

# Gazette

A Newsletter of the Committee on the Status of Women in Physics of the American Physical Society

## COMMITTEE ON THE STATUS OF WOMEN IN PHYSICS 1989 ANNUAL REPORT K. B. Lyons, Chair

### Committee Membership and Organization

The chair of the committee for 1989 was Kenneth Lyons (AT&T, 1990). Other members (with the last year of CSWP tenure in parentheses) were Patricia Dehmer (Argonne, 1989), Mildred Dresselhaus (MIT, 1991), Melissa Franklin (Univ. of Toronto, 1990), Robert Knox (Univ. of Rochester, 1989), Elaine Oran (NRL, 1991), Lee Pondrom (Univ. of Wisconsin, 1991), Jin-Joo Song (Oklahoma State Univ., 1991), and Ellen Zweibel (Colorado Univ., 1989). APS liaison was provided by Miriam Forman and Amy Halsted. Robert Knox was the committee secretary. At the end of 1989, three new

members were selected to replace the outgoing ones: Lillian McDermott (Univ. of Washington), Richard Wolfson (Middlebury College), and Elaine Williams (Univ. of Maryland). The committee met three times in 1989; in January at the Joint APS/AAPT/AAAS meeting in San Francisco, and in April and October at APS headquarters in New York. Mildred Dresselhaus will be chair for 1990.

### Chairperson's Overview

The CSWP has several projects that have been in existence for many years. These include the Roster, The *Gazette*, and the Colloquium Speakers List (CSL) (see reports below). These have been effective in addressing their respective target problems. As chair of the committee this year, though, I felt a distinct need to consider some new initiatives. The excellent symposium in January identified key areas where progress has been lacking. Among these were the lingering problem of low female percentages on physics faculties and the issue of stimulating high school girls to see physics as a viable career option. The committee was largely in agreement on the need to address these two issues in new ways.

On the issue of female faculty, we have maintained a "panel" for several years to assist experienced female physicists in obtaining faculty positions. However, there has been little success in this approach over a period of several years. In 1989, as a first step in a fresh direction, we carried out a survey of hiring patterns at major university departments. I hope these results can be used in some way to stimulate more hiring of females, or, as a minimum, to direct attention at the problem. Toward the latter end, a report has been circulated to the university departments that participated in the study. Other uses of the

data, such as possible publication in *Physics Today* or elsewhere, should be considered in the near future.

Several initiatives were considered in the context of precollege education. Our "Physics in Your Future" brochure, long a favorite of high school guidance counselors, was reprinted with corporate support. We also have begun a study of summer institutes for high school students, to see whether this existing resource can profitably be utilized in some targeted way to influence female students.

Both of these problems are fundamental and of far-reaching import. The steps outlined above are insufficient to address them in substantive fashion. It is my hope, though, that they will serve as a basis for further action in the future.

I wish to express my appreciation to the committee members, and to Miriam Forman and Amy Halsted, for their support during my tenure as chair of the committee.

### Charter Clarification

Over the years, various versions of the CSWP charter have been put forth, not always with attention to previous versions. We discovered that we had three versions in existence, differing in a number of particulars. Bob Knox melded the versions together in a rewrite, which was accepted by unanimous vote of the committee. A copy is available from the APS office for interested readers.

### Gazette

The *Gazette* of the CSWP has been published four times in 1989, in January, April, August, and November. The

The editor for this issue is Ken Lyons;  
assistant editor is Amy Halsted.

### In This Issue:

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#### Members of the Committee

##### Chair

Mildred S. Dresselhaus  
Massachusetts Institute of Technology

##### Past Chair

Kenneth B. Lyons  
AT&T Bell Laboratories

Melissa E. Franklin  
University of Toronto

Lillian McDermott  
University of Washington

Elaine Oran  
Naval Research Laboratory

Lee Pondrom  
University of Wisconsin

Jin-Joo Song  
Oklahoma State University

Ellen D. Williams  
University of Maryland

Richard Wolfson  
Middlebury College

##### APS Liaison

Miriam A. Forman  
SUNY, Stony Brook

Amy Halsted  
APS Staff

##### AAPT Liaison

Carol-ann Tripp  
Providence Country Day School

The "CSWP GAZETTE," a quarterly newsletter of the American Physical Society Committee on the Status of Women in Physics (CSWP), is mailed free of charge to all women listed on the computerized "Roster of Women in Physics," all US physics department chairs, and others on request. Because editorial responsibility rotates among CSWP members, please address all correspondence to: "CSWP Gazette," The American Physical Society, 335 East 45 St., New York, NY 10017.

