

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

NSF SUPPORTS APS/AAPT SITE VISIT PROGRAM

The National Science Foundation has just awarded a three-year grant to support a program designed to assess the activities of physics departments whose faculty wish to improve their local climate for attracting and retaining women students and faculty. This grant is the result of a pilot program run by Professors Judy R. Franz, Professor of Physics at the University of Alabama in Huntsville, and Mildred Dresselhaus, Institute Professor of Electrical Engineering and Physics at MIT, under the sponsorship of the APS/CSWP. The NSF grant will provide funds for a national survey of physics students, to be carried out under the auspices of the AIP's Division of Education and Employment Statistics. In addition, the grant will support site visits by groups of professional physicists to departments requesting help with their efforts in improving the climate for women. The program will be carried out in conjunction with the APS and the AAPT, and will be administered through the national office of the AAPT in College Park, Maryland.

The site visit program was a suggestion of participants of the 1990 Conference on the Recruitment and Retention of

Women in Physics. As a result, Professors Franz and Dresselhaus implemented a pilot program that visited, by invitation, five departments between 1990 and 1992. Prior to the visits, the departmental administration was asked to provide background statistics, and surveys were distributed to undergraduate and graduate students (both male and female), to provide information about the general concerns of the students. During the visits, the site team met with female undergraduate students, graduate students, and faculty, as well as with concerned male faculty and administrators. At the end of the visit, the site team met with the department chair and discussed their preliminary findings. A more detailed, confidential written report was then prepared and sent to the department chair, who was asked to respond within about six months with information about any changes that resulted.

The site visit program showed that a meaningful and productive assessment can be made in one day. Women students, especially graduate students, have been delighted to talk to a group of people who are willing to take their concerns seriously. Problems affecting

women students include lack of female role models, not being taken seriously, sexual harrasment, and difficulty in forming study groups with fellow students, most of whom are male. In addition, it also appears that any general problems in a department affect women, who may already feel themselves in a tenuous position because of their unconventional choice to become physicists, more strongly than men. Thus, many of the suggestions made by site teams involved changes that improve the climate for *all* students, and are relatively inexpensive to implement. Steps as simple as establishing regular meetings between students and administration, having a trusted ombudsman to whom students can bring problems, and setting up student lounges can bring about significant improvement. Many of the suggestions are things that can be accomplished by dedicated chairs working with small groups of concerned faculty.

Professors Franz and Dresselhaus anticipate no difficulty in finding departments interested in being among the ten visited under the NSF-sponsored program. With little effort they have already

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The Editor for this issue is
ELLEN D. WILLIAMS; Managing
Editor **JESSICA KRASILOVSKY**;
Production **LOUISE BOGAN**.

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

FIRST WOMAN WINS J. J. SAKURAI PRIZE

The winner of the 1993 J. J. Sakurai Prize is Dr. Mary K. Gaillard. This is the first time the Sakurai Prize, established in 1985, has gone to a woman. Dr. Gaillard is cited "for contributions to particle physics phenomenology and theory, and in particular for her work with Ben Lee and others applying QCD to K meson mixing and decays and to the bound states of charmed quarks."

The purpose of the Prize is to recognize and encourage outstanding achievement in particle theory. Dr. Gaillard will be awarded the \$5000 prize at the April 1993 meeting of the American Physical Society, in Washington, DC. □

1993 MARIA GOEPPERT-MAYER AWARD TO EWINE VAN DISHOCK

Dr. Ewine van Dishoeck of the University of Leiden, The Netherlands, is the 1993 winner of the Maria Goeppert-Mayer Award.

The 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. The Award will be bestowed at the April 1993 meeting of The American Physical Society in Washington, DC.

Dr. van Dishoeck was cited "for her contributions to the understanding and modelling of molecular processes and their role in astronomical phenomena, particularly interstellar clouds and cometary atmospheres including both original theoretical work and the observational effort needed to test her predictions." □

LETTERS To the Editor:

It has been brought to my attention that my understanding of the events preceding the Committee on Women in Physics was incorrect, and I would like to set the record straight. Brian Schwartz suggested that there be a session on women in physics at an APS meeting, and Fay Ajzenberg-Selove both organized and chaired it at the annual meeting of the APS in 1971. It was an unforgettable event, very well attended, with an excellent panel and lively interchange of comments with the audience. The members of the panel were: Fay Ajzenberg-Selove (Chair), Betsy Ancker-Johnson, Allan Bromley, Henriette Faraggi, Gloria Lubkin, Enid Sichel, Charles Townes, and C. S. Wu. (For a report on this meeting, see *Physics Today*, April 1971, page 23.) As I said in the brief remarks that I made last spring at the March Meeting of the APS, it was this event that prompted a group of women to suggest the formation of an *ad hoc* Committee on Women in Physics. The recommendations of that committee led in turn to the formation of

the Committee on the Status of Women in Physics, which continues to make important contributions to the inclusion of women as equal participants in the field.

Since the version of my talk published in the October issue of the *CSWP Gazette* does not include the material that I presented on transparencies, let me also list the members of the Committee on Women in Physics who worked so hard and so effectively to put out that first report on women in physics in January of 1972: Fay Ajzenberg-Selove, Margaret Alston-Garnjost, Betsy Ancker-Johnson, Noemi Benczer-Koller, Esther M. Conwell, Vera Kistiakowsky (Chair), Gloria B. Lubkin, Maria Goeppert-Mayer, Allan M. Sachs, Gertrude Scharff-Goldhaber, Mary L. Shoad, Charles P. Slichter, Mary Beth Stearns, Katherine Way, and Steven Weinberg. [The report and recommendations were published in *Bull. Am. Phys. Soc.* **17**, 740 (1972).]

Vera Kistiakowsky
Cambridge, Massachusetts
October 29, 1992

1992 WOMEN APS FELLOWS

BIOLOGICAL PHYSICS DIVISION

Judith Herzfeld

"For pioneering applications of solid-state NMR spectroscopy to biological membranes and insightful analyses of entropically-driven long-range order in crowded self-assembling systems."

CHEMICAL PHYSICS DIVISION

Frances Anne Houle

"For contributions to understanding of chemistry and physics in laser chemical modification of materials."

