in which the AWM and the executive committee can be expanded to increase representation and scope. If you will be in Toronto, I hope you will come. In any event, if you have thoughts for the agenda, please let me know (see last page of newsletter).

The AWM panel on the "History of Women in Mathematics" will be held on Thursday, August 26 from 12 to 1:15 in 2135 Sidney Smith Hall. I will moderate and the speakers will be:

Professor Lida K. Barrett, University of Tennessee: An Overview
Professor Mary W. Gray, American University: Sophie Germain, A Bicentennial Perspective
Professor Linda Keen, Graduate School and University Center, CUNY: Sonya Kovalevski
Professor Emiliana Neother, University of Connecticut: Emmy Noether, 20th Century Mathematician and Woman
Professor Martha K. Smith, University of Texas, Austin: Emmy Noether, Her Work and Influence.

The AWM table will be located in the entrance lobby of Sidney Smith Hall. This will be the general registration area for the joint meetings. The AWM table serves as the focal point for AWM activities at the meetings and is a good place for us to get together. It has also been an important place to distribute information about the AWM and recruit new members. If you're planning to be in Toronto, I would appreciate your help in staffing the table. Please fill out the form at the end of this newsletter giving possible days and times and mail this to me and/or check in when you get to the meetings - you can sign up at the table. Whether you can help out or not, please come by the table and say hello.

Other events: Various AWM members will be giving talks in Toronto. Professor Cathleen Morawetz, Courant-NYU, is an MAA invited speaker. She will talk on "Geometrical Objects and the Singing of the Whales" on Thursday, August 26, at 11:10 in the Convocation Hall. Professor Marian B. Pour-Ell, University of Minnesota, is an AMS invited speaker and will talk on "New Directions in Computability Theory" on Thursday, August 26 at 5:15 in the Convocation Hall. AWM member, Professor Martin Davis, Courant-NYU, will present the MAA Hedrick Lectures on "Some Mathematical Applications of Logic". The first two lectures (Thursday and Friday, August 26, 27 at 9:00 in the Convocation Hall) will be on "Unsolvable Problems" and "Diophantine Sets" and will discuss some of Julia Robinson's work.

Have a good summer and I hope to see you in Toronto.

Lenore Blum
Mills College
Oakland, CA 94613

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CONGRATULATIONS to the women who placed highly in the Putnam exams this year. They are:

Faith Whyne, University of Waterloo
Claudia Spiro, Caltech
Nicola Franceschine, Sonoma State College
Dominique DeCaen, McGill
Anita Grossman, MIT
Gail Zacharias, MIT
Gwen Seitman, Princeton
Kathryn Blackmond, University of Pittsburgh
Lisa Mantini, University of Pittsburgh
Susan Stewart, Allegheny College
Susan Bahr, Drexel University
Bennette Harris, VPI
Kathleen Lombard, Salem College
Janet Williams, University of Wisconsin
Emily Fine, University of Chicago
Sharon McBridge, Missouri Southern State College
Ann Winschel, University of Missouri
Elisse Ghitelman, Caltech
Heidi Schellman, Stanford
Susan Critchlow, Pacific Lutheran University

A WOMAN IN PUBLISHING
by Pat Mallion (from the San Antonio panel)

Since publishing is an industry which seems to attract primarily liberal arts graduates, and since I have not been trained as a mathematician, I seem to be something of an enigma in the presence of my fellow panel members. However, I hope you will accept my credentials as a woman working in mathematics, and also my thanks for inviting me to participate in this discussion of professional opportunities open to women mathematicians outside of academia, specifically in the publishing industry.

Addison-Wesley is a complete educational publisher, in all subject areas, and at all levels from kindergarten through graduate school, and for business and industry. The company headquarters is in Reading, Massachusetts, a community north of Boston. It houses the College Division, Juvenile Division, International Division, Business and Professional and Trade Divisions, and the Advanced Book Program. The School Division and Innovative Publishing Program are located in Menlo Park, California. The company maintains branch offices throughout the United States and in Australia, South America, the Philippines, Canada, Amsterdam, London, and Singapore. W. A. Benjamin and Commings Publishing Company are subsidiaries of Addison-Wesley located in Menlo Park.

Since 1972, the number of women in professional positions in the company has tripled. Under the guidelines of its Affirmative Action Plan, the term "professional" applies to editors, editorial assistants, designers, artists, production editors, and promotion and advertising personnel. In addition to women who fill these professional positions, certain women are involved in supervisory positions. Examples are the production manager of our School Division, the head of our Customer Services Department, and our Credit Manager. In sales, there has been a dramatic increase in the hiring of women for field positions. From a lonely 1% in 1971,

women now comprise more than 22% of our sales staff. This percentage will undoubtedly increase and represents a positive trend for the growth and advancement of women in publishing, which will be discussed in greater detail later. Approximately 30% of upper level management positions are filled by women, including a Senior Vice President of the company, who is also Corporate Secretary and on the Board of Directors, an Assistant Vice President in our International Division, and the Publishers of our Special Projects Division and Advanced Book Program.

To place some of this in perspective, a brief description of my position at Addison-Wesley. My title is Editorial Assistant, which at the present time is a rather loosely defined function in the total editorial spectrum of publishing. I work directly with the Mathematics Editor, and my duties include a diverse and challenging range of responsibilities such as manuscript reviewing, releasing books to production and then following them through the various stages of design and manufacturing, to mention a few. I have had the opportunity to develop certain textbook-related products such as audio cassette programs, and have recently been responsible for the coordination of seminars on math labs and developmental math instruction which have been held in several major cities throughout the country. There is a certain amount of travel associated with my position and always a very stimulating kind of public contact which goes hand-in-hand with the publishing industry. I came to Addison-Wesley as a secretary in the math division almost three years ago, having attended the New England Conservatory of Music and having left my algebraic skills behind me in high school.

Publishing is a vital industry in the Boston area with over 200 publishers of books, periodicals, and multi-media materials. Despite the current economic situation, the industry continues to report satisfactory profit margins, with textbook sales growing at a rate of about 4% a year. In spite of what seems to be a low growth rate overall, the market has the advantage of being basically "recession-proof."

