

# CSWP GAZETTE

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

March 1, 1983

Issue #9

## 1983 COMMITTEE MEMBERS

Judith L. Bostock  
OMB, New Executive Office Bldg  
17th and Pennsylvania Ave.  
Washington, DC 20503  
(202) 395-4956

Laura Eisenstein (Chair)  
Dept Physics, U Illinois  
Urbana, IL 61801  
(217) 333-6642

Irene Engle  
Dept. Physics, US Naval Academy  
Annapolis, MD 21402  
(301) 267-3486

Mary K. Gaillard  
Physics Dept, UC Berkeley  
Berkeley CA 94720  
(415) 642-3561

Luisa Hansen  
Lawrence Livermore Lab L405  
PO Box 808  
Livermore, CA 94559  
(415) 422-4512

Enid Sichel  
GTE Advance Technology Labs  
40 Sylvan Rd  
Waltham, Mass 02254  
(617) 466-4100

Julia Thompson  
Physics Dept., U. Pittsburgh  
Pittsburgh, PA 15260  
(412) 624-4330

Barbara Wilson  
Bell Labs, MH 1D-465  
Murray Hill, NJ 07974  
(201) 582-3973

Charles Bean, Liaison APS Council

Wilhelmina Jenkins,  
Liaison APS Committee on Minorities

Joseph A. Burton,  
Liaison, The American Physical Society

Eugenie Mielczarek, Liaison AAPT

Neta Bahcall, Liaison AAS

## FOREWORD TO OUR READERS

Thank you for all of your data forms. Please continue to encourage your colleagues who have had a recent change of circumstance or who are not on the Roster of Women in Physics at all, to send in data. Blanks may be xeroxed from Issue #8 or requested from your editor.

Most of the timely articles of issue #8 were reprinted on pages 5-6 of the January 1983 issue of the *Bulletin* of the APS. We have also had a request from a Cal Tech organization of women in science to reprint the article "Mentor: Necessity, Hazard, or Myth" by Dr. Helen Kearney, which appeared in Gazette Issue #7.

APS sent out a letter over my signature to all physics Department Heads offering a computer match-making service for prospective employers who have junior positions in physics to offer. I was inundated with requests for matching in the first couple of weeks after the letter was sent out.

Since the primary purpose of our data forms has been networking and demographic study of the women in physics, the data stored in the Roster is not precisely optimal for his purpose. Thus, may of you have probably received letters out of the blue inviting you to apply for junior position X at institution Y. Please do not be insulted by the disparity between your qualifications and the level of the employment being advertised. If you have a student or junior colleague who would also qualify, but did not receive the information (because her data form was not submitted or not up to date?) please pass it on to her (or him). Our purpose is to broaden the range of possibilities for individuals as well as to enlarge the pool of qualified applicants for the prospective employers. Some of the jobs are "plums", which qualified persons may have heard of anyhow. Others would, I guess, have a very small number of persons interested in them. However, we hope to have assisted in bringing about some suitable matches.

We remind you that we are not giving out your names and data, but are choosing names and addresses which correspond to field and seniority choices made by the prospective employer, and putting the envelopes in the mail ourselves, to preserve confidentiality of the Roster.

This service was devised as a supplement to, and not a substitute for, ongoing work of the APS Panel on Faculty Positions for Women Physicists and Astronomers, which seeks to match senior women and possible senior positions. The Panel is still very active. Any of you who are not currently represented in the pool of senior women scientists possibly available for relocation to a senior academic positions who would like to be considered by the Panel should contact a member of CSWP or Dr. Joseph Burton at APS headquarters as soon as possible.

Our retiring CSWP Chair, Dr. Pat Cladis, of Bell Labs, has agreed to prepare a revised list of women physicist colloquium speakers for the 1983-4 academic year. If you would like to be included on the new list, please send your particulars to Dr. Cladis.

Thank you all in advance for your enthusiastic cooperation.

Irene M. Engle, Editor  
Physics Dept, US Naval Academy  
Annapolis, MD 21402  
\*\*\*\*\*

#### JUNE BACON-BERCEY SCHOLARSHIP IN ATMOSPHERIC SCIENCES

An annual award is made to a women who is one of the following: A first year graduate student in an advanced degree program in atmospheric sciences; An undergraduate in a bachelor's degree program who has been accepted for graduate study; or A student in a two-year institution offering at least six semester hours of atmospheric sciences, who has been accepted for a bachelor's degree program, and who has completed all of the courses in the atmospheric science offered at the two-year institution.

Awardee selection will be made by the AGU Subcommittee on Women in consultation with the AGU Atmospheric Sciences Section.