Katja Lindenberg

"For her fundamental contributions to nonequilibrium statistical mechanics and the theory of stochastic processes toward the understanding of the evolution of coupled nonlinear systems of importance in physical applications."

DIVISION OF COMPUTATIONAL PHYSICS

Paulett Creyke Liewer

"For her pioneering work in use of parallel supercomputers for plasma modelling, both development of concurrent algorithms for plasma particle-in-cell codes and application to physical problems and also past work on transport in tokamaks."

DIVISION OF CONDENSED MATTER PHYSICS

Meera Chandrasekhar

"For her optical experiments at high pressures on the nature of energy bands, deep levels and quantum confined states in semiconductors."

Susan N. Coppersmith

"For her theories of charge density waves and self-organized criticality."

Ellen D. Williams

"For her experimental studies of the role of thermodynamics in the morphology of macroscopic surfaces."

FORUM ON PHYSICS & SOCIETY

Carol Jo Crannell

"For contributions to physics, especially her extraordinary societal endeavors to ensure that others may enjoy opportunities to participate in exciting science such as her research in solar physics and astrophysics."

Ruth H. Howes

"For her innovations in the verification of ballistic missile characteristics which assisted in resolving problems negotiating parts of the START Treaty, and for her analyses of energy policy and ballistic missile defenses."

MATERIALS PHYSICS DIVISION

Marie-Louise Saboungi

"For innovative research into the structure of liquid metals, semiconductors and molten salts which has led to profound changes in the way we view the liquid state of matter."

DIVISION OF PARTICLES AND FIELDS

Marjorie D. Shapiro

"For contributions to experiments studying spin asymmetries in hadronic collisions."

Marjorie D. Corcoran

"For contributions to the study of high transverse momentum phenomena in proton-antiproton collisions."

HOWS AND WHYS

APS Fellowship Nomination

The CSWP has been concerned that women are underrepresented among APS Fellows, and wishes to encourage women to nominate and be nominated. Although the recent membership survey revealed that 6.5% of APS members are women, the percentage of women elected to fellowship each year is rarely over 3%, and has been as low as 1%. Fellowship shows that peers recognize an individual's contributions and achievement, and can be a factor in hiring and promotion decisions.

A fellowship nomination is a political process that requires thought and effort by the nominator. A potential nominee should not be shy about requesting a colleague to act as a nominator and providing help in assembling the necessary documentation. The following guidelines (extracted and amplified from the Newsletter of the Division of Condensed Matter Physics) should help in the process.

About three-eighths of 1% of the total APS membership is elected to fellowship each year, although the Bylaws permit as much as one-half of 1%. With APS membership at 42,000, this means that only 150 or so new Fellows are honored each year. In general, an APS Fellow is selected on the basis of sustained contribution to his or her field over a period of time, rather than a single, albeit brilliant, piece of work. This is important to consider when nominating younger people for fellowship.

Because the process is competitive, sponsors should be sure that the material accompanying the nomination clearly and completely reflects the candidate's achievements. A comprehensive list of the nominee's publications is highly recommended, as is information on invited talks, awards, committee service, and organization of conferences. Reprints of papers are less useful since it is impractical to make copies for all fellowship committee members, who are already burdened with nomination materials. On the other hand, detailed statements and supporting letters from sponsors and others familiar with the candidate's most "exceptional contributions" can aid the committee considerably. The nomination form has space for a two-line endorsement, but this is too brief to stand by itself unless the candidate is already well known to the committee.

Nomination forms and deadlines for their submission are available from Maximilla Cassell at APS Headquarters. Completed nominations should be sent to APS Executive Secretary N. Richard Werthamer at the same location. From there, nominations are logged and forwarded to the appropriate division, topical group, or forum fellowship committee. The recommendations of these committees are examined by the APS Fellowship Committee, which also examines appealed, interdisciplinary, and nontechnical nominations, and in turn sends its recommendations to Council for confirmation.

(Continued on Page 11)

WIPHYS GOES ONLINE

The WIPHYS electronic bulletin board of the Committee on the Status of Women in Physics is intended to complement and extend the Gazette. An electronic forum offers unique possibilities for creating an atmosphere of cooperation, mentoring, and support in a field where women are a minority, and thus often feel quite isolated. The Committee believes its ability to offer services to its constituency will be enhanced by the operation of WIPHYS.

Regular service is tentatively scheduled for January 1, 1993. WIPHYS is currently operational on a pilot basis.

PLANNED SERVICES

The services WIPHYS has in place or has planned for the future include:

- Discussion of issues involving women in physics;
- On-line retrieval of the Colloquium Speakers List;
- Announcement of government or privately sponsored programs designed to aid in establishing the careers of women scientists;
- Maintenance of a repository of names of women seeking roommates for APS meetings;
- Maintenance of a repository of job listings;
- News about women in physics.

The WIPHYS bulletin board is moderated. The Moderator will be able to screen "noise" or accidental postings and answer some questions directly, rather than having them distributed to the entire group.

SUBSCRIPTION INFORMATION

To subscribe to WIPHYS, send a message to:

LISTSERV@NYSERNET.ORG

With this message: subscribe wiphys your name

The system will forward your request to us with the return address from your computer system, and you will be enrolled.

SENDING MAIL TO WIPHYS

Sending mail for distribution uses the same procedure as sending mail to anyone on a remote network node. The network address for WIPHYS is:

WIPHYS@NYSERNET.ORG

Any mail sent to this address by a member of the list will be distributed to everyone on the list who has their mail option turned on. Using a "reply" in your mail system to reply to a message that has come from the list will send your reply to everyone on the list. If you wish to reply to an individual, their address will be found in the header of the distributed message.

RETRIEVING WIPHYS FILES

Commands for retrieving files should be sent to the listserver's address rather than the WIPHYS address. This address is:

LISTSERV@NYSERNET.ORG

WIPHYS members can also use the system to store files for other members to retrieve. All the mail sent for distribution is stored in archive files. By typing INDEX WIPHYS at the message prompt, you will receive a list of all available files.