Although the publishing industry is relatively stable and always challenging, women face many of the same inequities in hiring, salary, compensation, attitudes, and identity faced by women in the working world in general. In a report recently completed by a Boston area organization, Women in Publishing, the following statistics were revealed: Between 60% and 70% of the workforce in publishing is women. However, regardless of the size of the company, only 5% to 10% of women employees are in management positions. "Management" is defined in this study as the authority to hire and fire, and to make policy decisions within the company. In contrast, of the 30% to 40% of men employed, 40% to 60% are in management. In professional positions ("professional" as defined under Affirmative Action Program guidelines), the statistics are more encouraging. In most cases women outnumbered men in professional positions, according to the study. One of the most disappointing facts revealed is that there is consistently a gap in the starting salaries of women and men in the same positions and with the same qualifications. More often than not, this discrepancy is substantial.

However, in the midst of these rather gloomy statistics, there is one area in which women are making strong advances and one which may portend a more positive future and direction for women in publishing. In increasing numbers, women are being added to the field staffs of many publishers. This is a particularly important trend since the publishing industry traditionally recruits much of its editorial and management personnel from the field.

For many years women were reluctant to take on field assignments because of the amount of travel and mobility required. Management was equally hesitant to hire women for the field for two basic reasons: (1) married women were almost never considered because of prejudices in removing them from home and hearth; and (2) because of the sometimes high turnover rate in sales, management was equally hesitant to hire single women for the obvious risk of losing them to a marriage situation. With the growth and visibility of the women's movement, changing attitudes among women about themselves and attitudes in management about women have begun to eliminate many of these barriers.

While a field position is by no means the only entrance into publishing, and while it may not always make specific use of one's background and training, it is essentially the most productive means of acquiring the vast marketing knowledge required of editorial and management personnel. Publishing is a science of markets, and in order to be successful at it, one must develop a strong sense of what these markets are all about and what trends there are. Editorial decisions are based largely on this acquired marketing expertise in conjunction with content evaluation provided by advisors in various disciplines.

To briefly summarize, let me say that I perceive the publishing industry as challenging, progressive, and forward-looking. If this is true in general, it is true to an even greater extent as far as its changing attitude toward women is concerned. I firmly believe that what we will see in the future is the involvement of women in even more vital and creative roles.

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AN EXCHANGE OF LETTERS

Louise Hay to P. R. Halmos:

"The book, "Elementary Probability Theory with Stochastic Processes," by Kai Lai Chung (Springer-Verlag Undergraduate Texts in Mathematics, 1974) is written in a rather charming style and contains many interesting examples. It is all the more unfortunate that it is marred by rather crude bias against women. One's sensitivities are aroused by the author himself: on p. 115 a sample space of boys and girls is given as $\{g_g, g_b, b_g, b_b\}$ followed by the parenthetical clause '(Observe that here we have ordered the g's before the b's to allay possible criticism from Woman's (sic) Liberation Movement.)' This contains the clear implication that the Women's movement is concerned with nothing more substantive than the order of precedence in sample spaces. (Why not a similar joke at the expense of the Black liberation movement on p. 185, in the "racial mixture" problem?)

"Perhaps the author needs to be informed that one of the concerns of Women's Liberation is eliminating the sexist stereotypes which are used to keep women in a socially and economically disadvantaged status. As an example of how these stereotypes are perpetuated, we need look no farther than p. 144:

> 'A little parable will clarify the arithmetic involved. Suppose in two families both husbands and wives work. Husband of family 1 earns more than husband of family 2, wife of family 1 earns more than wife of family 2. For a certain good cause...both husband and wife of family 2 contribute half their monthly income, but in family 1 the husband contributes only 5% of his income, letting the wife contribute 95% of hers. Can you see why the poorer couple gives more to the cause...?' End of parable

"No, I don't see why the poorer couple gives more to the cause. In fact, this is <u>false</u> unless one makes the assumption that the husbands earn substantially more than the wives--if, for instance, the husband-husband and wife-wife differentials are equal, say x, then the husband-wife differential in each family must be more than <u>twice</u> x. The author evidently takes this situation so much for granted that he does not even bother to make it an explicit assumption!

"One is therefore hardly surprised to find that in the text and exercises <u>all</u> references to gamblers, customers, drivers, a 'head of family' alias breadearner (sic), Agent 009, election candidates, doctors, marksmen, students taking tests, court witnesses, children bearing the family name, and proofreaders are identified with the masculine pronoun. References to females? A maiden picking the petals off a flower and murmuring 'he loves me, he loves me not'; a girl choosing a birthday present; housewives who can win a sewing machine with coupons which come in boxes of detergents; 2 girlfriends of a man who visits then randomly; beauty contest statistics of (36,29,38). End of list.

"<u>Exercise</u> (a): What is the probability that the choice of sex references was made randomly?
(b): What is the probability that the author is expressing prejudices based on traditional sex stereotypes?

"At a time when racist and sexist stereotypes are being removed from elementary school texts, is it too much to expect the same vigilance from authors and editors of advanced texts?"

P. R. Halmos to Louis Hay:

"This is in answer to your letter of 12 March 1976.

"Chung's 'joke' about girls before boys is feeble and not funny. Your reaction is violent and humorless.

"To most people being 'concerned with nothing more substantive than the order of precedence in sample spaces' would seem to be on the same level, I should think, as being concerned with the way the English language solves the problem of the indefinite pronoun.

"The purpose of Chung's parable is to make the reader realize the possibility of statistically relevant hidden factors. One example among several is based on the fact that in our society husbands frequently earn more than wives. Don't they?"

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A REPORT ON SEX DISCRIMINATION AT BOSTON STATE COLLEGE
by Martha Jaffe

At the moment (April 1976), the women at Boston State College are in that pleasant state in which we are anticipating that our hopes for the end of discriminatory practices at the College are shortly going to be satisfied, and we have not yet been disappointed by the results. The U.S. Department of Labor has filed a class-action suit in Federal Court on behalf of all the women (we are 90 out of a total faculty of 300), a suit which calls for the adjustment of present salaries and the award of back pay to 1972. Furthermore, our own lawyers are preparing for hearing next month before the Massachusetts Commission Against Discrimination to obtain back pay to 1965 and to resolve other non-money issues. We have been struggling since 1971, and the fight is not over yet.

How to decide if there is a "problem"

Women sometimes feel that they are being cheated out of what they deserve - salary, bonuses, grants, choice courses and schedules, promotion, tenure, invitations to (or exemptions from) committees, desirable offices, etc. - but may find it hard to document. It is often difficult to obtain information about colleagues' salaries, about their qualifications, and about which criteria are the really important and relevant ones in determining who gets what.

