

## Women Influencing Washington: Making Our Voices Heard

by Laurie A. Fathe, Asst. Prof. of Physics and Former APS Congressional Science Fellow

How often have we all said, "I'm just one person; what I say doesn't matter?" After spending a year working in a Congressional office, I know this is simply not true; one person *can* make a difference, and you can be that person.

Wielding influence in the political world—the world that allocates funding for science and provides support for equity for historically excluded groups—is a skill that all scientists, especially female scientists, should learn. A host of gains that benefit women scientists such as access to jobs, promotion to higher positions, closing the wage gap between women and men, or securing family leave would not have been realized without people making their voices heard in the most powerful offices in the land. Unfortunately, influencing people is not a skill we are taught as scientists. Instead, we are taught from the start that truth will reveal itself if we dig deeply and cleverly enough, and we are assured that once this truth is recognized, it will join all those other truths that stand as scientific knowledge. We exert influence by the truth of our assertions.

But most of the world does not operate this way. The majority of issues which require decisions are not black and white, and have associated with them no such "truth". There is only a relative value, a point of view, or the coercive power of a proponent. Decisions are made on cost-benefit analysis, and no one has an exclusive right to define cost and benefit; it all depends upon in your point of view.

What follows is a practical How-To Guide for communicating with the people who make the deci-

sions. The guide is focused on lobbying a Congresswoman, but with minor adjustments, is appropriate for lobbying any seat of power.

### *Why would you lobby?*

Lobbying is just another name for communicating your point of view. There are many reasons for you to communicate with Members of Congress or your state legislature or Federal Agencies. These people may, in fact, be very concerned about the issue that concerns you, but they may not have the time to investigate it. Or they may not yet be aware that the issue exists, but would be concerned if they knew. Or they may not understand why the issue should be important to them. You, as a lobbyist, can provide the background, or the specifics, or the motivation to become involved.

### *Can I do it?*

Providing information is simple; it is what many of us do as a major part of our job. While the parameters may be somewhat different when dealing with a legislator, the basic principles are the same. Remember that your legislator is knowledgeable, but probably not a scientist. You must communicate at a level that the general public could comprehend. For not only must you make your position understandable to your Congresswoman, she, in turn, must then be able to defend it to other representatives and to her constituency. Try to present your position in a way that is easily restated to the world at large, because that is what your Representative must do.

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## Letter to the Editor from Ernest Henninger

Many thanks for the CSWP *Gazette*. Every issue helps my understanding. I'll borrow Sheila Tobias' Wish List concept in trying to warm the climate.

**#1. A Wish for Balance and Celebration:**

Recently the Women in Science at DePauw viewed a film about three Canadian women engineers. The audience lamented the undue challenges faced by the engineers, but not a word was uttered in recognition of their achievements or their successful balancing of professional and personal lives. What measure of promise did our women science students gain from this?

This is no call for a demeaning, "What a surprise that women can do this!" But it is a call to celebrate the worth and satisfaction of doing that which can be done.

**#2. A Wish that Chips Fall Gently:** To help increase the number of women in science, our school offers young women faculty five-figure start-up funds, palatial offices, choice teaching assignments, and time-off grants. We of the "malestream" faculty (a term borrowed from feminist lexicography) are not perturbed, but we are puzzled at the coincident cry of "lack of support" and failure to clarify our sins.

We do hear of the "lack of mentoring", but if prior experiences (including reading the *Gazette*?) lead women to expect only impedance from male seniors, what can be done? Mentoring can't work if resented. Others deny that anyone should tell another how to teach. Yet carried to the lengths now evident, this

attitude obviates meaningful education. Everywhere the chips are on the shoulders.

**#3. A Wish For a Fair Sense of Victimization:**

Victims, too often, embrace their tormentors and blame or ignore those who would be supportive. The history and psychology of this is well studied as in the de Beauvoir/Sartre relationship. The surest way for a man to be invisible to many women, even very intelligent women, is to be caring. Sheila Tobias calls for "finding willing allies in new places." Such a search is a worthy goal.

**#4. A Wish for Openness and a Saving Humor:**

At a recent conference, a Wellesley professor spoke on themes of male will to dominate and female holistic caring. I dared suggest that these traits are somewhat more distributed among the sexes. With a look to freeze a waterfall she answered, "What's your next sentence?" I could only stammer, "Ten years to life, I guess." She was not amused.

Openness is not a propensity to capitulate, but a willingness to consider. Humor is a powerful tool for insight. Physicists, women and men alike, could use more of both.

Sincerely,

Ernest Henninger

Professor of Physics, DePauw University

*The Gazette welcomes letters to the editor. Opinions expressed in letters are the readers' own and do not necessarily represent the opinions of the CSWP or the APS.*

## Letter of Appreciation for Brian Schwartz

Professor Brian Schwartz (Brooklyn College) stepped down as Director of Education and Outreach Programs at APS on May 31, 1994 after 7½ years of service. In this capacity he oversaw and coordinated the activities of the Committee on Minorities in Physics (COM), the Committee on the Status of Women in Physics (CSWP) and the Committee on Education (COE).

I first met Brian seven years ago when I became part of the COM, and continued to work with him

as a member of the CSWP. Brian represented the voice of the cumulative wisdom of all past and present committees, giving a sense of continuity to each committee. He served as the main liaison between the different committees, informing each group of activities that may be of interest to all, and serving as a sounding board for new ideas and programs.

In all my years at COM and then CSWP, I do not remember him refusing a good idea for "lack of means"— Brian always found effective ways of implementing programs that would fulfill the charge of the committees. He participated actively as a mentor in COM's Corporate Scholarship program,

## Letter from Ramon Lopez, APS Director of Education

As you may know, I was appointed the new Director of Education and Outreach this spring, and I started at the end of May. My appointment at APS is half-time, and I spend the other half of my time at the University of Maryland, College Park, where I have a research faculty appointment in the Department of Astronomy. I would like to take this opportunity to extend my greetings to all of you and to tell you something about myself.

My science background is in magnetospheric physics, and my interests are primarily in the dynamics of the Earth's magnetotail and its coupling to the aurora. I was an undergraduate at the University of Illinois, Urbana-Champaign, and I did my graduate work at Rice University. After finishing there I came to the Washington area at the end of 1985 to work as a research scientist at the Johns Hopkins Applied Physics Laboratory (APL).

I have always been interested in education (my mother was a teacher), and I became an active education volunteer when I moved to Maryland. Over the years I have judged science fairs, visited numerous classrooms, participated in workshops for teachers, and mentored students. Through that work I became involved with the National Science Resources Center (NSRC), a joint National Academy of Sciences/Smithsonian organization that is working to improve science teaching in schools nationwide.

I found that I was spending almost all of my vacation time as a volunteer, and I still wanted to expand what I was doing. So I left APL and moved to the University of Maryland to take an 80% appointment in the Department of Astronomy, working the remaining 20% as a consultant. Most of my work has been for NSRC, though I have also

worked as a consultant for the Discovery Channel and several school districts.

Through my connection with NSRC I have had considerable experience in the reform of elementary science education at the school district level. I have also done a lot of work with scientists, providing them with information that can help them play more effective roles in support of science education reform. When I saw the advertisement for the APS education position I thought that it would be a natural extension of what I was doing and that I could help to mobilize the resources of the scientific community in support of science education.

In addition to working on science education issues, I look forward to helping the committees for which I am liaison. For the past couple of years I have served on the American Geophysical Union Committee on Education and Human Resources, so I know how important that staff connection is. I want to make sure that committee members have the support they need to carry out initiatives that benefit all of us. In this regard I was especially pleased to note the activity and energy of the CSWP.

I think we all recognize that these are tough times for science. The social contract between scientists and society is being rewritten. We have to ask ourselves "What is the return to those who support us?" I think that one of the most important answers that we can give is that we can help to ensure that their children and our nation will be successful in an increasingly scientific world. The work that you individually and collectively contribute to that goal can have a significant and lasting impact. And I am very pleased to have the opportunity to work with you in that endeavor.

Ramon E. Lopez  
Director, Education and Outreach Programs, APS



*Ramon Lopez,  
APS Director of Education  
and Outreach Programs*

**"I want to make sure that committee members have the support they need to carry out initiatives that benefit all of us."**

and played a vital role in implementing CSWP's and COM's Travel Grants Programs, and their subsequent expansion. He commuted from NYC until the search for a successor was completed, once again lending a sense of continuity during the move to College Park. His great enthusiasm and dedication came (still comes!) from a deep commitment to physics education, and he devoted his time at APS to ensure that women and minorities had equal opportunities in the field. Although he has stepped down from his position in the Education and Outreach Department, I am delighted to hear that Brian will continue to consult for the APS, working on development programs and education initiatives.

On behalf of the members of the 1994 CSWP, I wish Brian continued success in his future endeavors, and extend our deep gratitude for his years of service to APS and the physics community in general. Thank you for a job well done!