Gender Survey of the APS Membership – 1990

With an overall representation of 6.5% women, APS is consistent with physics as a discipline, though almost an order of magnitude lower than representation in the general population. While this figure is only slightly higher than the 1985/86 figure of 5% as reported by Jacobs, it does represent considerable growth in five years. Appendix C-4 illustrates that the representation of women in physics is significantly lower than in life sciences, chemistry, computer science, and math. Only engineering has a lower percentage of women at 3.1%.

It is important to note that an exploration of gender issues was not a major goal of this survey. Within this section, we explore gender as it relates to age, employment status, and workplace, but more in-depth study will have to be reserved for future surveys.

1. Age and Gender

Age Range

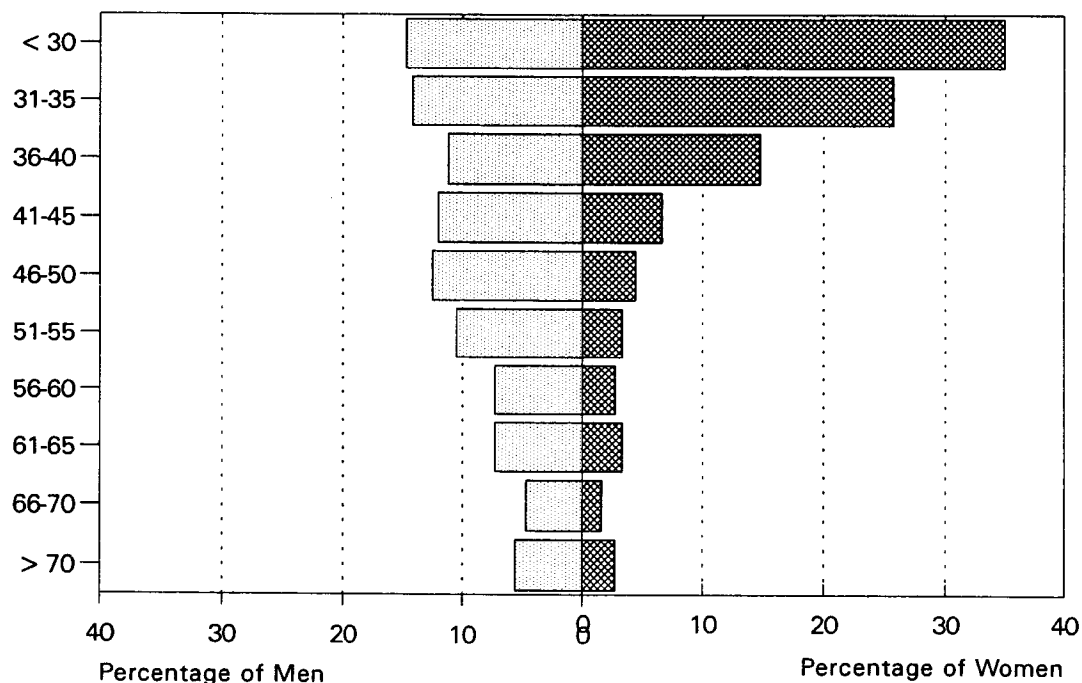


Fig. 14: Proportional Age Distribution of APS Members by Gender, 1990.

- Figures 14 and 15 illustrate that proportions of women in younger age groups dramatically exceed the overall figure of 6.5%.
- Figure 15 illustrates that 14% of those under 30 are women as compared to roughly 3% of those over 40.
- As shown in figure 14, over one-third of all female respondents are under age 30, and these are overwhelmingly graduate students. Furthermore, the upper quartile for female members begins at age 40 whereas it begins at age 55 for males.

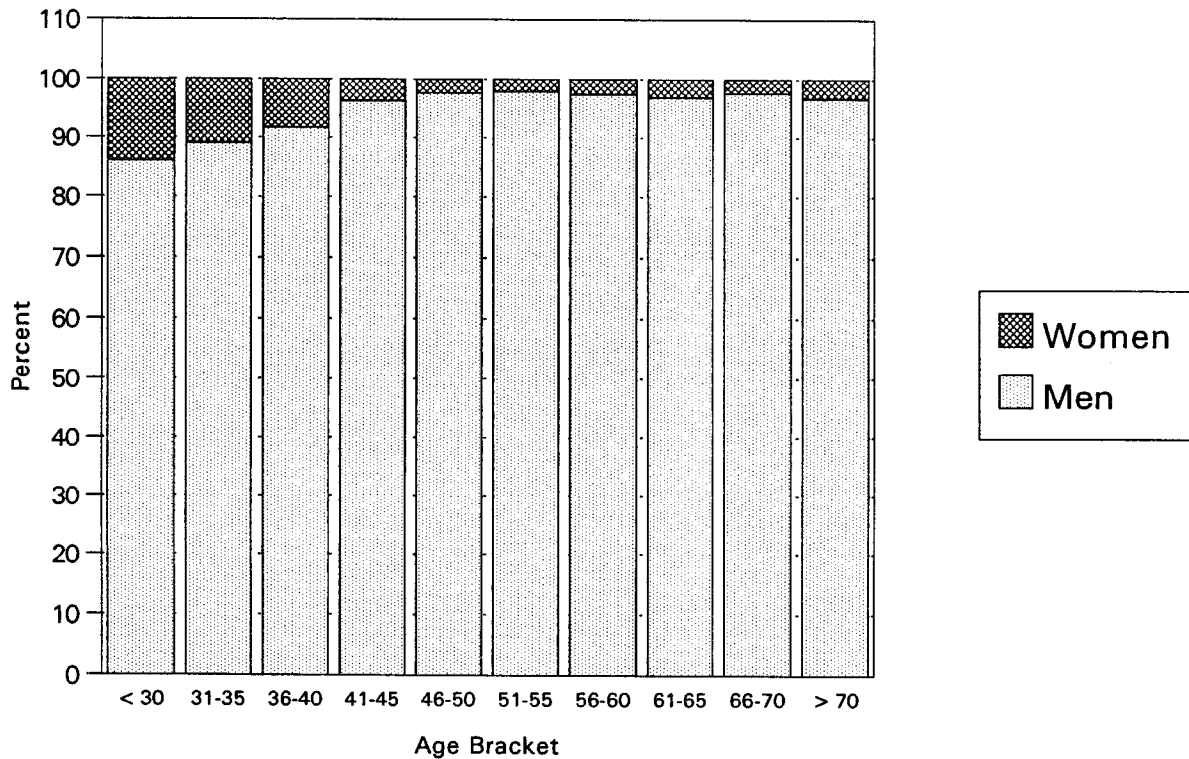


Fig. 15: Gender Distribution of APS Members by Age, 1990.