focus of the January *Gazette* was a report on the symposium at the January meeting, along with Ellen Zweibel's report as 1988 chair. The roster and CSL enrollment forms were published in April and August. The April issue focused on aspects of the conflict between parenting and the tenure process for women in academic positions. The August issue included the CSL listing as an insert, and the November issue focused on the international aspects of women in physics, especially with regard to the Western tendency to assume that our problems apply to everybody. In addition to these feature articles, the usual assortment of letters, announcements, and information bulletins were present as well. The editors of the respective issues were Ellen Zweibel (January), Patricia Dehmer (April), Ken

Lyons (August), and Jin-Joo Song (November).

#### Colloquium Speakers List

The Colloquium Speakers List continued to grow, expanding some 30% during 1989. The new format, using a computer database to organize the data, made it possible to carry out a new kind of updating, with each registrant receiving a personalized update form, listing all information presently included for that individual, including phone numbers, affiliation, address, talk titles, and section designations. These personalized update forms elicited a large number of changes in the information stored. The CSL enrollment form also was published in the *Gazette* to encourage participation. The new form includes a checkoff block for interest in speaking to precollege audiences, to provide information for organizations desiring such speakers. The list was published as an enclosure in the August *Gazette*. The information on precollege audiences was included by special symbols in the address section of the list. In addition, a list of women interested in such presentations was supplied to Beverly Citrynell in response to her request, for use in a program in the New York area.

#### Roster of Women in Physics

The Roster has continued to grow this year and in 1989-1990 was used for over 30 searches. The roster enrollment has been updated and improved a bit, especially with regard to ease of data entry by the APS staff, and has been published in the *Gazette* and in the Colloquium Speakers List. It remains a most visible and effective tool for employers seeking to advertise positions to prospective female applicants.

A brochure describing the search procedure and capabilities has been proposed. This idea will be addressed in 1990.

#### Employment Panel

The panel was formed several years ago for the purpose of assisting experienced female physicists interested in seeking academic appointments has continued

to find little activity this year. Formally, Lee Pondrom has taken over from Janice Button-Shafer as head of the group, but serious questions have arisen within the committee as to the effectiveness of the concept. A review of the concept of the panel, as well as possible alternate approaches, is planned for 1990.

#### Symposium at January Meeting

A symposium was held at the January APS meeting, which was held jointly with AAPT and AAAS. Chaired and largely organized by Janice Button-Shafer in 1988, it was very well received and well attended. In fact, it was nearly standing-room-only in a rather sizable room. The speakers focused on the topic of where and why female students make choices to move out of the physical sciences. Discussion was lively, and led to one of our initiatives in 1989, namely, the survey of hiring at major university physics departments.

#### Physics in Your Future (PIYF)

The PIYF brochure published in 1984 had become so popular in recent years that our supply of copies was totally exhausted. Since we did not wish to be out of copies for an extended period, the old brochure was reprinted with minor modification. Support was obtained from AT&T, IBM, and Xerox for the printing of 30,000 copies. This is seen as an interim measure, to allow us time to produce an updated brochure at more leisure. Planning for such a brochure is envisioned as a near-term project.

#### List of Female APS Fellows

As part of our charter the CSWP is called upon to assist in suggesting nominees for various awards and positions from time to time. This process has, in the past, been somewhat haphazard, based on personal contacts of those on the committee. With this process in mind, we began accumulating a list of prominent women physicists, beginning with a list of female fellows of the APS. This project became interesting in its own right, as we realized what a small number of female fellows there in fact are. By the end of the year, after a search of the directory and numerous additions by members of the committee, the list was only slightly longer than one page (out of roughly 4000 APS fel-

lows). While this process will no doubt help in the future in nominations, it also sparked the committee to consider the fellowship nomination procedure itself. Nineteen eighty-nine was another lean year for female fellows, with only two being elected out of 165 announced in the January 1990 *Bulletin*. At year's end, contacts are underway with chairpersons of the various divisions, to see whether specific progress can be made in this area.