In the Fall of 1971, a few of us recently-hired women first became angry about our low salaries and unpleasant working conditions. Since Boston State College is a public institution, salaries are theoretically public information; in practice, our faculty union gave us the current salary list. We noticed that the average salaries for women were several thousand dollars lower than for men, taking into account length of service, academic rank, degrees and educational status. We found that women were concentrated in the lower ranks, although in general they had better educational credentials than the men. The distribution of the women in various departments showed that they were mostly in "women's fields" (although the Mathematics Dept. was about 20% female), but were virtually excluded from some departments like History, Secondary Education, and Chemistry. The Women's Athletics Department had no control over their own programs and received very little money for coaching salaries, equipment, rental of facilities, etc. Also, the women in some Departments were being harassed in various ways.

Since Boston State College is primarily a teaching, non-research institution, "hard data" like numbers of years of experience, number of course credits beyond the M.A., and so on, should in theory be used to determine salary levels. It is much harder to justify or refute subjective judgments about the quality of one's research and papers.

First steps

The small group of women involved at the beginning wrote up a 45-page pamphlet detailing our results and distributed it to our female colleagues to inform them and invite them to join

us. We had a surprising amount of support from men and women.

We went to the Administration with our data, appealed to their sense of fair play, and asked for salary adjustments. They responded with sympathy and a few hundred dollars.

We also were able to refine our statistics using regression analysis techniques and lots of data about prior experience, educational status, etc., which we obtained from the Administration after several confrontations.

We decided to file complaints of sex-discrimination with state and Federal agencies.

The Laws and their Enforcement

There are several laws which prohibit discrimination against women in schools, universities, and industry.

1. The Equal Employment Opportunity Commission administers Title VII of the 1964 Civil Rights Act as amended in 1972 to include faculty. It prohibits sex discrimination throughout a broad range of hiring, pay, and working conditions.

2. The Office of Federal Contract Compliance enforces Executive Order 11246 as amended by Order 11375. This also prohibits sex discrimination in many aspects of work, but the Order only applies to employers with at least $10,000 in Federal contracts. Violations of this Order are investigated by twelve compliance agencies; HEW monitors the non-profit organizations, including colleges and universities. Employers with more than $50,000 in Federal contracts are required to have an Affirmative Action plan.

3. The Equal Pay Act as amended in 1972 is enforced by the U.S. Department of Labor, Bureau of Wages and Hours. This prohibits discrimination only in pay: salary, bonuses and fringe benefits (it excludes differences in salary because of merit, seniority, or amount or quality of production).

4. Many states have laws against sex discrimination. In Massachusetts there is one with broad applications, which is enforced by the Mass. Commission Against Discrimination.

One may file either an individual complaint with these agencies or may claim that there is discrimination against women as a class ("class action"); a representative (e.g. NOW, AWM, an attorney) may file a complaint in one's behalf. The burden of proving that there is discrimination rests with the agency. The identity of the individuals who have filed complaints may or may not be disclosed to the employer (Dept. of Labor - no, EEOC - no if a representative has filed, HEW - yes), but all of the laws also prohibit harassing or firing the complainant.

The agency sends investigators to the institution and can get access to records not available to ordinary women. If the agency finds there is discrimination ("probable cause"), it suggests a remedy and attempts conciliation with the employer. If this fails, the case may go to formal hearings (MCAD) or to higher levels within the agency, and finally to court.

The remedies that these agencies can provide are

EEOC: back pay to 1964 (to 1972 for faculty) and changes in working conditions.

HEW: changes in working conditions and increased salaries, but no back pay.

Dept. of Labor: back pay to 1972 and court costs.

MCAD: back pay to 1965, changes in working conditions, and damages.

One may sue privately under these laws. To sue under the Civil Rights Act, one must file with EEOC and then 180 days later obtain a right-to-sue letter. A successful suit under the Equal Pay Act may net damages and attorneys' fees as well.

Of course, political priorities and the agencies' workloads will determine whether or not an agency decides to commit its resources to pursuing a complaint.

What has happened

About 10 faculty members filed complaints with EEOC, HEW, Department of Labor, and MCAD. The EEOC, Dept. of Labor, and MCAD have come to the Boston State campus, looked at records, and interviewed Administration and faculty. The Dept. of Labor and MCAD, after reviewing the evidence, have found "probable cause." The Dept. of Labor presented its solution (raise the salaries of women by 10%) to the school, which rejected it. The Dept. of Labor then filed suit in Federal Court.

We have hired private lawyers, Betty Gittes and Eileen Shaevel, who convinced MCAD to set formal hearing dates for May 1976 and will represent us there. After years of preparing data and statistics, investigating the problems of suing the state, trying to keep from being fired, and browbeating the Administration into stipulating to evidence, we are all ready for them.

What we hope to accomplish

- Reinstatement of one women, fired because she didn't have a Ph.D. (she was typing her dissertation at the time of the tenure hearings)
- Back pay and salary adjustments for all women.
- Promotions and tenure for all deserving women.
- Resolution of issues of control and funding in the Athletics Department.
- Improvement of working conditions for women.
- Damages.

Note: we're told it is very important to have a formula for dividing the settlement among us before the court awards it.

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GIVING TESTIMONY
by Judy Roitman

The American Association for the Advancement of Science was going to have a conference this May on women in basic scientific research, funded by the NSF. Apparently the NSF decided that the problems weren't that serious or important, because the funding was withdrawn. The AAAS is still interested, however, in collecting testimony to serve two purposes: to document the often personal forms discrimination takes and the ways it affects our careers; and to convince the NSF that such a conference should indeed be held.

What the AAAS wants is "to share with us your perception of the rewards and difficulties of your chosen career. In particular, what kinds of problems have you encountered as a woman in your education or career? How does your experience compare with that of other colleagues, male and female? Do you think your experience typical of scientists? What do you think are the reasons for the higher drop-out rate for women in science? How would you explain that women seem to be less 'productive' researchers than men? Do you think it especially difficult to combine a science career with marriage and/or parenthood? Do your male colleagues respond differently to such questions?"

Originally the AAAS wanted to hear only from women whose careers substantially involve basic research and who were considered highly productive by their colleagues. But since two of the questions involve why a woman might drop out of basic research and why she might not be very productive (and I have yet to see documented the assumptions in these questions that MORE women drop out, or that women AS A GROUP are less productive), it seems reasonable that those women who once considered a career in basic research and then changed their minds communicate to the AAAS why they changed; and that those women who feel they could be more productive if they were not in a sexist society also communicate why they feel that way.