For further information and application forms, contact: American Geophysical Union, Member Programs Division, 200 Florida Avenue NW, Washington, DC 20009. Tel (800) 424-2488 (or 464-6903 in Washington area)  
\*\*\*\*\*

#### GAILLARD, KERNAN NAMED TO TACUP

The High Energy Physics Division of DOE has appointed a Technical Assessment Committee for University Programs (TACUP) and requested that TACUP complete a review of DOE's University-based high energy physics program. The evaluation of individual Tasks and Contracts is being carried out by eight technical panels, three in theory and five for experimental work. Prof. Mary K. Gaillard,

of the University of California at Berkeley, and a new CSWP member, is one of fifteen theorists appointed to the three theory panels. Prof. Anne Kernan of the University of California at Davis is one of 25 experimentalists appointed to the experimental panels.  
\*\*\*\*\*

#### GOLDEN BOOKS

Two new "Golden" books for young children, "My First Book About Space," and "We're Taking an Airplane Trip," by physicist Dinah L. Moche are now available in bookstores. Dr. Moche is also the author of several other books with total sales exceeding three million copies and is the author of the text of the two CSWP-produced career booklets for high school and middle school girls.  
\*\*\*\*\*

#### WE HEAR THAT....

Dr. *Renee Diehl*, a condensed matter physicist recently of University of Washington, Seattle, is currently enjoying her post-doctoral position in the Chemistry Department at the University of Liverpool, England. Dr. *Hana Bizek*, a recent graduate of Purdue University has accepted a position on the technical staff of TRW, Los Angeles. Professor *Judy Franz*, of the University of Indiana, a former CSWP Chair, was a part of a group of AAPT-affiliated physics educators to visit mainland China recently. Retiring CSWP Chair, Dr. *Pat Cladis*, of Bell Labs, recently visited India on a lecture tour, and presented an invited talk on her discovery of the re-entrant nematic phase at the IXth International Liquid Crystal Conference in Bangalore. Prof. *Laura Eisenstein*, the 1983 CSWP Chair has recently been elected to Section B (Physics) Electorate Nominating Committee of the AAAS. CSWP member *Judith Bostock* of MIT has been serving as expert consultant to the Office of Management and Budget in Washington since the beginning of the 1982 fall semester. Her primary responsibilities consist in dealing with the basic science research in DOD. Dr. *Barbara Cooper* will be joining the faculty of Cornell University. Dr. *Carol Jo Crannell* of NASA Goddard Space Flight Center has been elected to the Executive Committee of the APS FORUM on Physics and Society.

We would very much like to receive short news items regarding nifty events in the lives of our readers to share with the network. But since we're full time scientists, not reporters, we depend on your help for items off the CSWP-beaten track.  
\*\*\*\*\*

## SYMPOSIUM ON FUNDING (HOW TO GET IT)

CSWP will be sponsoring a symposium "Federal Agency Funding Policy", to be held the Wednesday evening (March 23) of the APS meeting in Los Angeles. Speakers will include Dr. John Conolly of NSF, Dr. Ted Berlincourt of ONR, Dr. Donald K. Stevens of DOE, and our own Dr. Judith L. Bostock of OMB, who will try to present pertinent information on government funding agencies not otherwise represented. Informal discussion will follow the formal session. Refreshments may be available.

\*\*\*\*\*

## AAPT WOMEN RECEIVE FIPSE GRANT

The AAPT Committee on the Education of Women in Physics has received funding from the Fund for the Improvement of Postsecondary Education for a two year pilot project to encourage junior high girls to consider careers in the physical sciences and to begin an intensive study of mathematics and science during high school. To this end a series of seven Saturday workshops for eighth grade girls will be held at George Mason University, Fairfax, Va, during the fall of 1983. These sessions will stress hands-on activities in the physical sciences and mathematics, as well as career opportunities and the high school preparation required for scientific/technical careers. During the spring 1984 semester, mini-workshops will be held for the parents of the student participants and the counselors and science and math teachers from the high schools the girls will attend. These sessions will emphasize positive attitudes that adults should have in order to support and encourage the girls. Student participants will be given opportunities to meet individually with workshop instructors and/or career lecturers during the spring semester if they desire assistance with the planning of their freshman course schedule.

The project will conclude in the fall of 1984 with a meeting of student participants, workshop instructors and career lecturers after students have completed a quarter of their freshman year. This will give the staff an opportunity to complete the project evaluation and reinforce ideas brought out during the workshops, while the students can share experience and renew friendships formed during the workshops. Inquiries concerning the project can be made to the TWIST (Training Women in Science and Technology) Project Director, Betty Windham, Physics Dept., Wm. Rainey Harper College, Pilatine, IL 60067, or the George Mason site coordinator, Joan Kowalski, Physics Dept., George Mason U., Fairfax, VA 22030.