Luz Martinez-Miranda  
1994 Chair, CSWP

*Former APS  
Associate Executive Secretary  
and Education Officer, Brian Schwartz*



*Washington, contd from pg 1*

### *How do you start?*

1) Make an initial contact with the office you want to lobby. Introduce yourself, using your professional title and the fact that you are a voting constituent, if appropriate. This can be done by phone or by mail. Raise the issue you are concerned with and ask for support for your position.

2) If you get a response of support, request some specific action. This could range from a vote on a piece of legislation, to supporting a bill in process, to a statement to the media, to an appearance at a professional meeting. If you are told that such things have already been done, ask the office to send you all the pertinent information so you can publicize it within your own professional circles. Then thank the person for the support.

3) If you get a response of no support, try to determine what motivated this stance. At this point, you will want to be in phone contact with the office, and building a working relationship with the staffer who deals with the issue. Once you have done your advance work, request a meeting with the Representative and your contact staff person. Don't be disappointed if you meet only with the staff person; they are the representative's eyes and ears.

### *Orchestrating an effective meeting*

1) Do your homework! There is no more important element for a successful meeting than being prepared. Know your issue inside out, and discover as much as you can about your representative's position.

2) Be prompt and be brief. A representative has an insanely busy schedule, and many staffers routinely put in 60 hour weeks. You will go far to enhance your position if you develop a 5-minute presentation and a one-page fact sheet. Bring along support material which provides greater detail, but be ready to make your case in a minimum of words.

3) Listen as well as talk. Often the person you are meeting with will give you clues about what her concerns are. If you are good at thinking on your feet, you might try to reframe your issue within the framework of the representative's concerns. Otherwise listen attentively, take notes, and formulate your response after the meeting.

4) Follow up after the meeting with two letters: one to the representative (even if she was not at the meeting) and one to the staff person. Thank them for their time, and restate your position. If you are

getting support or help from this office, thank them and express your hope for continued backing for this issue. If the office is not supporting your position, try reframing your argument in light of what you learned at the meeting.

### *Maintaining a relationship*

1) You have now generated a contact in an office where you can have influence. Whether or not you received support for this particular issue, if you have conducted yourself professionally, you are now known and respected.

2) Keep the staff person informed about the original issue. If some portion of the issue changes or new information becomes available, let the office know. Once you have a reputation established, you may even find the staff person calling you for information.

3) Inform your staff contact when new issues arise. With the volume of paper that crosses a congressional staffer's desk, only issues of "importance" get any focus. You can provide the motivation for promoting an issue from "bypass" to "important" status.

4) If your Congresswoman is on a committee that deals with relevant issues, try to keep informed on the committee's work. The staff person can be very helpful here, as can electronic access.

5) Send your Congresswoman and your staff contact a resume and an offer to testify at hearings, if you are comfortable doing so. There is always a need for informed voices in Washington, and every Congresswoman likes to have someone from home on stage.

### *Things to remember*

1) Merely writing a letter is a powerful act. The standard assumption in Washington is that for every person who writes a letter on an issue, there are 100 people who are concerned but will not write. Thus a single letter has an impact, but 10 letters from constituents signals a ground swell of concern. This is where local and national professional organizations can be very effective. If you do not know what to write about, contact your professional organization (CSWP, APS, AWIS, AAUW, SWE, etc.) and ask what issues currently need support—they will be thrilled to hear from you.

2) Use your organizational and professional ties as leverage. If you can show that you represent the views of the APS or any other organization, and then cite the number of members who reside in this Congressional district, you have just multiplied your

**“The world of science, exemplified by the lone researcher in her lab, removed from the world, is long gone, if it ever was anything more than a fantasy.”**

influence. Even if you cannot provide local membership numbers, national numbers carry weight. Saying that there are 43,000 APS members nationwide shows the strength of the organization, and your activism shows that this group knows how to wield power.

3) Remember your friends. Write a short article in your professional organization's newsletter citing the support you received from your Congresswoman. Try to get a quote to use in the article. Be certain to send a copy to the Representative after it is published. Invite your representative to high profile gatherings—remember, these people need publicity to get reelected, and you would like your friends reelected.

4) The Internet is one of the most powerful tools you have. If you have never done so, take a few hours to explore the world with Gopher. For lobbying purposes, look at the House and Senate Gophers, federal agency gophers (NSF, NASA, ...), and perhaps a professional organization's site. More and more information is accessible electronically, and you can have it in the comfort of your own computer. There are even email addresses for some representatives now; email to congress@hr.house.gov for more information or find it in the House gopher.

5) As the commercial says: Just do it! Whether you write, call, schedule a meeting, or send email is not as important as the fact that you have given input into the policy process. Everyone starts somewhere, and most people may never do more than sending a letter. If you do that much, you have made an important contribution.

### Final Thoughts

The world of science, exemplified by the lone researcher in her lab, removed from the world, is long gone, if it ever was anything more than a fantasy. Some may mourn the passing of this world, and the need to master new skills to survive in today's climate. But if learning to lobby is the price we have to pay for progress, it is a small cost for the phenomenal gains we can realize. There will always be a need to change, to progress, to grow, and overcoming the inertia of the entrenched system requires concerted effort. But progress most often comes not in the form of revolution, but evolution, with small, seemingly insignificant steps adding up to a concrete whole. Each small step you take moves us all forward; one person can make a difference, and that person can be you.

*Laurie Fathe is an Assistant Professor of Physics at Occidental College in Los Angeles, California, where she has been a full time faculty member since 1989. As the 1993 APS Congressional Science Fellow, she experienced firsthand the influence that concerned citizens can have on the legislative process, and became determined to convince more women to participate in the process. Since her fellowship concluded, she has expanded her research beyond laser-surface interactions to include science policy. Dr. Fathe also teaches policy and environment in her college's Cultural Studies Program. She currently sits on the APS Panel on Public Affairs, the managing board of the Los Angeles Sierra Club Chapter, and is coordinator of the local Association of Women in Science chapter.*

## Commission Director Betty Vetter dies

Betty Vetter, who died on November 18, 1994 was Executive Director of the Commission on Professionals in Science and Technology, formerly the Scientific Manpower Commission, for 31 years. With a minuscule staff, she regularly produced more volumes of summary and statistical material on human resources across the sciences than organizations an order of magnitude larger. From the 1960's when she provided a careful analysis of the effects of the Vietnam War and the draft on scientific manpower, to her attention in the ensuing decades to the provision of data on the dearth of women and minorities in the sciences, the nation's concerns were Betty's concerns. The federal government, industry, universities, and the professional societies made extensive use of the carefully prepared material she and the Commission produced.

Many, however, will best remember Betty Vetter for her dynamic oral presentations. Seldom have statistical data been delivered so clearly and with such passion and verve. She was a regularly invited speaker in federal forums, society meetings, and academic colloquia.

Betty's legacies to the scientific community were many. Perhaps the greatest was the role model she provided for both young girls and boys who were considering science as a career.

# “Daughters” Get a Glimpse of Non-Traditional Careers

by Tara McLoughlin, APS

On April 28th, 1994, approximately three million girls across the nation participated in the second annual Take Our Daughters to Work Day sponsored by the Ms. Foundation for Women. Girls from all backgrounds got a glimpse of the workaday world, as they accompanied parents and friends to offices, TV stations, construction sites, airports and restaurants. Scientists also participated, giving daughters, nieces, granddaughters and friends a day of hands-on experience in industry, universities and laboratories.

## PPPL

At the Plasma Physics Laboratory (PPPL) in Princeton, New Jersey, the Director's Advisory Committee on Women organized the day. Thirty-one employees acted as mentors to 53 girls, ages 8-15. PPPL supported the day by providing refreshments and transportation for the participants, and by giving employees time off from work to participate.

The day at PPPL began at 8:15 when the girls met their mentors over refreshments. Then Director Ron Davidson welcomed the group with a video about fusion energy and the recent successful DT (deuterium-tritium) high power experiments at the lab. In order to illustrate that there are real opportunities for women in science, Davidson showed slides of the three women in the Department of Energy to whom the lab reports: Secretary of Energy Hazel O'Leary, Director of the Office of Energy Research Martha Krebs, and Associate Director of the Office of Fusion Energy Anne Davies. Girls then spent about an hour in the workplace

*Dr. Cynthia Kieras-Phillips, research physicist, with visitors in the TFTR Control Room at PPPL.*



with their mentors, listened to another upbeat talk by Deputy Director Dale Meade and toured the Plasma Physics Laboratory. After that, the girls enjoyed a pizza lunch on campus of Princeton University, where the afternoon programs focused upon opportunities in publishing and journalism.

PPPL volunteer mentor Dr. Martha Redi described the atmosphere of the day as “very cheerful, happy and pleasant”. She knew that hands-on projects would be most enjoyable for her 13-year-old “daughter” Susan Malsbury, so she tailored her computational work on alpha particle orbits so that Susan could generate a new set of orbits and print out a set of the graphical plots to take home with her. She also set up an email exchange between Susan and the girls participating in Take Our Daughters to Work Day with Dr. Alice Koniges-Eder at Lawrence Livermore Laboratories in California.