So if you would like to tell the AAAS how your female-ness has affected your career (and there is no need to organize it by their questions) please sent your testimony to

Janet Welsh Brown, Head
Office of Opportunities in Science
AAAS

1776 Massachusetts Avenue NW
Washington, DC 20036.

This is also a good opportunity to collect files for the AWM to use, so I'd appreciate it if you also sent a copy of your testimony to me at the Math Department, Wellesley College, Wellesley, Massachusetts 02181. Such a collection of files can be quite powerful in refuting common assumptions about lack of discrimination that we face in our departments and professional organizations when we try to change things. I'm also especially interested in publishing, with the writer's permission, people's experiences (anonymously and excerpted if requested) in the newsletter so that those of us who are fairly isolated from other women in the profession can get the moral support of each others' lives.

When I got Janet Brown's request, I asked several friends if they were going to reply to her. One response that moved me deeply, from a woman whose career has outwardly faced no obstacles, is the following:

> "I feel very guilty about this, but lately I haven't been involved in any feminist activities at all. I did not respond to the AAAS questions. For some reason, the thought of doing so is too painful. I'm ignoring my sex for awhile."

This is in itself a response, and a powerful one. If these are your feelings, I urge you to communicate them briefly to Ms. Brown so the NSF and the AAAS realize that discrimination can cut so deeply that some of us simply can't bear to talk about it.

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THE WESLEYAN MATH PROJECT
by Sheila Tobias

After a year of discussion of the problem--mathematics avoidance among undergraduate students and women of all ages and educational backgrounds--Robert Rosenbaum, Professor of Mathematics and Sheila Tobias, Associate Provost with special responsibility for Women's staffing and programming at Wesleyan University designed an intervention research project in "Understanding and Combating Mathematics Anxiety" that was funded by the Fund for the Improvement of Post-secondary Education (Office of Education) during 1975-76.

The grant permitted the design and staffing of a "Math Clinic" housed in the University's Science Center, with facilities for standard remedial work, non-standard remedial tutoring, short-term demonstrations, and long-term counselling and therapy. During the second semester two courses for credit in algebra, one taught by a Community College mathematics teacher and one by a psychologist having a strong mathematics teaching background, were offered. Approximately 60 students have taken the pre-calculus courses; 40 more have had one or another relationship with the Clinic in non-credit workshops, and about 60 others have at least inquired or been tested or diagnosed by the Clinic staff.

In addition to Rosenbaum and Tobias, the Clinic is staffed by a learning disabilities counsellor, Bonnie Donady, the psychologist, Steven Shmurak, the Community College teacher, Jean Smith, Susan Auslander, a graduate student in mathematics on leave from Wesleyan University, and several undergraduate tutors.

Outreach into the community has been moderately successful. Colorful flyers and press notices attracted a few adult women, highly motivated to improve their mathematics skills because of job requirements, to a four-part evening series of math workshops covering "the number line", graphing, word problems, and general discussion of computation and mathematical thinking. Another group attended some part of a three-day intensive workshop offered at three levels of prior preparation: arithmetic, word problems, and calculus without infinities. Still others have been approached with questionnaires, through local and more distant talks given by the staff, and substantial publicity on radio, tv, and in the papers.

The goal in the first year has been to make the community aware that mathematics anxiety is a "curable disease," to introduce the Clinic, to experiment with non-standard texts, integration of psychology-of-learning techniques and mathematical pedagogy, and, above all, to collect impressions and information about people who are math anxious.

So far a number of surprising discoveries have been made, among them that otherwise intelligent and able students have to go far back to fractions in some cases to locate the

deficits in their mathematics background. Another is the need to reconsider the conventional teacher-student model in dealing with the math anxious; the need for individualized almost tailor-made instruction for some; the importance of diagnosis; the worth of counselling even by non-mathematically trained clinicians; the value of a written "mathematics autobiography" and/or a series of exercises to remove one's own personal mathematics demons.

There have been discussions, but no findings, on the relevance of good spatial relations ability, the significance of female socialization in turning girls away from math in the crucial junior high school years, the worth of calculators, whether there should be all-female classes, the need for a more verbal approach to mathematics, etc. But it is necessary to experiment much more before any blueprint for curing mathematics anxiety can be prescribed.

The Clinic has failed so far, we believe, to attract the most math anxious of all. Despite personal notes to all English and history majors, to freshmen indicating math weakness, to students in certain programs having math needs, the most anxious seem to be as successfully avoiding the Math Clinic as they have avoided mathematics in the past.

Efforts in the coming year will be directed toward engaging such persons in any kind of experimental work in mathematics. Credit courses will be continued; an all female-consciousness-raising format will be tried for adults and undergraduate women; and some work in spatial relations will be introduced. It is expected that as many as 350 Wesleyan students and 100 adults will participate in Math Clinic activities in 1976-77 if a proposal, jointly with Wellesley College, is funded by the Fund for the Improvement of Post-secondary Education

Other supplemental math learning laboratories are being proposed under different titles and with slightly different objectives at Mills College in Oakland, California, at the University of Missouri at St. Louis, at two colleges in New York City and work being done at Stanford in California is also very pertinent. It is anticipated that a small national conference for persons interested in the problems of math avoidance and math anxiety will be very timely by winter 1976-77 in order to share agendas and experience. Persons interested in being placed on a mailing list and/or receiving written materials developed so far by the project are invited to write to Sheila Tobias, Provost's Office, Wesleyan University, Middletown, Connecticut 06457. An article on Math Anxiety and the Wesleyan experiment will be published in MS magazine in September, 1976.

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A MODEST PROPOSAL

To the AWM newsletter:

We would like to suggest that the current structure of the AWM executive committee be changed to accommodate professional representation as well as regional representation.

The mathematical community contains within it women of diverse professional interests. It is essential for us to support each other, and the AWM is a good way to do this. Certainly the San Antonio panel on non-academic employment, and advertising the AWM to women in industry, are good beginnings. But the executive committee as presently constituted is so homogeneous that it contradicts our message that the AWM is the organization of all women mathematicians.

Everyone on the committee is employed, and they are all employed in academia. Their jobs involve light to medium teaching loads, in which continuation of their own research is a viable and a desired option. By and large they are neither employed by highly competitive research institutes nor are they applied mathematicians. Absolutely none of them are any of the following: active mathematicians unable to find mathematical employment; students; statisticians; workers in industry or government; technical writers and editors; programmers; teachers on any level other than four-year colleges and universities. While in a basic sense the problems of all of us are the same, on the practical level there are sharp differences in both the problems and in their solutions. The professional lives we lead are diverse and any organization claiming to speak for all of us needs diverse input.