In a related issue, the committee decided to attempt to stimulate nominations of eminent women physicists for the National Medal of Science. Five women were selected, and possible sponsors identified. Committee members volunteered to contact the prospective sponsors. At least two nominations resulted from this process, to our knowledge.

### **Female Hiring as University Faculty**

In keeping with the CSWP charge to identify and report on issues of relevance to women in physics, a study was made in 1989 of the recent hiring experience at major university physics departments. National faculty composition numbers make it clear that the population of female faculty at Ph.D.-granting institutions falls far short of the fraction of women in the overall physicist population. Since the committee feels that this is a very important influence in the lack of growth in the population of women physicists in recent years, we felt it worthwhile to attempt to identify trends in a more specific manner. Namely, although data were available on faculty *composition*, no data were available in a tabulated fashion on *hiring*. The top ten departments, identified by the NSF, were used in this study, and graciously agreed to provide statistical hiring information for the last eight years. This information was used in conjunction with the report by Sarah Bolton on Ph.D. production at the same universities to produce a report that identified both progress and reasons for concern. The detailed information is not considered public, but a summary report is published as a separate article in this issue of the *Gazette*.

### **The National Physical Sciences Consortium (NPSC)**

The committee heard a presentation by

Nan Snow of the NPSC at our January meeting. This program provides fellowship support for women in graduate school. Each fellowship is sponsored by a corporation. The award is designed to include both financial support and mentorship, the latter being provided in two-fold fashion, one by the host university and one by the sponsoring corporation. The committee sent a letter for the NPSC program to Kennedy Reed, the APS liaison person for the consortium, expressing our support for the program as well as making some suggestions for improvements.

### **Summer Institute Survey**

In keeping with our emphasis on precollege education, we have begun a survey to study the impact that summer science institutes have, or could have, on the retention of women in the physical sciences at the high school level. Questionnaires have been sent to a large number of summer institute directors to ascertain information such as typical female enrollment, any special policies with regard to female applicants, publicity efforts, etc. At this writing the information is not yet tabulated, but this project will remain an on-going one for 1990.

### **STUDY ON HIRING OF WOMEN AS PHYSICS FACULTY** **Ken Lyons, CSWP**

At the CSWP symposium last January it was pointed out by Beverly Porter, among others, that there is a large gap between the percentage of female physics faculty members at degree-granting institutions and the percentage of female Ph.D.'s being produced. The latter fraction is small enough (around 8%) but the status of women on physics faculty, near 2%, seems to present a difficult and important problem. We were curious as to how the situation looked at the top ten physics departments and, in addition, how it would look if we looked at the *hiring* record instead of just at the current numbers. It seemed reasonable to expect that the top departments should be hiring women in at least the percentage in which they were receiving Ph.D.'s from those same departments. Although the data were available on a national basis, they were not available to us in the particular form we wanted. Hence the survey.

We obtained data on Ph.D. production and hiring in the period 1982–1988. For the purposes of this article, we present the data in summary form only. The ten schools (eleven departments) involved are those identified as “Top Ten” by the recent AIP survey of graduate schools. Naturally, for a single school the numbers are small enough that fluctuations might not be meaningful. However, for the eleven departments together there are a total of over 700 faculty members, over 25% of which have been hired since 1982. Hence, the numbers are large enough to become meaningful as statistics.

The present faculty composition is similar to the national averages; namely, 2.1% (15) of the faculty members are women. The fraction of women receiving Ph.D.'s in these same departments is 7.6%, very close to the national average.