\*\*\*\*\*

## SURVEY OF INDUSTRIAL LABS

Since the Eisenstein-Baranger survey of women in academic positions has been so useful in stimulating helpful suggestions to improve the status of women in academe, the Committee decided to attempt to survey the situation for women in industrial research laboratories as well. The difficulties of an industrial survey are obvious: the lack of standardization in defining job titles, the lack of a directory of all physicists in industrial positions, and the proprietary nature of the work effort in some industrial labs. Nevertheless, Enid Sichel has performed a valuable service to the community by first telephoning the major research labs in the country for an informal survey of the numbers of women holding physics research jobs and managing physics research. She then followed up with a letter stating her informal findings, to the laboratory directors, inviting them to correct her informal statistics, comment, and answer a few questions.

Replies to her letter of 8 November 1982 have been received from the laboratory directors of:

•Bell Laboratories, Murray Hill, NJ; •Exxon Research and Engineering Co, Linden, NJ; •Ford Motor Co., Dearborn, MI; •General Electric, Schenectady, NY; •GTE, Waltham, MA; •IBM, Yorktown Heights, NY; •Westinghouse, Pittsburgh, PA; and •Xerox, Palo Alto, CA.

No replies were received from the laboratory directors of: •General Motors, Warren, MI; and •RCA Laboratories, Princeton, NJ.

The questions and requests put to the directors were these:

1. A general request was made for advice and comments on career opportunities for women physicists in industry in view of the increasing proportion of physicists that will be employed by industry rather than by government and academia.

2. How are women physicists recruited at your laboratory? Any special effort to interview physicists who are women? Are senior women on the staff influential in hiring new physicists? Is there a dual career ladder?

A summary of the replies follows:

1. A director of a laboratory with a good record of hiring women physicists reports that his laboratory has an active Affirmative Action Program which has the full support of all levels of his management. No dual ladder. Has a graduate research program for *women* which provides financial support for graduate studies in physics and other technical disciplines and provides summer jobs at the laboratories for the women who participate in the program.

2. The director of a laboratory with a modest number of women physicists on its staff reports that his laboratory is in a growth period of research and development and that will increase career opportunities for *all* physicists at his laboratory. There is a dual career ladder. The New York Times (12/19/82) reports that this laboratory is one of the few with a dual career ladder which works. He made the following interesting comment about the importance of accepting criticism constructively: "My personal opinion is that what is needed is some period of time in which women can generate some confidence that they are treated fairly and equally in this profession, enabling them to handle in stride the normal criticisms, successes, and failures that come with any career. My personal observation is that the most debilitating aspect of the absence of women in science is the belief that they will not be treated fairly. This belief in turn makes it very difficult to accept criticism and therefore they lack the confidence that if one changes success will be achieved."

3. A director of a laboratory with a small number of women physicists on its staff reports that women scientists participate in their college recruitment visits. He feels that women physicists are more attracted to academic life and must be "lured" to industrial jobs. His laboratory anticipates increasing its R&D staff in 1983 in integrated electronics, NMR, and computer science.

4. A director of a laboratory with a modest number of women physicists on its staff reports that there is no specific recruiting program for women but the laboratory supports the EEO guidelines. The laboratory's incentive management program specifically rewards with salary "bonuses" the manager who hires qualified women and minorities. The presence of a well known women physicist is recognized to have a long term benefit for the company in hiring new women physicists and in developing an "enlightened" environment of co-workers. His laboratory anticipates expansion in 1983 which will provide opportunities for physicists. This director says that universities tell him that he (and other high-tech companies) are stealing away their science and engineering professors. (This remark suggests that women seeking jobs in academia should be able to find jobs! Is this consistent with the experience of our CSWP program to increase the number of women physics professors?) He says that a solid state physics background is attractive to industry but not, say, a nuclear physics background.

5. One laboratory has a unique recruiting program: they keep in close touch with several universities and get acquainted with graduate students early in their graduate careers and follow their progress over a period of years, sometimes

offering summer employment, introductory visits to their plant/lab sites, and graduate fellowships. In this way they identify students (including women physics students) who they believe will be valuable additions to their laboratory. "Once the minority and/or female student is available for employment, because of the technical rapport we have established, we are in a better position, if that is our objective, to make an attractive and competitive job offer." (This recruiting strategy is not limited to women or minorities and probably did not originate for that purpose!)