As a corollary to the homogeneity of the executive committee, the AWM has concentrated its lobbying efforts mostly on the American Mathematical Society - with good results - while it has had little contact with the Mathematical Association of America, the Society for Industrial and Applied Mathematics, the National Council of Teachers of Mathematics, the American

Statistical Association, and the Association for Computing Machinery. The reasons for this are clear - if you neither belong to nor are active in an organization, you have no business organizing its members - and as more women active in these organizations become active in the AWM this situation will change. But the homogeneity of the current AWM leadership acts as a barrier to this change. People are reluctant to become active in an organization in which no-one with their interests seems to already be active. The current employment crisis in mathematics, among other issues, makes it essential that the AWM increase its contact with mathematical organizations on a grass-roots level other than the AMS. Welcoming their members into AWM leadership is a good way to do this.

We do not propose, in this letter, any definite plan for accomplishing this change in the executive committee. Questions about how soon this change, if approved, should take place; the exact construction of the new executive committee; and the balance between professional and geographical representation, will hopefully be dealt with at the open executive committee meeting at the Toronto math meetings.

Sincerely,

Harriet Lord
Judy Green
Ruth Silverman
Judy Roitman
Mary Gray
Ann Stehney
Nancy Myers
Marjorie Stein
Lucy Rakov
Alice Schafer
Sharon Turley
Florrie Fasanelli

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AVOIDING CHAOS
by Judy Roitman and Ann Stehney

As our membership has grown, so have our activities and clerical needs. We have been extremely lucky to have Ruth Samia as our office manager. Ruth works part-time for the AWM and is our only regular office worker. She began working for us under the direction of Alice Schafer, and as she observed our operations she has made invaluable suggestions for streamlining and organizing them. Ruth has relieved the AWM officers from many of the routine tasks they used to handle and no longer have time for; she has also helped us identify exactly what those tasks are and how they can best be handled. We thank her and are pleased to say that she will continue working for us next year.

As we have grown enough to have an office manager, we have grown enough to have an office. It is at Wellesley College's Center for Research on Women - the same building that houses the main office of the Federation of Organizations of Professional Women, of which the AWM is a member. Aside from the advantages of being near FOPW, the association with Wellesley College is financially quite advantageous to us. We get our data processing, our office space, and our utilities completely free from the college, and our printing is done extremely cheaply. Wellesley gives us these gifts and discounts, as well as helping pay other routine costs, as a donation, and we thank them for it.

The address of this new office is: AWM
Wellesley College
828 Washington Street
Wellesley, Massachusetts 02181.

All routine correspondence - dues, ads, inquiries, etc. - as well as correspondence which is unsure of its appropriate recipient - should be sent to the above address.

The main disadvantage of being at Wellesley is that this tends to centralize many AWM

activities around Wellesley faculty - three of our executive committee (the authors and Alice Schafer) are presently employed there. Aware of this problem, we are trying to organize our office so that we can reap the financial and organizational benefits of the Wellesley association without actually having to have any of our executive committee members physically present.

As long as we're talking about organization, certain of our members have special duties. Lenore Blum, the president of the AWM, is our representative to the Conference Board of the Mathematical Sciences. Judy Green is the employment officer. Mary Gray has taken on the responsibility of looking into affirmative action cases. Judy Roitman edits the newsletter. Ann Stehney is the treasurer. Christine Stokes is the person to contact if you have ideas for funding. Since we are scattered all over the U.S., you'll get a quicker response if you send your letters to the right person.

Finally, Ann and I know we speak for everyone familiar with the workings of the AWM when we give our deepest thanks to Mary Gray and Alice Schafer who for so many years bore the burden of the daily routine work necessary to keep our organization going.

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PUBLISHING JOB OPENINGS IN THE NEWSLETTER: A PERSONAL VIEW
by Ann Stehney

Our publication policy on job listings was originally formulated to aid members who are currently seeking positions. Many of us have become aware of possible abuses of this system. Here are some thoughts on the benefits, and some corresponding second thoughts.

1. By sending information to all members, we may help people who are not now looking for a job to consider directions for their study or research which will make them more "attractive" candidates in the future. We are showing a side of the employment situation which statistics alone do not reveal.

2. We provide the opportunity to advertise directly to about 800 professional women mathematicians (and indirectly to others who read their institutions's or friends' newsletters) to employers who still "can't find qualified women".

(Cynical comment: I suspect some employers of using a newsletter ad as their token effort at affirmative action. Proof of publication and a thick collection of applications from women may impress bureaucrats who don't try to determine if the applications were considered seriously. We may be raising false hopes in our readers as well as aiding violation of the spirit of nondiscrimination laws.)

3. By publishing notices that are passed along to us, as well as those sent directly to the newsletter, we are trying to break down the "buddy system" of publicizing jobs and to extend the grapevine as far as we can.

(Cynical comment: I wonder how many employers have already discovered how to use this policy to get free ads. Most of the notices we publish were addressed to an officer of the AWM personally. They commonly include a plea to

> "solicit your aid in making certain that all qualified candidates are aware of these openings"

(to quote one department head), and our bill for the publication fee is commonly not paid:

> "No such advertisement was submitted. In any case, we cannot affort the fee." to quote the same man, head of a large state university.)

PUBLISHING JOB OPENINGS IN THE NEWSLETTER: AN OFFICIAL POLICY
by Ann Stehney and Judy Roitman

In the future we will limit our ads to jobs in mathematics and the mathematical sciences (including statistics, computer science, operations research...) and to administrative jobs for which an arbitrary academic background is sufficient. Ads will be included in newsletters mailed within a month after the application deadline.

If you hear of an opening, please suggest that the institution spend $5 to advertise in the newsletter. When a reader passes along a job ad, we will send a postcard to the institution informing them that we would like to publish their ad as a good way to reach a wide audience, and that the fee for this service is $5. We will make it clear to institutions that sending a notice directly to the AWM will be considered authorization to publish and acceptance of the fee. (We will continue to waive the fee if an institution is not able to pay.)

We probably can't identify ads placed in bad faith. Members are urged to monitor the search procedures at their own institutions. If you suspect that an ad you answered was not serious, be sure to let us know. We will work with Mary Gray, who is collecting information on discrimination cases, to try to detect patterns.

If we suspect abuses of the system - either advertising in bad faith or sending notices to an officer to assure publication but to avoid paying - we will consider publishing our suspicions along with the ad.