On the hiring side, we found that in this 7-year period, only some 27% of the faculty have been hired (198 hires) of which 11 were women. This percentage, 5.5%, thus falls somewhat lower than the Ph.D. production rate. The fact that it is not even lower than it is may be encouraging news, and somewhat contrary to the impression one gets from anecdotal information. However, the fact that it lags Ph.D. production by almost 30% is disturbing.

More disturbing, moreover, is the fact that the startling difference between the faculty composition and that of the Ph.D. recipients exists despite a long-term hiring rate more than twice as high as the present faculty composition. The main reason is clearly the low rate of turnover of physics faculty. If 25% are hired in a 7-year period, it takes 28 years to update the demographics of our physics departments! I would hope that it is possible to do better than that.

In fact, an opportunity to do exactly that may be emerging in the next decade. Whereas there has been comparatively little physics faculty hiring in the last 10–15 years, it is anticipated that the retirement of many members of physics faculties in the 1990s will bring about a sizable spurt of hiring in this area. If, in this context, suitable attention is paid to the pool of outstanding women Ph.D.'s, it should be possible to

largely rectify the present imbalance. Indeed, this is true even if attention is limited to the top ten schools. In this context, I note that these departments account for nearly 20% of the national production of physics Ph.D.'s.

We also find wide differences among these departments. If we rank them according to percentage of female hiring, then the top five show a hiring rate at or above 8%, the market average (8 out of 55 hires). The bottom five, on the other hand, show a hiring rate of only 2%. In fact, three of these schools have hired no women at all, despite 49 hiring decisions during this period. **The top group are in fact hiring well above the production percentage, but half of the major schools are not. In fact, they are falling short of the mark by over 70%. These departments are the ones who need to pay special attention to this article.**

It is now becoming a well-recognized fact that the position of the United States as a leader in science and technology is imperiled unless we can attract more of the "best and brightest" students into related careers. If only 8% of our Ph.D. recipients are female, we are by default relinquishing some 46% of our potential students, assuming random distribution by gender. That must not be allowed to continue. In order to attract these potential students, it is crucial that women be placed onto physics faculty, especially at the leading schools, in sufficient numbers that their presence is seen and felt by the student body and in the news media. Clearly, if we wait for hiring at "market percentages" to catch up with itself, the process will be a slow one.

It is therefore vital that efforts be redoubled to locate and attract well-qualified female faculty members at our best schools. It is especially important that we exploit the "window of opportunity" anticipated in the 1990s. I invite you to join in that effort as a matter of self-interest.

In summary, then, the good news is that hiring in the top university physics departments has not fallen as far short of the Ph.D. composition as the faculty statistics and anecdotes would lead us to believe over the last seven years. The number of female faculty has nearly

doubled in the interim. The bad news is that it needs yet to quadruple from the present position before faculty composition will accurately reflect the current Ph.D. demographics. Moreover, half of the major schools are hiring virtually no women at all.

For this to happen, there will have to be a widespread and deliberate search for female candidates as positions appear. For a considerable period of time it will be necessary to hire female faculty at a rate *exceeding* the female percentage of Ph.D. recipients, to the extent that this is possible. The CSWP stands ready to assist in this process. Specifically, the Roster of Women in Physics provides a mechanism for advertising positions available to potentially interested female candidates. We encourage our readers to publicize this service to members of search committees at your institution.

### SUMMER SCIENCE INSTITUTES

[The CSWP has begun a survey of summer science institutes in order to determine whether there are ways to make use of the resource such programs provide to address the low retention of high school girls in science and math. The results of this survey are not yet available, but an article in the Fall bulletin of the Center for Education of Women (Ann Arbor, MI) gives some food for thought as to the effect such programs can have.

Summerscience is a two-week lab-based program for junior high school girls. It is run by the Center for Education of Women. The remainder of this article is an excerpt from the article in their bulletin.]

After two weeks of intensive science lessons, many of the girls said they have new ideas about science and their futures.

"This is much more exciting than school," said future biochemist Dion McCoo, 14, of Lansing.

Gigi Knudsen, 13, of Scottville, said that she enjoyed working around girls who are just as good as she in math and science. It's different at her school, she said, "where this boy who's the smartest in the class treats us like we can't do anything."