Dr. Redi stated that the two most memorable parts of the day were the pleasure she felt talking to a group of young girls about physics and fusion energy and the encouragement extended to the girls by the Laboratory Directors in their presentations. The girls' experiences at the lab certainly expanded their ideas about careers for women in science. For example, Redi said, “the physicist in the office next to mine brought his 9-year-old who had asked him if it was *allowed* (!) for girls to become physicists...so he made a special point of introducing Alicia to the two women physicists at PPPL.”

## SLAC

At the Stanford Linear Accelerator Center (SLAC) in Menlo Park, California, Evelyn Eldridge-Diaz organized Take Our Daughters to Work Day through the Women's Interchange at SLAC. WIC is an unofficial, all-volunteer committee which addresses the concerns of women at the Center. SLAC provided some financial assistance for the day's activities. Employees were invited to bring a girl to work, and the response was tremendous—over 100 girls participated.

The women at SLAC organized two sessions, one in the morning and one in the afternoon, with thirteen panelists from fields in which women are underrepresented, in order to expose the girls to women in science, engineering and math based careers. In the middle of the day, the girls spent time with their mentors and then met for lunch. Eldridge-Diaz, who works in the Publications Department, helped the girls create a document with text, graph-

ics and photos. In the Mechanical Design group, girls used sophisticated computer-aided design workstations to draw houses, animals and cars. In the cryoshop, girls conducted experiments with liquid nitrogen. And in the Central Lab machine shop, participants made a personalized SLAC keychain.

Eldridge-Diaz says that next year, SLAC will emphasize hands-on activities, rather than panel presentations by the adults. Organizers were indeed delighted with the tremendous response for the program, as well as the chance to influence the future career choices of the young women participants.

### STScI

The Ad Hoc Committee on Women's Issues at the Space Telescope Science Institute (STScI) in Baltimore, MD made the decision to participate just one week before the event, and Scientific Operations Specialist Michelle Bullock bravely volunteered to organize the day on such short notice.

Ten girls aged 11-14 and five employees participated in the STScI day. The girls spent the morning on the job with their volunteer mentors. Said Bullock, "Because STScI is highly computer oriented, most of the girls learned how to use computer programs and graphical tools. They learned how to monitor the telescope, schedule a week's worth of observations of objects such as stars, planets, or galaxies, or how to display and analyze images taken by the telescope. One of our girls, Chris Buettner, was fortunate to be able to analyze the comet Shoemaker-Levy." Bullock was delighted that one of the girls had a glimpse into the process of analyzing the data of such an historic event in our solar system.

After lunch, the girls watched a video of the astronauts servicing the Hubble Space Telescope. They then went for a tour of operations, and were able to see where data from the telescope is received from the satellite. Said Bullock, "The girls really enjoyed the video of the astronauts and asked some very intelligent questions. I believe they really liked to be down in Operations where the real action takes place, and they were all very attentive to the astronomers who were explaining the images we have just received from our newly fixed telescope."

Bullock said that next year the Committee intends to plan the Take Our Daughters to Work Day early enough to get financial support from STScI. She would also make the day more interesting for the girls next year by allowing them to meet with several different people for a few hours each to learn about various types of work. Bullock felt that the program, although somewhat hastily planned, was

quite successful. "I talked with several parents the following day and the girls all had a great experience—one even wrote a report for her science class," she said. "I think this has made a lasting impression on the girls, and I hope that it will influence them to start thinking about a career in the sciences."

### CEBAF

At the Continuous Electron Beam Accelerator Facility (CEBAF) in Newport News, Virginia, 25 employees brought 35 girls, aged between 6 and 15 to work. CEBAF supported the program with free lunches, CEBAF materials for the girls and time off for staff to participate in the day's events. The day was organized by Dr. Monique Warren through the CEBAF Take Our Daughters to Work Day Committee.

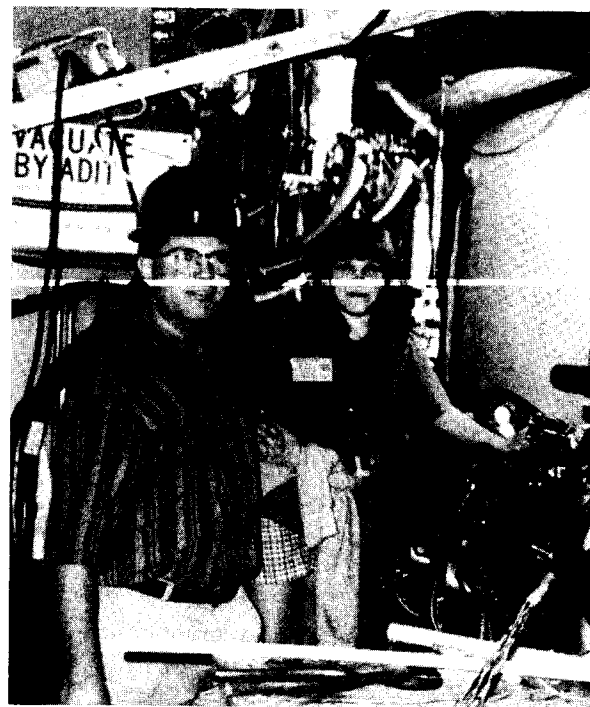
The CEBAF agenda had the girls spend two hours with their host/parent on the job. The participants learned to manipulate computer drawings and create overheads. One girl even gave a presentation to her father's staff. The girls then attended a one-hour program on the science of CEBAF, which included questioning/problem solving, how to build a facility like CEBAF and careers in science and how to prepare for them. After lunch, the girls were treated to a tour of the CEBAF facilities, where they were able to interact with nine women in different jobs. The day concluded with a movie.

Dr. Warren stated that feedback from the participants was overwhelmingly positive. "The girls had a really good time and said that they learned a lot" she said.

### Caltech Women's Center

Kathleen Bartle-Schulweis and Beverly Kenworthy, the Director and Assistant Director of the brand-new Women's Center, organized the day at Caltech. They decided to sponsor 50 girls between the ages of 8 and 16 for an entire day of science-related activities and programs. Within 48 hours of announcing the program, they had already reached their quota for participants, and within two weeks they had more than 50 girls on their waiting list.

The Caltech program started with a keynote speech by a woman graduate student in physics. This was



*Jennifer Arnett and her father, Don Arnett, visiting the Final Focus region of the Stanford Linear Collider.*

**"I think this (program) has made a lasting impression on the girls, and I hope that it will influence them to start thinking about a career in the sciences."**



*Ella Wiese Moore checks out the weights in her father's lab.*

**“We feel that we addressed some of the public criticisms leveled against this program.”**

followed by a self-esteem/career choices workshop led by two representatives from the Caltech Career Development Center. This workshop showed the girls how to learn about different careers and encouraged them to keep their options open. The girls were then broken up into small groups and had a chance to visit various labs on campus. After that, they met with their parents for lunch and then followed them to their workplace. The participants were also given packages of materials regarding women and girls in science from both the Ms. Foundation and Caltech.

Kenworthy hailed the day as an enormous success. “We feel that we addressed some of the public criticisms leveled against this program,” she said. “We took care of girls who would not be able to shadow their parents. We looked at the question of women’s

careers—traditional and non-traditional. We had a beautiful cross-section of class and ethnicity. We educated administrators on the value of exposing young women to positive role models. And we provided materials for parents interested in exploring questions regarding the advancement of women in science.”

Kenworthy said that the evaluations from girls and parents were uniformly positive. The girls seemed to enjoy the visits to the lab the best, where they were able to see a variety of things, from wind tunnels to petri dishes. Next year, she plans to invite in all the girls who were waitlisted this year, and to focus more on the lab visits and hands-on participation.