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OF POSSIBLE INTEREST

The Philadelphia Board of Education sponsored a mathematics career forum on May 13th at its Girls High School. The audience was culled from all Philadelphia public high schools, and the program was specifically designed to encourage young women to go into mathematical careers.

Important news from NOW: You can bring sex bias charges under Title IX directly to HEW without having to first seek redress from your institution. (See Martha Jaffe's article for who to appeal to under what law.)

Want a T-shirt with a famous woman on it? New Victoria Printers at 7 Bank Street, Lebanon, New Hampshire 03766 (a feminist print shop) has them. They're interested in doing one with a famous woman mathematician - "Sonya Kovalevsky (after we check the spelling) and then possibly Hypatia and/or Emmy Noether." If you think there'd be a market for such a T-shirt, let them know.

A conference on The Black Woman and the Bicentennial will be held June 24 - 27 at Arizona State University, Tempe, Arizona.

On March 20, Mills College hosted a conference for high school women interested in math, science, and technology. The sponsors were Mills Colege, Lawrence Hall of Science (both of which have active programs encouraging women in mathematics), the University of California, Berkeley, and the Alameda, Contra Costa County Mathematics Educators. Also at Mills, on April 24, was a conference for teachers and counselors on educating women for science, sponsored by the Center for Teaching and Learning at Stanford, which is supported by the Danforth Foundation. JR

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QUERIES

Dr. Charlotte S. McClure at Georgia State University is researching personal writings of women in science who were alive since 1950. If you can help her, write to her c/o the Honors Program there.

The Women in Science course at the University of New Mexico, Albuquerque, is interested in a bibliography on women in science, and hence in women in mathematics. So far they have 15 pages of computer output. If you can help, write to Jane Gillespie in the biology department, or to Nancy Martin in computing and information science.

Rand McNally needs brief biographies of women mathematicians for its junior high and high school math modules. Each one is headed by a biographical frontspiece, and so far the only women chosen are Charlotte Scott and Margaret Knight. You can write to Cathy Ann Tell, Copy Editor, Education Division, Rand McNally, P.O. Box 7600, Chicago, Ill. 60680.

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JOBS

The vacancies listed below appear in alphabetical order in an alphabetical listing of states, followed by Canadian listings.

Univ. of Alabama, Huntsville. Instructorship in Mathematics. Teaching position requiring 9-12 classroom hrs/wk. Master's Degree Math. required. Start 9-76. Usual fringe benefits. Send resume and 3 letters of reference by 5-20-76 to Dr. Peter G. Casazza, Chairman, Dept. of Math., Univ. of Alabama, Huntsville, Huntsville, AL 35807.

Cal. State Univ., Fullerton, Dept. of Mathematics, tenure track position. Requirements: Ph.D. and expertise in one of areas of applied math., probability or statistics. Submit application, resume, transcripts of grad. coursework, and three letters of recommendation to chairman, Search Committee, Dept. of Math., Cal. State Univ., Fullerton, Fullerton, CA 92634.

College of the Pacific, Assist. Prof. Mathematics. Teaching undergrad. math. courses in Spanish to Latin American students, coordinate remedial work in math. for Spanish speaking students. Requirements: Ph.D. in Mathematics and potential for effective teaching in both Spanish & English. Contact: Dr. Roland di Franco, Chairman, Department of Mathematics, University of the Pacific, Stockton, CA 95211. Deadline 5-1-76. Start 9-76.

Marin Community College District District Personnel Director responsible for developing and implementing comprehensive personnel administration program. Requirements: advanced degree with specialization in personnel-related field or two or more yrs. of personnel management or work at community college level or ability to direct the adaption of personnel operations to IBM 370 system. Contact: Classified Personnel Office, OC 140, Marin Community College District, Kentfield, CA 94904. Deadline 5-14-76. Start 7-1-76.

University of the Pacific Coordinator of Comp. Ed. Duties involve: coordinating the academic computer usage, consulting w/faculty & adv. student, and teaching courses in comp. sci. 10½ mo. appointment. Ph.D. in Comp. Sci. preferred. At Ph.D. level appointment is tenure-track. Send vita and name of 3 references to: Dr. R. W. Pulleyblank, Chairman, Search Committee for the Coordinator of Comp. Education, Academic Vice President's Office, Univ. of the Pacific, Stockton, CA 95211. Deadline 6-1-76.

Postal Rate Commission Marketing Research Specialist GS12/GS13. Office of Planning and Operations - Economics and Market Research Div. Requirements: bachelor's degree in Marketing and preferably a graduate degree in this field or related fields such as economics, math., statistics, etc. and 5 yrs professional marketing experience. Submit SF171 or resume to: Postal Rate Commission, Administrative Office, Room 500, 2000 L Street, N.W., Washington DC 20268. ATTN: Mr. C. J. Pittack.

G. D. Searle Pharmaceutical Co. Ph.D. in Statistics or Biostat, prefer experience in pharmaceutical industry, biological science background or serviced bioscience area. Send resumes to Diane Berman, G. D. Searle Pharmaceutical Co., Box 1045, Skokie IL 60076.

Northern Illinois University, Dept. of Math., Assistant professors (possibly 8), probability & statistics, computer science, numerical analysis, mathematical programming, combinatorics, topology, or math. ed. Ph.D.& continuing research required. 6/8 contact hrs/wk. Start 8-76. Clarence E. Hardgrove, Chairperson, Dept. of Math. Sciences, Northern Illinois Univ., Dekalb, IL 60115.

Southern Illinois Univ. at Edwardsville President. Applications and nominations should be submitted no later than 6-4-76 to: Chairperson, Presidential Search Committee, Campus Box 92, Southern Illinois Univ., Edwardsville, IL 62026.

Western Illinois Univ. probably openings Dept. of Math. 9-76. One Asst. Prof. Preference to areas of geometry or systems analysis. Ph.D. required. Temporary one year postdoctorate position. Ph.D. required. Temporary one year instructorship. MS required. A. Jerry Shryock, Chairman, Dept. of Math., Western Illinois Univ., Macomb, IL 61455.

Anderson College. Comp. Science. Teaching competence in information structures and application of computers to management analysis. Appropriate master's degree required, doctorate preferred. Applied and teaching exp. desired. Start 9-76. Contact: Dr. Duane C. Hoak, Dean of the Faculty, Anderson College, Anderson, IN 46011.

Coe College Instructor or Assist. Prof. of Math., 9 hrs. per week teaching pre-calculus, calculus, linear algebra, and adv. analysis courses; student advising duties. Start 8-30-76. Ph.D. desired, Specialty Preferred - analysis. Deadline 6-1-76. Contact Charles M. Lindsay, Interim Dean, Coe College, Cedar Rapids, IO 52402.