Funded by a two-year grant from the NSF, Summerscience is aimed at encouraging Michigan's top female science students to remain in the education "pipeline" at a crucial junction—between middle and high school—when they often are no longer required to elect math and science.

"It has nothing to do with being capable," said Cinda-Sue Davis, a biochemist who directs the Women in Science program. "Young girls aren't envisioning themselves in scientific careers, so they're not choosing to continue with math and science classes."

### DUAL CAREER TIDBITS

According to "Manpower Comments," in their October newsletter, significant progress is being made in obtaining both corporate and academic response to the problems of dual-career couples.

- The number of companies offering spouse relocation aid has tripled, according to a survey by the Career Relocation Corporation of America. In a poll of 340 major corporations, one-third offered spouse assistance, compared to only 11% in 1987. One out of five spouses helped was male.

- A growing number of higher education institutions have set up special programs to help partners of potential faculty members find jobs, either at the university or in the community. Although some institutions have done this for years, interviews with higher education officials nationwide show there has been a recent surge of interest. The most frequently cited reason is the rising number of dual-career couples. In many fields, the competition for faculty members is increasing, a trend that gives job candidates more leverage in setting conditions for their appointment.

- For a detailed discussion on the topic "Jobs for Academic Spouses," see the 20 September 1989, issue of *The Chronicle of Higher Education*.

### TASK FORCE ON WOMEN IN SCIENCE AND ENGINEERING

It has been widely advertised, although perhaps not widely appreciated yet, that we face a national shortage of trained

scientific and engineering personnel in the relatively near future if students cannot be attracted in substantial numbers from among the "nontraditional" groups of women, minorities, and handicapped. In face of these facts, Congress created a task force to study the problem and make recommendations. The final report, published in November, "creates short- and long-term goals for the science and engineering workforce, and makes specific suggestions and strategies for achieving the goals." The actions recommended include changes in the educational system, Federal agency programs, and quantitative goals for universities. An earlier interim report, and the final report, may be obtained by writing Ms. Sue Kemnitzer, Executive Director, Task Force on Women, Minorities, and the Handicapped in Science and Technology, 330 C Street, SW, Room 2014, Washington, D.C. 20201.

In addition, a very interesting compilation of statistics (circa 1988) is available as an NSF report, "Women and Minorities in Science and Engineering," as NSF publication 88-301.

### ROLE MODELS, MENTORS, AND EXCELLENCE

The Ohio Academy of Science has an interesting book available, designed to inspire young women to choose science-related careers by introducing women to serve as role models and mentors. Entitled "EXEMPLARS: Women in Science, Engineering, and Mathematics," it presents short examples, from the careers of 193 women in various technical fields. The women represented were chosen for excellence in their fields and for their ability and willingness to serve as mentors. The booklet is available without charge from the Ohio Academy of Science, 445 King Avenue, Columbus, OH 43201.

### LETTERS TO THE EDITOR

#### TO THE EDITOR

I generally enjoy reading the newsletter, and the November one was no exception. One of the most interesting parts, being a graduate student, is the listing of "Honors, Awards, Opportunities." My interest turned to annoyance when

the two fellowships listed both had due dates prior to the date, 19 January, when I received the "November" newsletter.

What is being done to make sure the newsletter is sent out timeously?

Very truly yours,  
Beth Hufnagel  
Astronomy Department  
University of California, Santa Cruz

#### ASSISTANT EDITOR RESPONDS:

Dear Ms. Hufnagel:

I am responding to your letter to Dr. Jin-Joo Song of Oklahoma State University, who was editor of the November *Gazette*, which you did not receive until January. As assistant editor, I am concerned with coordinating production for the *Gazette*, and I can explain its tardy arrival.

The copy for that issue was collected in early November, hence the date on its cover. The copy required more reprint permissions and reviews by authors and sources than usual, and some were delayed. For this reason, the editorial stage lasted the whole month of November.

The issue went to press at the beginning of December and was ready to mail just before the holidays. Bulk mail at that time of year doesn't move very quickly. This factor, and the extended editorial stage made the issue late in getting to you, for which I apologize.