### **Individual Participation**

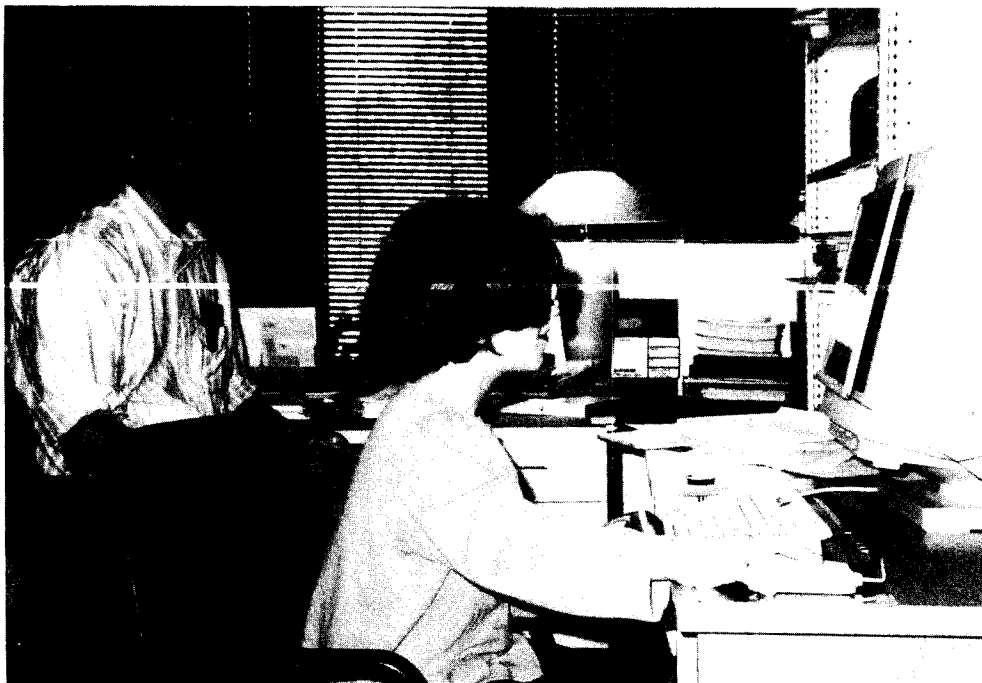
Ella Wiese Moore spent the day with her parents at the University of Nebraska-Lincoln. Her mother Lisa Wiese, is a Ph.D. candidate in Atomic and Molecular Physics, and her father, Christopher Moore, works with the Program for the Improvement of Physics Education on campus. At age four, Ella is keeping her education and career options open. Said Wiese, “She wants to be an astronaut so she can go into space. She also wants to go to college to study whales. She also wants to work in my lab when she grows up, so we can have lunch together.”

Wiese and her husband did not plan any special activities for their daughter, they simply involved her in their daily schedules. Wiese’s vacuum system had shut off overnight, so she and Ella pumped it down with liquid nitrogen traps and restarted the vacuum pumps. Then they drew some pictures on Paintbrush.



*Shamioka Willis is using a graphical display of the field of view of the HST to see if her guide stars are within the viewing areas.*





*David Soderblom is proud of his daughter Elena's ability to work on her own with his workstation.*

After that, Ella spent some time with her father, playing with the friction motor cars he uses in his physics lab to illustrate such principles as acceleration and velocity. Said Moore, "She likes to play with the lab equipment...in fact, we have a deal that since I borrow some of her toys for use in lab development, she can borrow some of the lab toys to take home for a few days."

Wiese said that the day was a positive one for the whole family. "Ella already knows most of the people we work with and is familiar with my lab and Chris's office area, so we stopped to talk with several people throughout the day. I most enjoyed listening to her tell people it was Take Our Daughters to Work Day and that she would be going to a meeting. She's already told us that the next time it's Take Our Daughters to Work Day, she is going to spend the day with us again."

**Response from the Ms. Foundation for Women**  
Redina Jackson, National Coordinator for the Take Our Daughters to Work Day at the Ms. Foundation for Women was extremely pleased with the success of this year's program. She was delighted that the daughters of women in non-traditional fields like science are no strangers to their parent's workplace. However, she encouraged these women, who have already fostered an interest in the sciences in their own daughters, to "reach out" to other girls in their community who might not have strong female role models. She suggested that such women "adopt" a class, club, or Girl Scout troop next year for Take Our Daughters to Work Day.

The Ms. Foundation for Women started Take Our Daughters to Work Day in response to several troubling studies which found that as girls reach puberty their confidence drops sharply.



*Many thanks to Michelle Bullock, Bev Hartline, Redina Jackson, Beverly Kenworthy, Christopher Moore, Martha Redi, Cherrill Spencer, Monique Warren and Lisa Wiese for their assistance with this article. Thanks, too to Evelyn Eldridge Diaz and Sarah Morisseau for the article from SLAC's **Interaction Point** newsletter.*

*Ella Wiese Moore and her mother, Lisa Wiese, check the oil level of a fore line pump.*

# Science, Technology and Gender at the NWSA Conference

by Tara McLoughlin, APS

From June 15-18, 1994, the National Women's Studies Association (NWSA) held its Fifteenth Annual Conference at Iowa State University in Ames, Iowa. This year, in addition to offering over 200 concurrent sessions in women's studies, for the first time in its history, NWSA sponsored a three-day special embedded symposium: *Science, Technology and Gender*. This symposium featured over 20 sessions with 34 speakers from fields as diverse as women's studies, theoretical particle physics, science education, politics, nutrition and the humanities.

The symposium began with an introductory session in which Profs. Bonnie Spanier and Sue Rosser, both scientists as well as directors of women's studies programs, addressed the intersections of women's studies and science and discussed how each field can be strengthened through interaction with the other. Spanier (SUNY Albany) gave a brief overview of the history of science sessions at NWSA conferences, and then outlined three ways in which women's studies can enhance science. First, Spanier said that women's studies offers methods for making science a more comfortable place, not only for women but also for minorities. Second, she noted that theories from women's studies help scientists to analyze their discipline in a societal and historical context. Finally, she maintained that women's studies gives an analytical perspective of cultural biases that affect sci-

ence, which could "eliminate distortions in the accuracy of science" and would be a "great gain for freedom of thought." Rosser (University of South Carolina) explained the different feminist theories to the assembled scientists. She discussed the differences between liberal, socialist, African-American, radical, and lesbian separatist feminism, and noted the differences between the critiques of science from these different schools of thought. She then gave examples of projects and programs that have implemented these theories to take action for women in science.

The following morning began with a workshop on feminist theory for scientists, many of whom had never taken a women's studies class. Unofficially billed as a primer "for those who don't know the difference between an epistemology and an epistomy," this session helped scientists to understand daunting terminology used in women's studies and explained how gender categories are relevant to their work in science. Kris Anderson, professor of English and women's studies at Iowa State (and Co-Chair of the NWSA Conference) gave an enjoyable talk, shedding light on the "big scary words which frequently occur in feminist theory," such as "poststructuralist Marxist paradigmatic structures" and "Lacanian psychoanalytic deconstructions of discourse." She joked that humanists use these intimidating terms because they have "science envy." She re-articulated the point

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## House Subcommittee Discusses Careers for Women in Science and Technology

by Leigh Ann Garza, CEBAF

On May 12, 1994, a hearing was held in Washington DC before The House Committee on Science, Space, and Technology Subcommittee on Energy, on "Careers for Women in Science and Technology."

The hearing was the first of four hearings planned, and included eight women scientists and engineers on the panel of witnesses. The panel consisted of successful women talking about their career development and giving advice on how to get more girls interested in science and technology. The Subcommittee also invited eight middle school students (five from Washington, DC, and three from Takoma Park, MD) to be "members for a day" and

join the Subcommittee in questioning the eight panelists.

Dr. Beverly K. Hartline, Associate Director and Project Manager at the Continuous Electron Beam Accelerator Facility (CEBAF), in Newport News, Virginia, and Vice Chair of the CSWP, was one of the panelists invited by Subcommittee Chairman Marilyn Lloyd (D-TN). Dr. Hartline outlined her responsibilities at CEBAF and her history on the project. She described how she grew up "madly in love" with science and math, encouraged by parents who were both trained in physics. She noticed, however, that "not many women share this passion," and offered several suggestions to encourage girls and women to study and stay with science.

According to Dr. Hartline, the keys to welcoming more women into scientific or technical careers are the following:

"Hartline advised the young women... to find and work with people who are top-notch in their field, and to ignore and avoid people who discourage and close options for them."

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made the night before that feminist theory calls scientists to interrogate their biases and evaluate the impact of these biases on their research.

After the introductory talks, participants were free to attend any of several fascinating sessions on women in science and technology. These sessions included talks on the history of women in science; reframing women's health; feminist perspectives on bioengineering ethics; women in industry; global science, technology and development; mentoring programs for women in science and engineering; race, culture and science; funding opportunities for women in science and engineering; career choices and changes for women in science; and the politics and economics of scientific research.

Of particular interest to *Gazette* readers were the two talks by Karen Barad, a professor of theoretical particle physics at Pomona College. As part of a three-person panel on feminist critiques of scientific paradigms and practices, she gave a talk entitled *Ambiguities and Discontinuities: A Feminist Reading of Quantum Physics*. Barad also spoke at a session on strategies for pedagogical reform in the science, during which she described a feminist approach to the teaching of quantum physics.

In addition to the sessions, there were many special events for the symposium participants. On Thursday night, participants had a chance to get acquainted at a reception following the introductory session. On Friday evening, Iowa State hosted a panel discussion and tour of the newly established Archives of Women in Science and Engineering at the Parks Library. This tour was also



*Physicists Karen Barad (Pomona College), Barbara Whitten (Colorado College) and EJ Zita (Grinnell) enjoy the NWSA Conference*

followed by a reception. Finally, on Saturday night, the symposium dinner included a talk by Dr. Elizabeth McGregor, Director of Studies for the Gender Working Group of the UN Commission on Science and Technology for Development and founding president of the World Women's Veterinary Association. In addition to these special, science-related events, performances, films, lectures, and exhibits from the larger NWSA conference were also open to symposium participants.