University of Louisville. Assistant Prof. Systems Science Center w/joint appointment with the Arts & Sciences Dept. of Math. Ph.D. in Math. or Systems Science required with primary interest in analysis. Interest in probability and statistics desirable also experience in computer use in either instruction or research. Qualified to conduct research in quantitative approaches to societal problems and mathematical systems theory. A record of research publications is desired in at least one of following auxiliary areas: comp. modeling & simulation, operations research, and the application of computers to solution of quantitative social problems. Contact Dr. H. R. Porter, Systems Science Center, Univ. of Louisville, Louisville, KY 40208.

Northeast Louisiana Univ., Dept. of Math., Assist. or Assoc. Prof. undergrad. comp. sci., salary $12,000 - $15,000, start 9-76. Ph.D. or Ph.D. candidate. Assist. or Assoc. Professor undergrad. and grad. level math. courses, salary S12,000 - $15,000, start 9-76. Ph.D. any area of specialization. Contact: Richard D. Finley, Chairman, Dept. of Math., Northeast Louisiana Univ., Monroe, LA 71201.

Dynamics Research Corp. Management and Computer System Services Dept. openings for programmers at all levels and data base designer/programmers at intermediate and sr. levels. Also operating system programmers with at least two yrs H 6000 exp. and communications programmers with exp. on Honeywell front-end network processors. Positions in Wilmington, foreign travel opportunities exist for selected positions. 3 openings Communications $15-19K. 11 openings Data Base/Programmers 13-23K. Contact Jack Kelly, Dynamics Research Corp., 60 Concord St., Wilmington, MA 01887.

Dynamics Research Corp. Systems Analysis Dept. openings for Inertial Systems Analysts solving problems concerning system optimization and development of techniques for testing & modelling inertial components and systems. M.S. or Ph.D. in Engineering required. Exp. in application of modern estimation and control theory through the analysis & design of inertial systems is desirable. 3 openings salary to 28K. Contact Jack Kelly, Dynamics Research Corp., 60 Concord St., Wilmington, MA 01887.

Michigan Technological Univ. Dept. of Math. two anticipated openings, one year appointments, for up to three years, do not lead to permanent tenure. Master's Degree in one of math. sci. required. Salary $10,000 - $11,500. Contact Dr. Zane C. Motteler, Head, Mathematics Dept., Michigan Technological Univ., Houghton, MI 49931.

Michigan Technological Univ. Instructor, Math/Comp. Sci., MS level. 1 year renewable appointment to teach lower div. math/programming. For further information: Z. Motteler, Head, Math Dept., Michigan Technological Univ., Houghton, MI 49931.

Montana State Univ. Dean of Student Affairs. Doctorate or terminal degree preferred. Salary open. Submit resume and 3 letters of recommendation to Joan G. Stovall, Chair, Search Committee for Dean of Student Affairs and Services, Montana State Univ., Bozeman MT 59715.

Montana State University. Asst. Professor - Elementary Education (Elementary School Math. Specialty) Start 9-76. Deadline 4-30-76. Ed. D. or Ph. D. required. Concentration of training and exp. in elementary school math., training and competency in statistics and research. Salary $13,000. Contact: Dr. Gerald D. Sullivan, Head, Dept. of Elementary Education, 132 Reid Hall, Montana State Univ., Bozeman, MT 59715. Indicate availability for interview.

Dartmouth College Kiewit Computation Center. Assist. Director for User Services. Salary $14,850 - 18,150. Assist. Director for Systems Assurance. Salary $14,850 - 18,150. Minimum requirements: 5 yrs operating system programming or maintenance exp., familiarity with problems of exporting software and relevant documentation, ability to write clear, concise reports. Resume to: Manager of Employment, Dept. of Personnel Administration, Box 283 Dartmouth College, Hanover, NH 03755.

Univ. of New Mexico. Assist. Prof., Computing and Information Science, one-year appointment. Required: Ph.D. in Comp. Sci. and experience in teaching introductory and intermediate courses in structured programming, data structures, artificial intelligence, theory of computation and/or formal languages. Contact: D. R. Morrison, Div. of Computing and Information Sci., Computing Center 146, Univ. of New Mexico, Albuquerque, NM 87131.

Colgate Univ. Instructorship math. Start 9-76. Prefer candidate with specialty in applications of math. to the physical sciences, specialty in analysis will be considered. Completed or nearly completed Ph.D. Approx. salary $11,500. Send biographical and professional information and have three letters of recommendations sent to: Malcolm Pownall, Acting Chairman, Dept. of Math., Colgate Univ., Hamilton, NY 13346. Deadline: 5-1-76.

Herkimer County Community College teaching Mathematics and Physical Science. Masters Degree required. Some background in Comp. Sci. Contact Dr. H. David Trautlein, Dean of the College, Herkimer County Community College, Reservoir Road, Herkimer, NY 13350. Start Fall 1976. Deadline 5-1-76.

New York Institute of Technology Dept. of Math. anticipated faculty opening. Start Fall 1976. Ph.D. in Math. required. Relevant teaching/research exp. in Applied Math. Contact: Kotu Lulla, Chairman, Dept. of Math., New York Institute of Tech., Wheatley Rd., P. O. Box 170 Old Westbury, NY 11568.

Polytechnic Institute of New York. Dept. of Electrical Engineering & Electrophysics. Comp. Science Div. faculty openings starting 9-76. Areas of particular interest include computer architecture, microprogramming, microprocessors, and operating systems, other areas will be considered. Ph.D. required. Send resume to Professor E. J. Smith, Polytechnic Institute of New York, 333 Jay St., Brooklyn, NY 11201

Polytechnic Institute of New York. Electrical Engineering and Electrophysics Dept. faculty openings in area of Electronics and jr. faculty openings in Computers and Communications. Ph.D. required. Send resume to Professor L. Shaw, EE/EP Department, Polytechnic Institute of New York, 333 Jay Street, Brooklyn, NY 11201.

State Univ. of New York College at Fredonia, Mathematics: Possible one or two positions, Instructor or Assistant Prof. level for one year only. 12 hrs teaching load. Mathematics for elementary teachers; college geometry, generous fringe benefits. Start Fall 1976. Send resume to Chairperson, Dept. of Math., SUNY College at Fredonia, Fredonia, NY 14063.