Clearly, we should be more conservative in our predictions of when an issue will be in readers' hands. Still, it says something positive about a publication when a reader takes the time to write, as you did. Thank you for writing, and for your kind words about the *Gazette*.

Amy Halsted  
Assistant Editor, CSWP *Gazette*

#### TO THE EDITOR:

In the past much has been written on certain individual women physicists and chemists. More recently, scattered articles and some books have appeared dealing with the overall achievement of women in physics and chemistry, but no single detailed reference source seems to exist.

To address this situation Greenwood Press is planning a biobibliographic sourcebook on women in physics and chemistry, under the joint editorship of myself, Rose K. Rose (chemist), and Miriam H. Rafailovich (physicist). Slated to appear in 1992, the book will consist of biographical essays (each 6-14 double-spaced typewritten pages) on representative women who have contributed significantly to physics and chemistry either through their own research or through the influence they have exerted. Coupled with each essay will be an annotated bibliography (2-12 double-spaced typewritten pages) of the woman's work as well as of the primary and secondary literature.

The essays are being assigned to writers who are familiar with the subject individual. *Gazette* readers may be interested in contributing an essay on one or more of the notable women physicists in the list below, whose essays have not yet been assigned:

Ajzenberg-Selove, Fay (1926- ).  
Anslow, Gladys Amelia (1892-1969).  
Bassi, Laura Maria Catarina (1711-1778).  
Blewett, Myrtle Hildred (1911- )  
Burnell, Jocelyn Bell (1900s).  
Byers, Nina (1930- ).  
Conwell, Esther Marley (1922- ).  
Dewitt-Morette, Cecile (1922- ).  
Draper, Mary Anna Palmer (?-1914).  
Dresselhaus, Mildred (1930- ).  
Frehafer, Mabel Katherine (1886-1967).  
Freier, Phyllis S. (1921- ).  
Gates, Fanny Cook (1872-1931).  
Gilroy, Helen Turnbull (1887-1971).  
Iwanowska, Wilhelmina (1905- ).  
Kistiakowsky, Vera (1928- ).  
Libby, Leona Woods Marshall (1919-1986).  
Massevitch, Alla Genrikhovna (1918- ).  
Mayer, Maria Goeppert (1906-1972).  
McDowell, Louise Sherwood (1876-1966).  
Meitner, Lise (1878-1968).  
Neumark, Gertrude Fanny (1927- ).  
Noddack, Ida (1896- ).  
Perey, Marguerite (1909-1975).  
Roth, Laura Maurer (1930- ).  
Sitterly, Charlotte E. Moore (1898- ).  
Spomer, Hertha (18??-19??).  
Stearns, Mary Beth Gorman (1925- ).  
Underhill, Anne Barbara (1920- ).  
Way, Katherine (1903- ).

Wick, Frances Gertrude (1875–1941).  
Wu, Chien-shiung (1912– ).

A first draft will be due from authors on 1 July 1990. Payment varies, depending on the number of essays contributed. Detailed guidelines for format and timeframe are available by writing to my home address: 1170 Ocean Parkway, Brooklyn, NY 11230.

Louise Grinstein, Professor  
Mathematics and Computer Science  
Kingsborough Community College

#### TO THE EDITOR:

I thought it might be of interest to your readers to include a short statement in the *Gazette* describing the new Center for Frontier Sciences at Temple University. As a woman scientist who has faced my own difficulties in climbing the academic ladder, I am also aware that many women scientists are held back in this quest. At the Center for Frontier Sciences, we are focusing on alternative ideas and frontier research that otherwise may not be brought to light in the mainstream. Since I believe female scientists may have a different approach than their male counterparts, I would like to be able to include more women scientists in our meetings who are involved in novel frontier approaches.

The Center attempts to facilitate information exchange and networking on

frontier science issues on a global scale. At group meetings, the goal is to facilitate breakthroughs by brainstorming, group clarification of concepts, and identification of the most significant questions for further research. For more information, please write to Nancy Kolenda, Coordinator, Center for Frontier Sciences, Temple University, Ritter Hall 003-00, Philadelphia, PA 19122.