Symposium organizers Kris Anderson and Carole Heath commented at the symposium dinner that they were delighted with the quality of the sessions, the diversity of the speakers and the response from participants. They urged the scientists in attendance to actively participate at the NWSA conference in 1995, which will be held at the University of Wyoming. *For more information, please contact the NWSA at (301) 403-0525.*

1. Directly expose girls and women to the exciting world of science, math, and technology.
2. Convince them that they are naturally good at science and math, that it is socially acceptable and worthwhile, and that they can contribute.
3. Give them contact with role models, who are enthusiastic and proficient in their areas of expertise and want to share it with others.
4. Stop any sex-stereotyped guidance and career counseling that closes rather than opens options.

She advised the young women at the hearing and their colleagues in the classroom to get as broad an experience base and academic background as possible, to do whatever interests them, and give it their best shot, to find and work with people who are top-notch in their field, and to ignore and avoid people who discourage and close options for them.

The hearing was well attended by Members of Congress and women who have succeeded in a variety of science and technology-related careers, including the government, academia, and private sector companies. Part of the context for the hearing was to gain more support for the bill HR467, "To Establish the Commission on the Advancement of Women in Science Engineering Work Forces," which passed the House last year, but not the Senate. A second hearing was held on June 28th on "Women and K-12 Science and Math Education." No dates have been set yet for the remaining two hearings.

*If you would like a copy of Dr. Hartline's testimony, send email to [hartline@cebaf.gov](mailto:hartline@cebaf.gov), or call (804) 249-7633. For a copy of the testimony from other hearings, contact the U.S. House of Representatives, Committee on Science, Space, and Technology, Suite 2320 Rayburn House Office Building, Washington, D.C., 20515-6301, or call (202) 225-6371.*

# Martha Krebs Tells Physicists That "Science Is Political"

by Dr. Ruth E. Howes, Ball State University

*Dr. Martha Krebs, Director of the Office of Energy Research at the Department of Energy (DOE), spoke to the April Meeting of the APS and the AAPT under the sponsorship of CSWP. The DOE's highest ranking scientist summarized the Clinton Administration's science policy as implemented by the DOE. Krebs, a physicist who heads all of DOE's basic research programs and controls a \$2.5 billion budget, stressed the changing climate in U.S. politics. She noted that physicists must recognize these new circumstances and respond constructively to them. Dr. Krebs remarks are summarized below.*

National politics have shifted dramatically with the end of the Cold War and the election of a Democratic administration. No longer the unquestioned economic engine of the world, the United States faces formidable competition from emerging foreign technology. Environmental concerns stand at the forefront of national consciousness. Voter unhappiness has forced an unusual turn over of Congressional seats. In spite of a \$500 billion deficit reduction last year, elected officials face pressure to make further reductions.

Just like the world and national politics, the framework for science policy has changed. With the end of the Cold War, the public expects that funding for defense-related research and development will be reduced. In part because of the reduction in defense R&D, the role of the national labs is being redefined to orient them towards new national initiatives in economic competition and environmental research.

As industrial incomes have decreased, many companies have consolidated their research endeavors and switched from long-term fundamental research to more focused research aimed at near-term paybacks. Accountability and efficiency are now expected of all researchers, increasingly including those in universities. Last, but by no means least, public respect for science has eroded.

The Clinton-Gore administration has identified these changes and devised a new federal science and technology policy to meet them. The first response of the new administration was the report, "Technology for Economic Growth," which listed three goals for U.S. science and technology: long-term economic growth that creates jobs and pro-

ducts the environment; a government that is more productive and responsive to citizens' needs; and world leadership in basic science, math and engineering. The technology report addressed the first of these three goals. The second was addressed by the report on reinventing government.

In forming the National Science and Technology Council, the Administration has taken a major step towards coordinating its research and development across all agencies of government. Chaired by the President, the NSTC is a Cabinet level organization for implementing the Administration's science and technology policy. It will work through a series of nine interagency committees, each of which addresses a major R&D area such as transportation, national security, civilian infrastructure or fundamental science. The committees will make recommendations for federal policy to the NSTC.

As an example, the Committee on the Environment and Natural Resources is divided into nine subcommittees in areas such as Air Quality Research, Global Change Research and Natural Disasters Research. Similarly, the Civilian Industrial Technology Committee, of which Krebs is vice-chair, is comprised of six subcommittees including Materials, Automotive, Manufacturing and Electronics.

As a major participant in the nation's science enterprise, the DOE has implemented strategic planning for research which includes development of performance measures for R&D. The department is establishing cost-shared R&D partnerships with industry and fostering an atmosphere of openness and trust with the public throughout its R&D enterprise. DOE is striving to connect science and technology to U.S. needs in industrial competitiveness, energy resources, national security and environmental quality.

DOE research seeks to provide science and technology that will enable DOE to succeed in its mission. Fundamental research should provide new insight into the nature of matter and energy as a basis for future technologies and to maintain world leadership in science. The department will construct advanced research facilities in an environmentally and fiscally responsible manner in order to provide leading edge experimental capability. DOE works to add value to the U.S. economy through the transfer of technologies to the private

**"In forming the National Science and Technology Council, the Administration has taken a major step towards coordinating its research and development across all agencies of government."**

sector. The department will help to provide a diverse, technically trained work force and to enhance scientific and technical literacy.

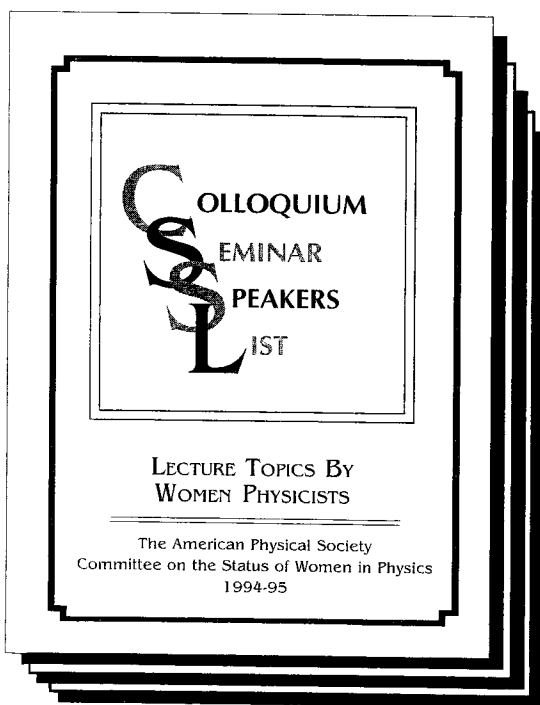
DOE has experience in conducting coordinated research on complex national problems with multidisciplinary teams. The national laboratories have unique technical capabilities including many large facilities that are duplicated no where else. Because such facilities require constant maintenance and future investments with a very long time line, it is not possible to duplicate them in the private sector. Their loss would be a real blow to U.S. science.

In addition to the loss of the SSC, some DOE research now in the budget request that is before the Congress will see decreases in FY 1995. The nuclear physics budget falls 14% and basic energy sciences are down by 3%. High energy physics, without counting SSC shutdown funds, increases by 1%. Basic energy research climbs by 6% and fusion research increases by 8%. With these budgets, DOE feels it can provide a science and technology base to support its mission in economic competitiveness, conduct breakthrough research into the nature of energy and matter, develop fusion as a cost effective publicly acceptable and sustainable energy technology, and provide large world class scientific facilities for the nation along with the human and physical infrastructure that supports them.

The research enterprise at DOE has other challenges. Research managers are attempting to establish diverse, well trained, highly motivated and customer focused research teams. The department will work to strengthen the technical capability and diversity of its work force. In addition to changing its internal culture and values, the DOE will ensure that its research results and the benefits they produce are widely known, valued and trusted. DOE's research management, environmental, safety and health practices must match the best.

The future requires more partnerships between DOE and entities such as industries and universities. Large science investments will need international cooperation if they are to succeed. The national laboratories need to define new directions and re-define their missions. DOE must bring its expertise and resources to bear on science education at all levels. Finally DOE must re-articulate the vision for high energy and nuclear physics.

Beyond DOE, scientists and engineers must recognize the changes that have occurred in the political situation. They must move beyond the narrow boundaries of their disciplines and represent science as a whole. Research increasingly requires scientists to work in partnerships and teams, and they must learn to do so. Last but by no means least, scientists must listen carefully to policymakers and the public. They must communicate the benefits of science to Congress and the public. According to Dr. Krebs, scientists must recognize that science has become political.



The 1994-1995 Colloquium/Seminar Speakers List (CSSL) of Women in Physics (pictured to the left) is now available from The American Physical Society. This list, compiled by the Committee on the Status of Women in Physics, contains the names of over 200 women physicists who are willing to give colloquium or seminar talks. The CSSL serves as a resource for middle school, high school, university and general audiences. Information on the speakers is ordered by states and by field for easy reference. The APS Committee on Minorities maintains a similar list of minority speakers in physics. To receive your free copy of either list, please complete this form and return it to APS.