■ *The large skew in the age of female members is difficult to interpret without comparative data. There is a dramatic drop in representation of women between age 31 and 41 that could be attributed to a larger number of women entering the field in recent years or to a large number of women leaving the field during peak child-bearing years (which also coincide with peak years for finding permanent employment). Because this survey was not designed with a primary goal of studying these gender issues, it is only after further study that these questions may be answered.*

If further study is a priority for the APS, the organization could follow trends in age vs. gender over coming years and could research these issues more thoroughly by studying female members as they move through careers, make family decisions, and as they drop membership in the APS. Answers to these questions may prove vital to any future attempts to increase the numbers of women in physics. In order to monitor women's career patterns without doing a survey every few years, APS could consider recording an indication of gender and other simple demographic information in the membership files. APS may also consider an in-depth study of the small percentage of women who have achieved the stature of senior positions in physics.

Also note that regardless of the cause of the age skew for women, it is important to consider it when analyzing other data, particularly those that are age-sensitive.

■ *Because the average age of female members tends to be younger than that of male members, it is evident that issues affecting younger members, particularly students, are more likely to affect women. Later in this report, we examine the relationship between age and gender as it relates to opinions on family and employment issues.*

2. Employment Status and Gender

□ A look at major employment sector by gender in Appendix C-5 reveals that there is no significant difference between work places for men and women. There is a higher percentage of women in academe, but that can be attributed to the fact that women are younger and, thus, are over-represented among postdoctoral positions.

□ A comparison of current employment status based on gender (see appendix C-6) reveals that there is no significant difference between the percentage of men and women holding down full-time employment; however, women are about four times as likely to be part-time employed and about half as likely to be retired.

	Female %	Male %
Tenured	42	70
Tenure-Track	33	18
Non-tenure research	11	8
Non-tenure teaching	14	4
Total Number of Respondents	36	666

□ Table IV illustrates a somewhat wide disparity between the proportions of men and women who have achieved tenure status. However, these numbers must be interpreted with caution given the small sample of women and the significant skew in the ages of women toward younger (pre-tenure) age brackets.

■ *These comparisons of men and women in the workplace illustrate a couple of perspectives. First, these figures could be used to argue that women have virtually the same employment status as men, given the skew in the ages of women. In most of these comparisons, data for men and women are virtually identical. On the other hand, the issues of part-time employment and tenure status reflect something of a disparity between the status of men and women in physics. These relate closely to discussions of family and employment issues as discussed in the next section and in subsequent chapters.*

Family Status

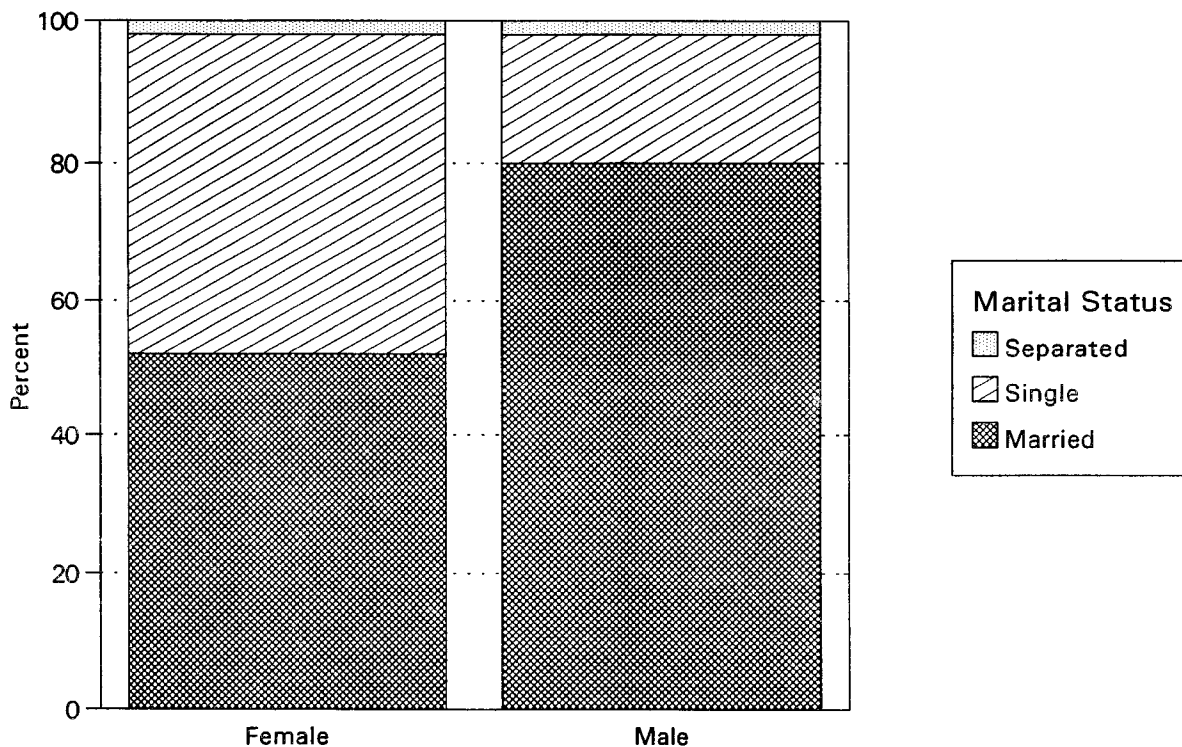


Fig. 16: Marital Status by Gender of Non-Student APS Members, 1990.

□ Figure 16 shows that male members (80%) are more likely to be married than female members (50%). It might be supposed that since women in the APS are generally younger than men, they are more likely to be single.