State Univ. College, Oneonta, Comp. Sci., Assist. Professor. Required: Ph.D. with equiv. of M.S. in Comp. Sci., doctorate in C.S. desirable. Start 8-26-76. Contact: John Baskin, Chairman, Dept. of Math. Sciences, State Univ. College, Oneonta, NY 13820. Deadline 5-12-76.

State University of New York, Plattsburgh. Computer Science, Visiting Instructor, $12,000 max, start 9-76. Master's degree required. Teach courses in Comp. Sci. and Applied Comp. Science, assist in development and review of academic programs, participate in research. Submit resume and letter of application to: Mr. J.A. Archibald, Jr., Chairman, Dept. of Computer Science, SUNY Plattsburgh, NY 12901. Deadline 5-1-76.

Goodyear Aerospace Corp. Digital Systems Architect MS or Ph.D. electrical engineering or computer science with 5 - 10 yrs exp. in developing digital computers. Digital Systems Logic Designer BS or MS in electrical engineering or computer science with 2 - 5 yrs exp. in the logic design of digital computers/systems. System Software Architect MS or Ph.D in computer science, mathematics or electrical engineering with 5 - 10 yrs exp. in architectural design of software for digital computer systems. For these and other openings contact William Forrer, Personnel Representative, Goodyear Aerospace Corp., 1210 Massilon Rd., Akron, OH 44315. Phone (216) 794-3385.

Oberlin College, Dept. of Mathematics. Assist. Prof. one year non-continuing appointment w/Ph.D. or expected by 9-1-76. Salary $11,500 - $13,000 9 mos. Two courses one semester, three the other. Submit dossiers and three letters by May 15 to Professor E. P. Vance, Chairman, Dept. of Mathematics, Oberlin College, Oberlin, OH 44074.

Univ. of Oregon. Dept. of Comp. Sci., Assoc. Prof. or Prof. Applicant should have solid research record and active research program in the theory of computation, artificial intelligence, computer languages, or general systems and be interested in providing leadership in the academic program in Comp. Sci. Submit resume to Fred C. Andrews, Acting Head, Computer Science Dept., Univ. of Oregon, Eugene, OR 97403.

Clarion State College Dept. of Math., temp. vacancy 1976-77 academic yr at its Venango Campus in Oil City, PA rank of instructor. Requirements: M.A. or M.S. in Math. or equiv coursework and evidence of 3 yrs highly successful teaching exp. Send dossiers and letters of reference by 5-1-76 to: Dr. Stephen I. Gendler, Chairman, Dept. of Math. Clarion State College, Clarion, PA 16214.

Brown Univ. Div. of Applied Math. Mathematical statistician, with interests in applications, temporary vacancy Semester II 1976-77 academic yr. Teaching grad. course on some topic of statistical inference. Contact: Professor Ulf Grenander, Div. of Applied Math., Brown Univ., Box F, Providence, RI 02912.

Rhode Island College, President. Start June 1977. Requirements: earned doctorate or its equivalent, teaching and administrative experience at college or university level and ability to relate to community. Deadline 8-31-76. Contact: Mr. Albert E. Carlotti, Chairperson, Board of Regents for Education, 199 Promenade Street, Providence RI 02908.

El Paso Community College. Mathematics, Master's degree in math. Teach tech. math and freshmen/sophomore level math. Some knowledge of Spanish & ability to relate to minority students desirable. Option of summer employment. Deadline 5-31-76. Start 8-23-76. Submit placement files and/or letters of recommendation to Personnel Dept., El Paso Community College, 6601 Dyer, El Paso, TX 79904.

El Paso Community College. President of the College. Required: earned doctorate or a Master's degree w/extensive community college administrative exp. Preference given to those whose degree is in curriculum and instruction, education administration, or higher education. Dean of Administration. Required: minimum of Master's degree in business or related field or CPA. Business and management operations exp. is required. Deadline 6-15-76. Contact: Personnel Dept., El Paso Community College, 6601 Dyer St., El Paso TX 79904.

Marquette Univ. Teaching position, Assistant Professor level for Applied Mathematician. Ability to consult with engineering faculty and people in industry important. Ph.D. Mathematics required. Send resume to Dr. W. E. Lawrence, Dept. of Mathematics and Statistics, Marquette Univ., Milwaukee, WI 53233.

University of Wisconsin, La Crosse, Comp. Sci. Dept., Academic Staff position to teach variety of undergrad. courses in Comp. Sci. and develop specialty courses at sr. college level. Deadline 4-30-76, start 8-23-76. Requirements: Ph.D. or M.S. and exp. in Comp. Sci. or related area, strong interest in undergrad teaching and professional commitment to Comp. Sci. Contact: Lonny B. Winrich, Chairman, Computer Science Dept., Univ. of Wisconsin-La Crosse, La Crosse, WI 54601.

University of Wisconsin, Parkside. Visiting Assistant Professor Mathematics. One-year appointment unrenewable. Ph.D. required and demonstrated competence in teaching and research. Duties include instruction in undergrad. math, usually three courses. Have vita and three letters of recommendation sent directly to: Professor T. V. Fossum, Chairman, Mathematics Recruitment Committee, University of Wisconsin-Parkside, Kenosha, WI 53140. Deadline 5-3-76.

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If you are interested in staffing the AWM table at the Toronto meetings (Sunday, August 22 to Saturday, August 28), working on AWM projects, or have any ideas, suggestions or comments, please fill out this form and mail to:

Lenore Blum
Department of Mathematics
Mills College
Oakland, California 94613

* *

Name ____

Position (if any) ______________________________________

Address: ____________________________ Phone: ________________

____

I will probably be available to staff the AWM table ________. Days and times: __________

____

I am interested in working on the following AWM projects and areas: ______________

____

Ideas, suggestions, comments:

ASSOCIATION FOR WOMEN IN MATHEMATICS
MEMBERSHIP APPLICATION

New _____
Renewal _____

Name and
Address _____

_____

_____

_____

Institutional affiliation, if any _____

Position _____

Individual _____
($8, Oct. 1, 1975-
Oct. 1, 1976)

Family _____
($10, Oct. 1, 1975-
Oct. 1, 1976)

Retired, Student, or
Unemployed _____
($3, Oct. 1, 1975-
Oct. 1, 1976)

Institutional _____
($20.00) (Two free
advertisements in the
Newsletter)

Make checks
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Contributions are tax deductible, welcome and needed.

and mail to Ann Stehney
AWM Treasurer
c/o Department of Mathematics
Wellesley College
Wellesley, MA 02181

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Wellesley College
Wellesley, MA 02181

May-June 1976

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