Name: \_\_\_\_\_  
Institution: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_  
Phone: \_\_\_\_\_

Women's CSSL

Minority CSL

Please return this form to:  
The American Physical Society, One Physics Ellipse,  
College Park, MD 20740-3844

\*please note: The 1995-96 CSSL will be available in late June 1995

## *A Matter of Choices: Memoirs of a Female Physicist*

by Fay Ajzenberg-Selove (New Brunswick, NJ: Rutgers University Press, 1994)

Review by Dr. Ruth E. Howes, Ball State University

### Reviews

Fay Ajzenberg-Selove's success in physics did not come easily. Despite the difficulties and downright bad luck that plagued her, the memoirs of this highly successful woman nuclear physicist recount a joyous life, a happy marriage, a satisfying career and many rewarding friendships. The author's delight in physics and her complete lack of self-pity, however justified it might be, make this book upbeat reading. Her determination to live life to the fullest extent and to work at the limits of her ability should be contagious.

Fay Ajzenberg grew up in France and Germany. Her father, whom she idolized, was an engineer. She attributes her early interest in engineering and science to her father's profession. Her childhood was interrupted by World War II, and her Jewish family fled to New York. The story of their escape from Vichy, France, typically recounts the kindness of strangers in detail, and only mentions in passing the family's considerable suffering.

In college, the young immigrant fell in love with physics but managed only to pass her courses without academic distinction. She refused to quit, graduated from the University of Michigan and earned a Ph.D. in nuclear physics from the University of Wisconsin, making many friends along the way.

In the summer of 1952, the newly minted Ph.D. took a position with Tom Lauritsen at Caltech. She began a collaboration that lasted until his death and launched her towards the top of nuclear physics. She took a teaching position at Smith College and commuted to Boston to conduct research at MIT. This allowed her to do state-of-the-art physics, but she had to commute over 90 miles of difficult roads in all kinds of weather. She was relieved to accept a position at Boston University for the next year. In 1954, she fell in love with fellow physicist, Walter Selove whom she eventually married.

Fay Ajzenberg-Selove followed her new husband to Pennsylvania, where he was in the physics department at the University of Pennsylvania. She took a position at Haverford College, a high quality undergraduate institution, founded by the Society of Friends. She set happily to work with groups of very bright undergraduate students, travelling to international meetings and active in many aspects of the physics community. Just as the world seemed brightest, the Vietnam War divided the academic community at Haverford, and Fay

Ajzenberg-Selove decided to move to the University of Pennsylvania in 1969.

Almost from the beginning, the physics department at the University of Pennsylvania treated their new woman recruit as a second class citizen. She was not allowed to work with graduate students and never worked collaboratively on research at Penn. Then too, she discovered that she had breast cancer. Surgery stopped the cancer, but she found that the department denied her tenure because she was too old at 46 and not active enough in physics (even though she was currently a nominee and eventually elected Chair of the Division of Nuclear Physics of the APS). Incidentally, she also moderated the APS session that eventually led to the formation of the Committee on the Status of Women in Physics. With considerable courage, she filed a formal complaint against the university with the Equal Employment Opportunity Commission and the Human Relations Commission of Pennsylvania. After a very difficult time, the Human Relations Commission ruled in her favor, and the department offered her a professorship. From 1973, she served as a tenured, full professor at Penn and felt accepted by the department once the initial bitterness dissipated, although she never participated in physics research at the university.

In the meantime, she found herself busy with full-time teaching, an active research career and many political activities for the physics community. In 1982, her cancer returned, and she began a miserable round of chemotherapy with an unsympathetic oncologist. Fortunately, the treatment was successful, and she resumed her active life in physics until she suffered a car crash in 1987 and bladder cancer in 1988. The combination forced her retirement from physics research, although fortunately not from writing.

This short book will delight women physicists and students of physics, as well as women in other disciplines and male physicists. Throughout the story of her life, the author takes time to sketch her friends, many of them well-known physicists. Her stories range from research labs to professional meetings. Most importantly, Ajzenberg-Selove describes her very happy marriage to Wally Selove. Her memoirs demonstrate the enduring joy of a successful marriage between professional equals and would be worth reading for this alone.



# The History of Women in Science for Young People

by Vivian Sheldon Epstein (1994), VSE Publisher, Denver, CO

Review by Dr. Beverly K. Hartline, CEBAF

This inexpensive booklet (40 pages, \$7.95 soft cover, \$14.95 hard cover) is a collection of short pieces on the careers and contributions of 29 women in science. Every piece is half a page long and includes a half-page illustration (some colored, some line drawings, no photos). What is most valuable about *The History of Women in Science for Young People* is that it includes so many scientific women from diverse backgrounds, fields, and historical eras (from Hypatia to the present). The last six pages of the book list in historical order 175 women in science from Merit Ptah (Egypt, 2700 BC), the first known woman doctor, to Ellen Ochoa (USA, born 1959), the first Hispanic female astronaut. A one-line summary of their professional contribution is provided. The book would be an asset to every school library serving grades 4 through 10. Science clubs and Girl Scout troops would also benefit from access.

Vivian Sheldon Epstein—the author and illustrator—clearly did a lot of work to collect these career sketches and assemble them in one place. Prior to reading the book, I knew little or nothing about the careers of many of these impressive women. And I would not have known where to go to find out. Thus, one of the most useful parts of the book is the bibliography, which points interested readers to sources of more detailed information. It would have been nice if each career sketch had included footnotes designating the relevant references, as it is not easy for a reader to know where to go for further information about a particular woman.

Because I do not have any daughters, and my age falls several standard deviations above the target age group, I asked some friends to have their daughters review it. For Marissa, age 8, it was much too dry and hard to read. The style and con-

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*A Matter of Choices* describes one woman's courage in the face of difficult circumstances and her determination to make life a matter of her own choice. The author best summarizes her own work in the last paragraph of the book:

"My zest for living fully is as great as ever. I am joyous each day that I wake up next to Wally. I would like more time, but I have been privileged beyond measure. I have had a marvelous life."

tent are not especially suited to keep the attention of this age group, even if read aloud by a parent, teacher, or scout leader. Eleven-year-old Sara read about 70% of the booklet, finding it somewhat interesting. What she liked most was learning the ways many different women "stood up for their rights" in different situations. Florence Nightingale was her favorite. Gavin, an 11-year-old boy, was fascinated, not at all offended by the concentration on women, and wanted real photos rather than drawings, especially of the subjects who are still alive. For this age group, some of the vocabulary is difficult, and it is more useful as a reference volume than to be read from cover-to-cover in one sitting. Katie and Stephanie (both 14), found the book to be useful, interesting, and easy to read. Katie would have preferred a layout with more variety (not so much like a "school workbook"), photographs, the inclusion of at least a few men from each field and era, and articles not all exactly the same length. Stephanie liked the fact that each profile was short, and "didn't drag on." She also recommended that real photos would enhance the appeal. Carolyn (16) voraciously read the booklet from cover-to-cover, and wanted to learn more about most of the profiled women. The information only whetted her appetite. My reaction was similar to Carolyn's—I really wanted to learn more about these successful women scientists.

In summary, Epstein's *The History of Women in Science for Young People* fills a niche as an important collection of profiles of scientific women. Adults who work with young women—as teachers, parents, club leaders, etcetera—will find it a useful reference for demonstrating the rich variety of contributions women can and have made in science.

I would like to acknowledge the assistance of Marissa and Carolyn Lloyd, Gavin and Katie Dowd, and Sarah and Stephanie Waite who took the time to read *History of Women in Science for Young People* and share with me their reactions.

*History of Women in Science for Young People* is available by ordering through local bookstores or VSE Publisher, 212 South Dexter Street, #102n, Denver, CO 80222, phone (303)322-7450. Publication date: 1994; 40 pages, 13 in vibrant color. Hard cover \$14.95, ISBN 0-9601002-8-8; soft cover \$7.95, ISBN 0-9601002-7-X. If ordering from publisher, add \$1.50 postage; Colorado residents add sales tax.

## Reviews

# 1995 Maria Goeppert-Mayer Award to Jacqueline N. Hewitt

As a Maria Goeppert-Mayer Awardee, Dr. Hewitt will be giving four public lectures on her work. Interested departments can contact Dr. Hewitt by electronic mail at [jhewitt@mit.edu]. The Award provides some funds to defray expenses.

Dr. Jacqueline N. Hewitt of the Massachusetts Institute of Technology is the winner of the 1995 Maria Goeppert-Mayer Award. Dr. Hewitt was cited "for her contributions to radio astronomy; in particular her pioneering work in the detection of gravitational lenses, including the discovery of the first Einstein ring, and their detailed investigation using polarization, and other measurements." The award will be bestowed at the March 1995 meeting of The American Physical Society in San Jose, California.