6. A director at a laboratory with a small number of women physicists points out that his laboratory has had to lay off technical staff in 1982 and therefore employment prospects for hiring physicists are not good for anyone at his laboratory. There is a dual career ladder at his laboratory. Although his laboratory used to make a special effort to locate women scientists, it no longer does so because, he reports, female technical graduates are no longer scarce and hard to find and a number of women complained of the special treatment.

At his laboratory, physicists often go into management positions with several beginning such duties at age 30. About half the physicists in his corporation attain management positions by age 45. He points out that an industrial laboratory is not a good place to pursue a long career in basic research. "I think it would be a confidence trick to tell a young physicist that he could expect a lifetime career of basic research in an industrial laboratory. A few years of freedom he may well get, but sooner or later he will be asked to relate his work to the business goals of the company." However, this director notes that "... the most secure industrial employee is one who maintains his negotiability outside the company. The curious dichotomy is that a person who is greatly desired by other employers will have the greatest attractiveness to his existing employer." This means attending meetings, presenting and publishing papers and doing professional society committee work.

7. A director of a laboratory with a modest number of women physicists on its staff reports that there are few women taking up physics as a career and his company does make special efforts to locate women scientists for its technical staff and requests assistance from the women scientists on its staff in this endeavor. "If I might offer a summary opinion based on my 22 years of academic experience and 12 years of industrial experience, I believe that the problem is not in inducing women physicists to apply to industry. Rather it is a problem of inducing women to elect training and careers in physics."

\*\*\*\*\*

Informal CSWP Survey of Major Industrial Laboratories						
Laboratory	Total Physicists	Women Physicists	Percent Women	Physicist Research Managers	Women Physicist Research Mgrs.	Percent Women
GTE, Waltham	51	3	5.9	7	0	0
RCA, Princeton[1]	xxx	xxx	xxx	xxx	xxx	xxx
Bell Labs Research Physics Division	152	11	7.2	5 mgrs 16 dept. heads	0 0	0 0
Exxon, Linden Corp Research Lab	37 MTS 15 temps	2 2	5.4 13.3	3	0	0
Stanford Research Institute[2]	25 PhD 7 MS 12 BS	1 0 0	4.0 0 0	xxx xxx xxx	xxx xxx xxx	xxx xxx xxx
Westinghouse [3]	xxx	xxx	xxx	xxx	xxx	xxx
GE, Schenectady R and D	92	1	1.1			
General Motors Physics Dept	36	1	2.8	3	0	0
IBM, Yorktown Hts[4]						
Ford Motor [5]	33	2	6.1	1	0	0
Xerox, Webster [6] Corp Research Cntr	45-50 MTS 6 postdoc	1 1	2 16.7			

[1] Refused to divulge information. To the best of our knowledge, there are no women physicists at RCA Laboratories.

[2] SRI refused to divulge information on managers

[3] Refused to divulge information.

[4] Data not available at press time, but it is known that IBM has several women physicists on its technical staff.

[5] There are 2 physicist "staff scientists" among the 33 MTS and 1 is a woman.

[6] There are 3 physicist "fellows of the technical staff" among the MTS and 1 is a woman.

\*\*\*\*\*

### NEW CONCEPT IN CAREER BOOKLETS

"Physics in Your Future" is a new concept in career booklets designed to address the current crisis in science education. It introduces physics and careers in physics to young people, their parents, teachers and advisors.

Although physics is not usually taught until the last years of high school, the necessary mathematical preparation is decided at the junior high school level. The purpose of this booklet is to inspire students who might otherwise avoid technical subjects to take all the mathematics and science courses they can.

"PHYSICS IN YOUR FUTURE" was conceived of and sponsored by the Committee on the Status of Women in Physics. It was supported by funds from the APS, Bell Laboratories, Exxon, GE, IBM and Xerox. Author Dinah L. Moche, Ph.D., is a professor of Physics and Astronomy at Queensborough Community College of the City University of New York. The booklet is 16 pages long with full color illustrations. It is available at

\$1.00 a copy from The American Physical Society, CSWP, 335 E 45th Street, New York, NY 10017.

\*\*\*\*\*

### ROSTER CONTENTS SUMMARIZED

Some interesting statistics on the membership of the Roster will be available in time for the summer issue. Watch this space!

\*\*\*\*\*

### COFFEE IN BALTIMORE

CSWP will sponsor an informal coffee/tea social session at 4:30 - 6:00pm on Wednesday, April 20 at the Convention Center in Baltimore. If you plan to attend the Spring APS meeting in Baltimore, please try to set aside a bit of time on that afternoon to stop by and get acquainted.

\*\*\*\*\*