□ Larger percentages of married female than married male respondents are married to physicists or other scientists. While only 6% of the married men are married to other physicists, roughly 45% of the married women are married to other physicists (figure 17, following page).

■ *It is clear that while APS figures on women and minorities are consistent with other physics societies, they are an order of magnitude lower than figures for the overall population of the U.S. In fact, the representation of women in APS is lower than in related disciplines. The only exception is engineering, but even there the increase among new PhDs has been more dramatic than in physics. The issue of increasing the numbers of women in physics reaches beyond the graduate student level, and into high schools and elementary schools. Consequently, any efforts that the APS undertakes to increase the numbers of women and minorities in physics will, necessarily, be closely related to education programs.*

As some comments from the surveys indicate, not all members favor attempts to increase the numbers of women in physics through affirmative action programs. Such programs are often seen as taking jobs away from men to give to less-deserving women. Women do not appear to be in favor of special consideration; most of them simply want the barriers to their success removed. Perhaps the community and APS

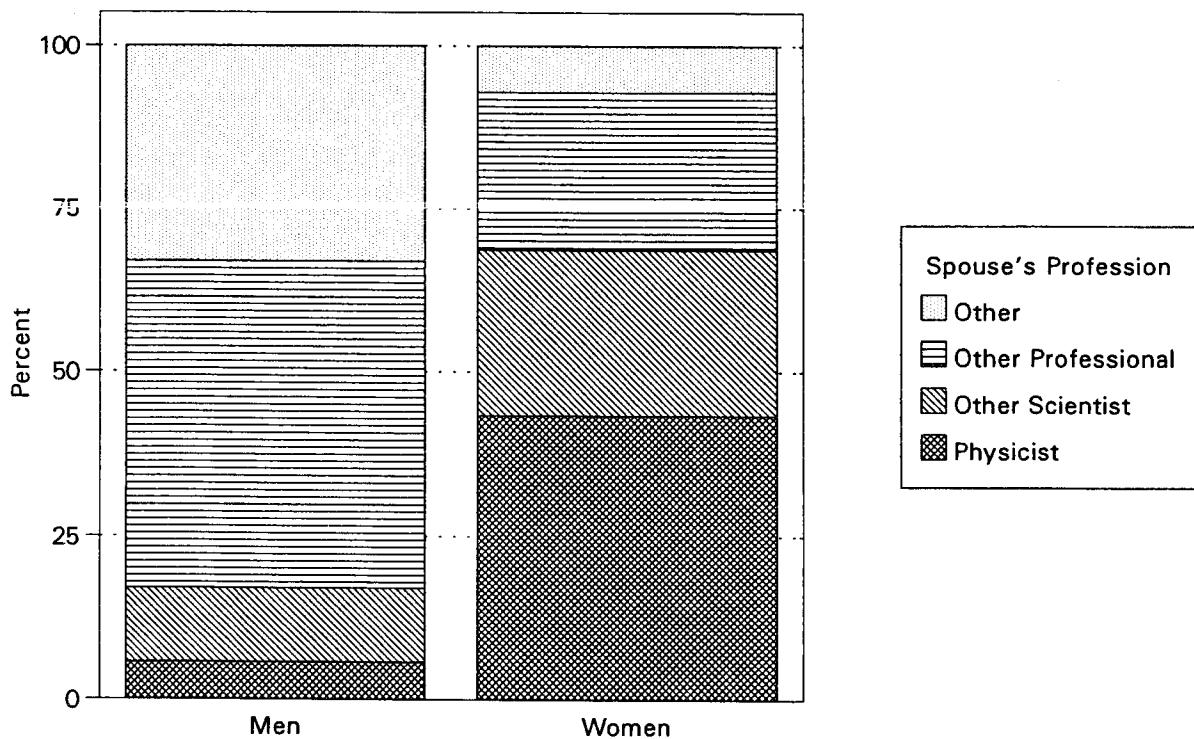


Fig. 17: Spouse's Profession for Married APS Members by Gender, 1990.

need to consider the benefit to society as well as the effect on the individual of increasing the number of women in physics. Also, as mentioned earlier, if increasing the number of women in physics is a high priority, the community must identify the obstacles that prevent women from starting or continuing careers in physics. Only then can APS help to clear a path for women to succeed in physics as men have.

■ *It is significant that while 6% of the married men are married to other physicists, over 40% of the married women are married to physicists. In fact, over 68% of married women are married to other scientists—over four times as many as men. This makes issues affecting dual-career families more important for women in general—difficulties with finding two positions in the same place, for example, clearly affect larger percentages of women than men. A lack of attention to these issues could be a subtle (or not so subtle) source of discrimination against women and could also explain some of the possible attrition from the field around tenure/child-bearing time.*

C-4. Employed Doctoral Scientists and Engineers by Gender, 1990.

	% Women
Life Scientists	22.7
Chemistry	14.5
Computer Scientists	11.6
Mathematics	10.6
Physicists	5.0
Engineering	3.1

Source: *Characteristics of Doctoral Scientists and Engineers in the United States, 1989, NSF 91-317.*
Physics data from APS survey: employed non-student professionals.

C-5. Major Employment Sector by Gender for PhD Members of APS, 1990.

	Male %	Female %
Academe	47	64
Industry	28	20
National Labs.	12	8
Gov't. Labs.	10	7
Other	3	1
Total Respondents	1765	88

Note: Women are younger and thus over-represented among postdoctoral positions (20% vs. 6.5% overall).
 When they are removed, the male and female distributions are virtually identical.

C-6. Current Employment Status by Gender for Non-Student APS Members, 1990.