As a Maria Goeppert-Mayer Awardee, Dr. Hewitt will be giving four public lectures on her work. Interested departments can contact Dr. Hewitt by electronic mail at [jhewitt@mit.edu]. The Award provides some funds to defray expenses.

Past Award lecturers are Laura H. Greene (1994), Ewine van Dishoeck (1993), Alice E. White (1991), Ellen D. Williams (1990), Cherry A. Murray (1989), Bonny L. Schumaker (1988), Louise A. Dolan (1987), and Judith S. Young (1986).

The Maria Goeppert-Mayer Award, sponsored by the General Electric Foundation, was established

in 1986. Its purpose is to recognize and enhance outstanding achievements 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. The Award provides a stipend of \$2000 and a travel and living allowance of \$3000 to support lectures by the recipient at four institutions of her choice.

This award is given to a women 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 female U.S. citizens or permanent residents.

If you wish to nominate someone for the 1996 Maria Goeppert-Mayer Award, please send the name of the proposed candidate and supporting information to MGM Award Committee Chair Professor Melissa Franklin, Harvard University, Department of Physics, Cambridge, MA 02138. Supporting information should include a current vitae, publication list, and several reference letters in support of the nomination. The deadline is September 1, 1995.

**Have you moved?  
Changed jobs?  
Changed fields?**

**Take the time now to update your  
name/address/qualifications  
on the Roster of Women in Physics  
(this roster also serves as the Gazette mailing list)  
see page 21**



**WIPHYS Has Moved to APS** — WIPHYS (the Women in Physics email list) has moved to the APS node from its previous home at NYSERNET as of November 28, 1994. Our apologies for the premature announcement in the last *Gazette* of a May 1st move date. In order to subscribe to the new WIPHYS, please send a message to [listserv@aps.org](mailto:listserv@aps.org). The subject line should be blank, and the text of the message should read: subscribe wiphys. Send messages for distribution to the list by the WIPHYS moderator to [wiphys@aps.org](mailto:wiphys@aps.org). If you are having any difficulty subscribing, or if you have any questions, please feel free to send a message to Tara McLoughlin at [tara@aps.org](mailto:tara@aps.org). Many thanks to Bonnie Brownstein of the Institute of Schools for the Future for setting up and moderating the list over the past 2 years. Thanks, too, to Don Hewitt, technical advisor to WIPHYS, and to NYSERNET for their management of the list.

## Another Successful Year for the APS Sponsored Travel Grants Programs

The 1993-1994 APS Travel Grants for Women and Minority Speakers programs were once again a tremendous success. The Travel Grants programs increase the visibility of women and under-represented minorities at colleges and universities by encouraging these institutions to invite women and minority physicists to give colloquium and seminar talks. Under the Travel Grants for Women Speakers Program, if an institution invites two women colloquium or seminar speakers during an academic year, the APS will pay for the travel expenses of one of these speakers, up to \$500. Under the Travel Grants for Minority Speakers Program, the institution must only invite one minority speaker in order to receive the travel expense reimbursement.

Surveys completed by colloquium chairs at the host institutions were uniformly positive. Chairs at several small colleges noted that the funding allowed them to stretch their small colloquium budgets and diversify their speakers. Others emphasized that the speakers were particularly effective in encouraging female and minority faculty, graduate and undergraduate students to attend the colloquia. Many speakers spent extra time after the colloquia (often at dinner) meeting with women and minority students in the departments. This was of particular value at institutions with no women or minority faculty in the physics departments. A few

speakers even met with representatives of the women's studies program or the intercultural center on campus. A number of the departments reported that the Travel Grants-sponsored talk was the best attended of the entire year.

Thirty-two institutions were funded last year under the women's program while nineteen institutions received grants under the minority program. Applications for both programs were up by almost 100 percent from the 1992-1993 programs. The women's program was oversubscribed by nearly a factor of two. The APS Council approved an increase in funding for the 1994-1995 programs; therefore, institutions that were denied funding last year will get priority when applying for funding this year.

Applications for the Travel Grants programs are mailed to all physics department chairs in early September, along with the Colloquium Speakers Lists of Women and Minorities in Physics (CSL's). The CSL's are booklets which list lecture topics by minorities and women in physics, and are crosslisted by field and state. Travel Grants are generally given on a first come, first served basis. A copy of the Travel Grants application form can be found on page 20. To order a copy of either the women's or minority CSL, please complete the order form on page 13. To add your name to the CSSL, see page 18.

**“Applications for both programs were up by almost 100 percent from the 1992-1993 programs. The women's program was oversubscribed by nearly a factor of two.”**

# Colloquium/Seminar Speakers List (CSSL) of Women in Physics

## Enrollment/Modification Form ♦ 1995-1996

The *Colloquium Speakers List of Women in Physics* is compiled by The American Physical Society Committee on the Status of Women in Physics (CSWP). The list is updated annually and published in June. Comments, questions and entries should be addressed to :

**Colloquium/Seminar Speakers List ♦ APS ♦ One Physics Ellipse ♦ College Park, MD 20740-3844**

To enroll or update your current entry, please fill out this form completely and return it to the address above. Copies of this form may be used. *Please print clearly or type.*

**Title/ Name**  Dr.  Prof.  Ms.  Mrs. \_\_\_\_\_ **Date** \_\_\_\_\_

**Institution** \_\_\_\_\_ **Telephone** \_\_\_\_\_

**Address** \_\_\_\_\_ **FAX** \_\_\_\_\_

\_\_\_\_\_ **E-Mail** \_\_\_\_\_

**City** \_\_\_\_\_ **State** \_\_\_\_\_ **Zip Code** \_\_\_\_\_

**If you have moved out of state, list previous state:** \_\_\_\_\_

**For which audiences are you willing to speak? (Please check all that apply)**

Middle school       High school       General Audiences       Colloquium/Seminar

To register a new title, give the title as you want it to appear in the left column below. Then check the section(s) where it is to be inserted. To delete a title, indicate the title and check the appropriate box below. A limit of four total entries will be imposed. You may use additional pages if your modifications (not entries) number more than four. **PLEASE TYPE OR PRINT LEGIBLY PAYING PARTICULAR ATTENTION TO FORMULAE. WE ARE UNABLE TO INCLUDE ILLEGIBLE ENTRIES.**

TALK TITLE	PHYSICS SUBFIELD
<p>1.      <input type="checkbox"/> Add this title                      <input type="checkbox"/> Delete this title</p>	<p><input type="checkbox"/> Accelerators                      <input type="checkbox"/> Condensed Matter                      <input type="checkbox"/> Interface/Device  <input type="checkbox"/> Astrophysics                      <input type="checkbox"/> Education (pedagogy only) <input type="checkbox"/> Molec/Polymer  <input type="checkbox"/> Atomic                      <input type="checkbox"/> Environmental/Energy                      <input type="checkbox"/> Nuclear/Particle  <input type="checkbox"/> Biological/Medical                      <input type="checkbox"/> Fluid Plasma                      <input type="checkbox"/> Optics/Optical  <input type="checkbox"/> Chemical/Statistical                      <input type="checkbox"/> Geophysics  <input type="checkbox"/> Computational                      <input type="checkbox"/> History</p>
<p>2.      <input type="checkbox"/> Add this title                      <input type="checkbox"/> Delete this title</p>	<p><input type="checkbox"/> Accelerators                      <input type="checkbox"/> Condensed Matter                      <input type="checkbox"/> Interface/Device  <input type="checkbox"/> Astrophysics                      <input type="checkbox"/> Education (pedagogy only) <input type="checkbox"/> Molec/Polymer  <input type="checkbox"/> Atomic                      <input type="checkbox"/> Environmental/Energy                      <input type="checkbox"/> Nuclear/Particle  <input type="checkbox"/> Biological/Medical                      <input type="checkbox"/> Fluid Plasma                      <input type="checkbox"/> Optics/Optical  <input type="checkbox"/> Chemical/Statistical                      <input type="checkbox"/> Geophysics  <input type="checkbox"/> Computational                      <input type="checkbox"/> History</p>
<p>3.      <input type="checkbox"/> Add this title                      <input type="checkbox"/> Delete this title</p>	<p><input type="checkbox"/> Accelerators                      <input type="checkbox"/> Condensed Matter                      <input type="checkbox"/> Interface/Device  <input type="checkbox"/> Astrophysics                      <input type="checkbox"/> Education (pedagogy only) <input type="checkbox"/> Molec/Polymer  <input type="checkbox"/> Atomic                      <input type="checkbox"/> Environmental/Energy                      <input type="checkbox"/> Nuclear/Particle  <input type="checkbox"/> Biological/Medical                      <input type="checkbox"/> Fluid Plasma                      <input type="checkbox"/> Optics/Optical  <input type="checkbox"/> Chemical/Statistical                      <input type="checkbox"/> Geophysics  <input type="checkbox"/> Computational                      <input type="checkbox"/> History</p>
<p>4.      <input type="checkbox"/> Add this title                      <input type="checkbox"/> Delete this title</p>	<p><input type="checkbox"/> Accelerators                      <input type="checkbox"/> Condensed Matter                      <input type="checkbox"/> Interface/Device  <input type="checkbox"/> Astrophysics                      <input type="checkbox"/> Education (pedagogy only) <input type="checkbox"/> Molec/Polymer  <input type="checkbox"/> Atomic                      <input type="checkbox"/> Environmental/Energy                      <input type="checkbox"/> Nuclear/Particle  <input type="checkbox"/> Biological/Medical                      <input type="checkbox"/> Fluid Plasma                      <input type="checkbox"/> Optics/Optical  <input type="checkbox"/> Chemical/Statistical                      <input type="checkbox"/> Geophysics  <input type="checkbox"/> Computational                      <input type="checkbox"/> History</p>

# The American Physical Society

## 1994-95 TRAVEL GRANTS FOR WOMEN SPEAKERS PROGRAM

*The APS Committee on the Status of Women in Physics (CSWP) is pleased to announce that the "Travel Grants for Women Speakers" Program is entering its fourth year. This program is designed to increase the recognition of women physicists.*

### PURPOSE

The program is intended to expand the opportunity for physics departments to invite women colloquium/seminar speakers who can serve as role models for women undergraduates, graduate students and faculty. The program also recognizes the scientific accomplishments and contributions of these women physicists.