Beverly Rubik, Ph.D.  
Director, Center for Frontier Sciences

#### **1990 MARIA GOEPPERT-MAYER AWARD TO ELLEN D. WILLIAMS**

Professor Ellen D. Williams of the University of Maryland has been named recipient of the 1990 Maria Goeppert-Mayer Award. The award was presented at the 1990 March Meeting of the APS, in Anaheim, California. The citation reads, "For her fundamental and detailed studies of epitaxial growth, surface phase transitions, and the relationship of surface stability to equilibrium crystal shape, accomplished using innovative techniques including high-resolution low-energy electron diffraction."

The Maria Goeppert-Mayer Award is presented annually to a woman physicist in the early years of her career. The award consists of \$2,000 plus a \$3,000 travel allowance to enable the recipient

to present lectures on her work at four institutions of her choice. Last fall the General Electric Foundation agreed to sponsor the award for another five years.

Professor Williams received her Ph.D. from CalTech, and joined the Department of Physics and Astronomy at the University of Maryland in 1981. She was appointed Assistant Professor in 1983, and Associate Professor in 1987. Her research program includes studies of two-dimensional order-disorder transitions using low-energy electron diffraction, properties of quasi-two-dimensional surfaces, studies of epitaxial growth, involving the creation of quantum wells and superlattices in a metal-metal system, and observations of the relationship between surface stability and equilibrium crystal shape which she has explained in terms of a general thermodynamic model. She also has designed, constructed, and tested a scanning tunneling microscope for studying the nucleation processes required for the onset of faceting.

The CSWP and the Maria Goeppert-Mayer Award Selection Committee congratulate Professor Williams.

A nomination for the 1991 Maria Goeppert-Mayer Award is included in this issue of the *Gazette*. Nominations should be submitted by 1 September 1990. Consult the form for further information.

# The American Physical Society

Invites nomination of candidates for the

## 1991 MARIA GOEPPERT-MAYER AWARD

### Sponsored by the General Electric Foundation

- PURPOSE:** To recognize and enhance outstanding achievement by a woman physicist in the early years of her career, and to provide opportunities for her to present these achievements to others through public lectures.
- NATURE:** The award consists of \$2,000 plus a \$3,000 travel allowance to provide opportunities for the recipient to give lectures in her field of physics at four institutions of her choice and at the meeting of the Society at which the award is bestowed.
- ESTABLISHMENT AND SUPPORT:** This award was established in 1985 by the General Electric Foundation, and was first awarded in 1986.
- RULES AND ELIGIBILITY:** This award is given to a woman not later than ten years after the granting of the Ph.D. degree, or the equivalent career stage, for scientific achievements that demonstrate her potential as an outstanding physicist. The award is open to women of any nationality, and the lectures may be given at institutions in any country within two years after the award is made.
- SELECTION COMMITTEE:** Jill C. Bonner  
Sheldon L. Glashow  
Cherry A. Murray  
Ronald F. Stebbings  
Donald Dubois
- PREVIOUS WINNERS:** 1986 Judith S. Young, University of Massachusetts (Astrophysics)  
1987 Louise Dolan, Rockefeller University (Elementary Particle Physics)  
1988 Bonny L. Schumaker, Jet Propulsion Laboratory (Quantum Optics)  
1989 Cherry A. Murray, AT&T Bell Labs. (Condensed Matter Physics)  
1990 Ellen D. Williams, University of Maryland (Surface Physics)

**Supporting information should include at least one letter of nomination and a current curriculum vitae of the nominee. Additional supporting letters are helpful. Send names of proposed candidates and supporting information before 1 September 1990 to: Jill C. Bonner, Chairperson, Maria Goeppert-Mayer Award Selection Committee, Department of Physics, University of Rhode Island, Kingston, RI 02881.**

## CHANGING YOUR ADDRESS?

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CHECK HERE IF YOU WISH TO RECEIVE THE CSWP ROSTER QUESTIONNAIRE\*

\*The Questionnaire is also printed in the APS Membership Directory

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