	Female %	Male %	Overall %
Employed, full-time	87	88	87.9
Employed, part-time	8	2	2.3
Retired	5	9	8.8
Unemployed, seeking	0	1	1.0
Unemployed, not seeking	0	0	0
Total Respondents	107	2181	2288

ACKNOWLEDGEMENTS

The 1990 Survey of the Membership of the APS, from which this is excerpted, was a project of the APS Committee on Membership, and was prepared by Pamela Hawkins Blondin. Roman Czujko, Kate Kirby and Brian Schwartz comprised the project's Editorial and Advisory Committee. There was widespread participation in the initial framing of the questionnaire by members of the 1988 Committee on Opportunities in Physics (COP), including G. Guest, D. Jovanich, K. Kirby, P. Parker, B. Silbernagel and D. Zaffarano. The format was based on that of a recent survey developed by the American Geophysical Union. Bernard Silbernagel, Chair of COP 1988-1989, Kate Kirby, Chair of the Committee on Membership (formerly COP) 1990-1991, and Miriam Forman, formerly Deputy Executive Secretary at APS, devoted considerable time and attention to this first general survey of the APS membership. In drafting this document we have borrowed extensively from Forman's write-up of April 1991 on preliminary results of the 1990 APS Membership Survey completed before she left the organization in June 1991. We would like to acknowledge the more recent involvement of Brian Schwartz, who ensured that the project was brought to completion, despite the change in top management at APS Headquarters in 1991.

NSF Supports APS/AAPT Site Visit Program (Continued From Page 1)

received requests from major departments that would like to have visits

Many suggestions by site teams improve the climate for all students

during the coming year. In choosing which departments to visit, they will give preference to relatively large Ph.D.-granting departments. The reason for choosing larger departments is that in order to get a good sense of the climate for women, it is useful to have at least eight to ten women students to interview. Ph.D. granting institutions are chosen because the trial visits have shown that women

Women graduate students are particularly perceptive about climate issues

graduate students are particularly perceptive about climate issues. This is due in part to their serious commitment to the field of physics, and to their ability to compare

their undergraduate and graduate institutions.

The end result of the program will be a climate assessment report, which will be designed to help physics departments assess their own local climate for physics students, since it will never be possible to send visiting teams to a large fraction of the physics departments throughout the country. One element of self-assessment will be to take the questionnaire developed for the national survey and to administer it locally. Departments would then be able to compare their students' responses to the broader student population. Another element will be a set of self-assessment questionnaires for department chairs, student advisors, and deans that will focus on some of the key elements that lead to particularly healthy or particularly chilly climates. These elements will be much more clearly defined at the end of the project.

A real concern about such a project is whether it will produce a lasting impact. The principal investigators believe that this is a propitious time for this project. Most university departments are very concerned about the dearth of American physics graduate students, and believe that attracting more women is one way of alleviating this problem. At the same time, many physicists are truly shocked

when they encounter the statistical information that shows, for example, that there are only 100 women physics faculty at Ph.D.-granting institutions nationwide, that women drop out of graduate school at a much higher rate than men, and that the percentage of women physics faculty (3%) in U.S. universities is close to the lowest of any nation in the

Attracting more women is one way of alleviating the dearth of American graduate students in physics

world. When physicists ask what can be done to improve the situation, women will, as a result of the program, have a concrete list of suggestions that respond to the concerns of women faculty and students.

Anyone interested in having her or his department participate in the site visit program should arrange for the Physics Department Chair to contact Professor Judy Franz directly. □

—ELLEN WILLIAMS

APS Fellowship Nomination

(Continued from Page 3)

Deadlines vary for submission of fellowship nominations, depending on when the appropriate fellowship and executive committees meet. January 15 is the earliest deadline (for DCMP and DAP), but some divisions accept nominations as late as May 1 (DAMOP) for consideration the same year. A nomination that misses its deadline will be considered the following year. Unsuccessful nominations may be resubmitted with or without additional supporting material, prior to the deadline for the following year. (Reprinted from CSWP Gazette, Vol. 11, No. 4, October 1991.) □

QUESTIONS YOU MAY WANT TO ASK BEFORE CHOOSING A THESIS ADVISOR

(Prepared with graduate and advanced undergraduate students of physics in mind.)

Questions to ask yourself.

1. Where do I want to be in five years? In ten years?
2. What is most important to me - my work environment or my intellectual interest in a field?
3. Do I need direction and motivation from an advisor, or do I prefer to work independently?
4. Do I need to feel comfortable talking to my advisor?
5. Is the field I choose easily adaptable to other fields?
6. Do I prefer to work in a group or on my own?
7. Do I want to work primarily with computers?
8. Will the project be purely theoretical, experimental, or a combination of both?
9. Do I want to start a family in the next five years?

Questions to ask members of the group or the prospective advisor.

1. How stable is the advisor's funding?
2. Do students help to write grant proposals?
3. Do I get to choose my own project or do I work on the principal investigator's (PI) project?
4. How involved is the PI in the research?
5. Does the PI have favorites? Does the PI neglect or give very little attention to some members of the groups?
6. Are students backed by the PI when they run into departmental politics?
7. Does the PI treat male and female students with the same respect as far as their intellectual abilities are concerned?
8. Does the PI promote your work or claim it as her/his own?
9. Does the PI work with you towards your career, or are you on your own?
10. Where have previous students gone?
11. How long does it typically take to get a PhD in the group?
12. What kind of work can I expect to find after graduation if I specialize in this PI's area of research?
13. Do students publish and attend conferences all along, or only at the end of their research?
14. Does the PI give you tools or are you on your own to develop research capabilities?
15. Does the group meet regularly for group meetings or lunches?
16. Are the group members competitive or cooperative?
17. Does the group collaborate with other groups?
18. Will I need to travel to do my research? How will that affect my lifestyle?
19. Does the PI have tenure?
20. What amount of course work is expected/discouraged after joining the group?

Questions to ask other professors and senior-level graduate students.

1. What is the advisor's professional reputation?
2. Is the advisor close to retiring, or in poor health?

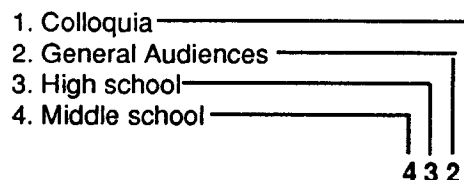
Suggestion: Do a literature search of the prospective advisor's publications. Do they seem interesting to you? Also find papers from the group's graduate students.

Created by Dr. Annette Matheny, Center for Naval Analysis, Alexandria, Virginia, in conjunction with the Central Illinois Chapter of Association for Women in Science, 202 Coble Hall, MC-322, 801 S. Wright Street, Champaign, IL 61820.