### GRANT

The program will reimburse U.S. colleges and universities for up to \$500 for travel expenses for **either of two** women colloquium/seminar speakers invited during the 1994-1995 academic year.

### QUALIFICATIONS

All physics and/or science departments in the United States are encouraged to apply. Canadian colleges & universities are also eligible, provided that the speakers they invite are currently employed by U.S. institutions. Invited women speakers should be physicists or in a closely related field, such as astronomy. Speakers should be currently in the U.S. The APS maintains the **CSWP Colloquium/Seminar Speakers List of Women in Physics** which can be obtained by writing to the address below. However, selection of the speaker need not be limited to this list. Neither of the two speakers may be a faculty member of the host institution.

### GUIDELINES

Reimbursement is for travel and lodging expenses only. Honoraria, local meals or extraneous expenses at the colloquium itself, such as refreshments, will not be reimbursed.

### APPLICATION

The **Travel Grants for Women Speakers Application Form** (available from physics departments or from the address below) should be submitted to APS identifying the institution, the names of the two speakers to be invited and the possible dates of their talks. Please note that funds for the program are limited. *The Travel Grants for Women Speakers Application Form should be submitted as early as possible, even if speakers and dates are tentative, or if the speakers are scheduled for the spring semester.* The application form will be reviewed by APS, and the institutions will be notified of approval or rejection of their application within two weeks. Institutions whose applications have been approved will receive a **Travel and Expense Report Form** to submit for reimbursement.

### FOR FURTHER INFORMATION

Travel Grants for Women Speakers Program  
Attn: Tara McLoughlin  
The American Physical Society  
One Physics Ellipse  
College Park, MD 20740-3844  
Tel: (301) 209-3231 ♦ Fax: (301) 209-0865 ♦ email: tara@aps.org

# 1994-95 TRAVEL GRANTS FOR WOMEN SPEAKERS

## ◆ APPLICATION FORM ◆

This form must be filled out and approval received from the APS in order to be eligible for up to \$500 travel reimbursement. **Please note that submitting this application form does not guarantee reimbursement.** You will be notified within two weeks of receipt of this application whether or not it has been approved.

DATE: \_\_\_\_\_

INSTITUTION: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

APPLICATION PREPARED BY (VERY IMPORTANT):

NAME: \_\_\_\_\_ TITLE: \_\_\_\_\_

PHONE: \_\_\_\_\_ FAX: \_\_\_\_\_

EMAIL: \_\_\_\_\_

*Please list information on the speakers below. If speakers, dates or titles of talks are tentative, please indicate.*

DATE OF COLLOQUIUM: \_\_\_\_\_

SPEAKER'S NAME: \_\_\_\_\_

HOME INSTITUTION: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

PHONE: \_\_\_\_\_ FAX: \_\_\_\_\_ EMAIL: \_\_\_\_\_

TITLE OF TALK: \_\_\_\_\_

DATE OF COLLOQUIUM: \_\_\_\_\_

SPEAKER'S NAME: \_\_\_\_\_

HOME INSTITUTION: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

PHONE: \_\_\_\_\_ FAX: \_\_\_\_\_ EMAIL: \_\_\_\_\_

TITLE OF TALK: \_\_\_\_\_

**Please return this form to:** Tara McLoughlin, Travel Grants for Women Speakers Program  
The American Physical Society  
One Physics Ellipse  
College Park, MD 20740-3844  
Tel: (301) 209-3231 ◆ Fax: (301) 209-0865 ◆ Email: tara@aps.org





# ANNOUNCEMENTS

• **Make plans now to attend a conference on *The Women and Gender in Science Question—What do research on women and science and research on science and gender have to with each other?*** May 12-14, 1995, University of Minnesota, Minneapolis, Minnesota. This multidisciplinary conference will focus on current research on women and gender in science. Conference themes will include women's contributions to the advancement of the sciences; personal and external factors empowering or inhibiting achievement and satisfaction in science; race, gender, and social class interactions that help shape women's experiences in the sciences; the relationship between gender and scientific practices, scientific representation and conceptions of scientific knowledge. For further information please contact: Lori Graven, (612) 625-9023, fax (612) 626-1632, email [lgraven@maroon.tc.umn.edu](mailto:lgraven@maroon.tc.umn.edu).

• **Christian & Timbers**, one of the leading retained executive search firms in the information technology industry, has been engaged by a major telecommunications company to augment their already diverse staff with searches for either the Research Department Head or Laboratory Director level for TOP WOMEN in the following technical categories: 1) Networking Technology, including: wireless transmission, voice/data networks, signalling protocols, network architecture for mobile computing and communications, network management, and broadband ATM technology; 2) Multimedia Communications within interactive environments including: machine vision, image processing, image compression, computer graphics, information retrieval and messaging, and protocol/controls for client/server interactions; 3) CAD and circuit designs for high performance VLSI; and, 4) Software including: database technology, operating systems, and applications software. Interested women may contact Greg Selker at [g.selker@applelink.apple.com](mailto:g.selker@applelink.apple.com).

• **HUGS at CEBAF**—Through grant support from the DOE and the NSF, the tenth annual Hampton University Graduate Studies (HUGS) at the Continuous Electron Beam Accelerator Facility (CEBAF) summer school is scheduled to run from May 30 to June 16, 1995. HUGS at CEBAF is a summer school designed for second and third year physics graduate students who have finished (or nearly finished) their course-work. Students who are well into a research project are encouraged to apply as well. A limited number of fellowships are available for the program. To apply to the

HUGS at CEBAF summer school, the student must submit in writing, a letter requesting consideration for acceptance into the program. The student must also submit two letters of recommendation, which should be sent at the same time as the letter to the address below. Submission in this way will automatically place the student in the fellowship competition. All students will be notified by mid March, 1995. Please forward all queries and applications to: Dr. Thomas Eden, Chair, Local Organizing Committee, Nuclear/High Energy Physics (NuHEP), Research Center of Excellence, Department of Physics, Hampton University, P.O. Box 6172, Hampton, Virginia 23668, Phone: (804)-249-7310, INTERNET: [hugs@cebaf.gov](mailto:hugs@cebaf.gov).

• **SURF**—The SURF, or Summer Undergraduate Research Fellowship program awards fellowships at the National Institute of Standards and Technology to about 20 students each summer. The program was designed to encourage female and minority science students to pursue advanced degrees in science and engineering. For more information on the SURF program, please contact David King at NIST Physics Laboratory, B266 Physics Building, Gaithersburg, MD 20899-0001, Tel. (301) 975-2369, email [king@enh.nist.gov](mailto:king@enh.nist.gov).

• **Daphne Jackson Fellowships**—Women (or men) in the UK who have left science or engineering careers for family reasons, and who want to return can be helped to do so by Daphne Jackson Fellowships. Fellowships are flexible and half-time, for two years, and are held at a local university where a Fellow will engage in a program of retraining and research aided by a qualified university supervisor. For information, please contact: The Daphne Jackson Memorial Fellowships Trust, Department of Physics, University of Surrey, Guildford, Surrey GU2 5XH, UK, Phone: (UK): 0483-259166. Information about the Fellowships is also on the World-Wide Web, at address: <http://www.sst.ph.ic.ac.uk/trust/>.

• **The APS Committee on the Status of Women in Physics and Committee on Applications of Physics** are co-sponsoring a breakfast for women physicists in industry at the March Meeting of the APS in San Jose, CA. The breakfast is tentatively scheduled for Monday, March 20th, from 7:00-8:30am. This breakfast will feature speakers from industry and will provide plenty of time for networking. For information, contact Tara McLoughlin (301-209-3231 or [tara@aps.org](mailto:tara@aps.org)) or Arlene Modeste (301-209-3232 or [modeste@aps.org](mailto:modeste@aps.org)).