THE APS COMMITTEE ON THE STATUS OF WOMEN IN PHYSICS

COLLOQUIUM SPEAKERS LIST OF WOMEN IN PHYSICS

January 1993 Addendum



COLLOQUIUM SPEAKERS (ORDERED BY ZIP CODE)	PHYSICS SUBFIELDS	TALK TITLES	4	3	2	1
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Dr. Janine Shertzer Dept. of Physics Holy Cross College Worcester, MA 01610 Tel.: 508/ 793-2470 SHERTZER@HLYCROSS	-ATOMIC/MOLECULAR	1. Finite Element Analysis of Few Body Systems				1
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Dr. Rama Bansil Boston University Physics Department 590 Commonwealth Avenue Boston, MA 02215 Tel.: 617/ 353-2969 617/ 353-9393 RB@BUPHY.BU.EDU	-CHEMICAL/STATISTICAL -MOLECULAR/POLYMER -BIOLOGICAL/MEDICAL	1. Diffusion of polymers and particles in gels 2. Kinetics of Phase Separation in Polymers 3. Why the stomach does not digest itself? 4. Gels: From Jello to Biological Tissues	4	3		1
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Dr. Janet L. Benton AT&T Bell Labs Room 1E336 600 Mountain Ave. Murray Hill, NJ 07974 Tel.: 908/ 582-3643 FAX: 908/ 582-4228 JLB@ALLWISE.ATT.COM	-CONDENSED MATTER -OPTICS	1. Electrical and Optical Properties of Defects in Silicon		4	3	2
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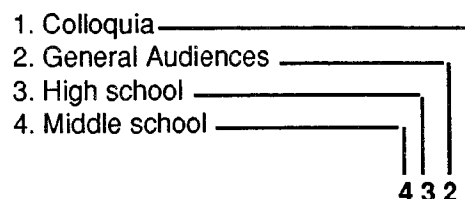
Dr. Raj Seshadri AT&T Bell Labs Room 1C-417 600 Mountain Ave. Murray Hill, NJ 07974 Tel.: 908/ 582-3454 FAX: 908/ 582-4702 SESHADRI@PHYSICS.ATT.COM	-CONDENSED MATTER	1. Melting, Pinning and Forced Flow of Two-Dimensional Magnetic Bubble Arrays				1
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Dr. Martha H. Redi Princeton University Plasma Physics Lab LOB-B147, C-Site, Forrestal Princeton, NJ 08543 Tel.: 609/ 243-3357 FAX: 609/ 243-2160	-CONDENSED MATTER -FLUID/PLASMA	1. Physics of Transport: Experiment vs. Theory	3			1
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Dr. Patricia M. Mooney IBM T. J. Watson Research Center P.O. Box 218 Yorktown Heights, NY 10549 Tel.: 914/ 945-3445 FAX: 914/ 945-4001 MOONEY@YKTVMZ	-CONDENSED MATTER -INTERFACE/DEVICE	1. Deep Level Defects in Semiconductors 2. DX Centers in III-V Semiconductors and Devices 3. Properties of Sige Alloys: Strain Relaxation and Dislocations				1
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COLLOQUIUM SPEAKERS LIST OF WOMEN IN PHYSICS

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Dr. Joanna L. Batstone IBM T. J. Watson Research Center P.O. Box 218 Yorktown Heights, NY 10598 Tel.: 914/ 945-3778 FAX: 914/ 945-4001 JOANNA@YKTMV	-INTERFACE/DEVICE	1. Imaging Dislocations in Semiconductor Thin Films 2. Watching an Interface Move: In Situ Transmission Electron Microscopy	1
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Dr. Manju Prakash State U. of New York Physics Dept. Stony Brook, NY 11794-3800 Tel.: 516/ 632-8168 FAX: 516/ 632-8176	-ASTROPHYSICS -FLUID/ PLASMA -GEOPHYSICS -NUCLEAR & PARTICLE	1. Rotating Neutron Star 2. Instabilities in Space & Laboratory Plasmas 3. Auroral Arc Length and Particle Acceleration 4. Off-Equilibrium Properties of Hadrons and Quark-Gluon Plasmas	3 1
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Dr. M. Cristina Marchetti Syracuse University Physics Dept. Syracuse, NY 13244 Tel.: 315/ 443-2581 MARCHETTI@SUHEP	-CONDENSED MATTER	1. Flux-Line Liquids in High-C Superconductors	1
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Dr. Aileen A. O'Donoghue St. Lawrence University Physics Dept. Canton, NY 13617 Tel.: 315./ 379-5470 FAX: 315/ 379-5804 AODONOGH@STLAU	-ASTROPHYSICS	1. The Radio Voice of the Universe 2. Plasma Flow Dynamics and Bending of Wide Angle Tail Radio Galaxies	3 2 1
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Dr. Luz J. Martinez-Miranda University of Pennsylvania Dept. of Electrical Engineering 200 S. 33rd Street Philadelphia, PA 19104 Tel.: 215/ 898-9779 FAX: 215/ 573-2068 LUZ@PENDER.EC.UPENN.EDU	-CONDENSED MATTER -INTERFACE/DEVICE	1. Structural Study of Liquid Crystal Films Encased Between Competing Interfaces 2. Strains and Electrical Properties of Thin Metallic Films	1
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Dr. Lucy-Ann McFadden University of Maryland Astronomy Department College Park, MD 20742 Tel.: 301/ 405-2081 FAX: 301/ 314-9067 MCFADDEN@ASTRO.UMD.EDU	-ASTROPHYSICS	1. A guided tour of the solar system through the eyes of robot spacecraft 2. What the asteroids tell us about solar system formation 3. Small solar system objects: Interrelationships among asteroids, meteorites and comets 4. Planet-crossing asteroids: Their nature and origins	4 3 2 1
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Dr. Lori Goldner National Institute of Standards & Technology Bldg. 221, Room A167 Gaithersburg, MD 20878 Tel.: 301/ 975-3792 FAX: 301/ 975-3038 LORI@BRUCE.NIST.GOV	-CONDENSED MATTER -FLUID & PLASMA -OPTICS	1. Nonlinear and critical heat transport in superfluid 4He 2. Trapping and manipulating atoms with light	4 3 2 1
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COLLOQUIUM SPEAKERS LIST OF WOMEN IN PHYSICS

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1. Colloquia _____
 2. General Audiences _____
 3. High School _____
 4. Middle school _____

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Dr. Ruby N. Ghosh -CONDENSED MATTER
 NIST
 B258, Bldg. 220
 Gaithersburg, MD 20899
 Tel.: 301/ 975-4150
 FAX: 301/ 926-3972
 GHOSH@EEEL.NIST.GOV

1. Measuring the electronic charge using Single Electron Tunneling devices **4 3 2 1**
 2. Spin dependent transport in a two-dimensional electron gas
 3. Measuring the electronic charge by counting electrons one at a time

Dr. Carmen A. Huber -CONDENSED MATTER
 -INTERFACE/DEVICE
 Naval Surface Warfare Center
 Code R36, 10901 New
 Hampshire Ave.
 Silver Spring, MD 20903-5000
 Tel.: 301/ 394-2690
 FAX: 301/ 394-5135

1. Semiconductor Nanocomposites: Structural and Electronic Properties **4 3 2 1**
 2. Optical Properties of IV-VI Compound Semiconductor Multilayers

Dr. Estela Blaisten-Barojas -CHEMICAL & STATISTICAL
 -CONDENSED MATTER
 Physics Dept.
 George Mason University
 Fairfax, VA 22030
 Tel.: 703/ 993-1988
 FAX: 703/ 993-1993
 EBLAISTE@GMUVAX

1. Molecular dynamics simulation of clusters and polymers **1**

Dr. Shaheen Islam -CONDENSED MATTER
 Virginia Union University
 1500 North Lombardy Street
 Richmond, VA 23220
 Tel.: 804/ 257-5662
 FAX: 804/ 257-5818
 ISLAM@URVAX

1. Study of Non-randomness in Semiconductor alloys Using X-ray Absorption Fine Structure (XAFS) Technique **3 1**
 2. X-ray Absorption Fine Structure (XAFS): Technique and Application

Dr. Beate Schmittmann -CHEMICAL & STATISTICAL
 -CONDENSED MATTER
 VirginiaTech
 Dept. of Physics
 111 Robeson Hall
 Blacksburg, VA 24061-0435
 Tel.: 703/ 231-6518
 FAX: 703/ 231-7511
 SCHMITTM@VTVM2

1. Statistical Mechanics of Driven Diffusive Systems **2 1**
 2. Pescalation Dynamics and Population Growth

Dr. Laurie McNeil -CONDENSED MATTER
 University of North Carolina
 Dept. of Physics & Astronomy
 Phillips Hall CB#3255
 Chapel Hill, NC 27599-3255
 Tel.: 919/ 962-7204
 FAX: 919/ 962-0480
 MCNEIL @PHYSICS.UNC.EDU

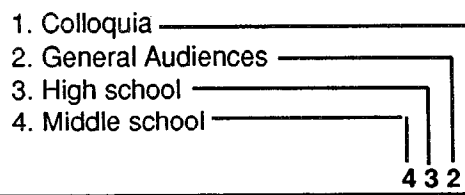
1. To See a World in a Grain of Sand: Optical Spectroscopy of SiO2 **1**

Dr. Leslie E. Bauman -FLUID/ PLASMA
 Mississippi State University
 Dept. of Physics
 P.O. Box 5167
 Mississippi State, MS 39762
 Tel.: 601/ 325-2914
 FAX: 601/ 325-8898

1. Inversion of Potassium D-Line Spectra for Investigaton of MHD Boundary Layer Flow **1**

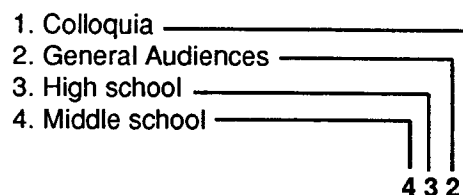
COLLOQUIUM SPEAKERS LIST OF WOMEN IN PHYSICS

January 1993 Addendum



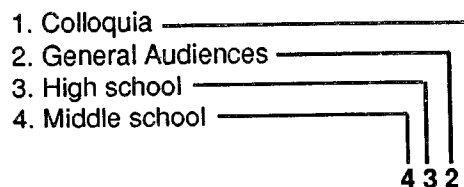
COLLOQUIUM SPEAKERS (ORDERED BY ZIP CODE)	PHYSICS SUBFIELDS	TALK TITLES	4 3 2 1
Dr. Chakram S. Jayanthi University of Louisville Physics Dept. Louisville, KY 40292 Tel.: 502/ 588-0890 FAX: 502/ 588-0742 SUPER0@UKCC.UKY.EDU	-CONDENSED MATTER	1. A Real Space Green's Function Approach to the Vibrational Dynamics of a Self-Similar Fractal 2. Surface Melting Phenomenon 3. Dynamics of Metal Surfaces	1
Dr. Daniela Bortoletto Purdue University Physics Dept. West Lafayette, IN 47907 Tel.: 317/ 494-5197 FAX: 317/ 494-0706 FNALD::DANIELA	-PARTICLE	1. Weak Decays of Heavy Flavors	1
Dr. Betty Tsang Michigan State University Cyclotron Laboratory East Lansing, MI 48824-1321 Tel.: 517/ 353-9193 FAX: 517/ 353-5967 TSANG@MSUNSCL	-NUCLEAR/PARTICLE	1. Rise & Fall of Multifragmentation	4 3 1
Dr. Linda Young Argonne National Laboratory Physics Division Argonne, IL 60439 Tel.: 708/ 252-8878 FAX: 708/ 252-3903 YOUNG@ANLPHY	-NUCLEAR/PARTICLE -OPTICS	1. Probing Deuteron Structure 2. Shedding Light on Ions	1
Dr. Candace E. Wark Illinois Institute of Technology Mechanical Engineering 3110 S. State St. Chicago, IL 60616 Tel.: 312/ 567-3209 FAX: 312/ 567-9079 MEWARK@MINNA.IIT.EDU	-FLUID/PLASMA	1. Dynamics of Turbulent Boundary Layers	1
Dr. Angela V. Olinto University of Chicago Department of Astronomy and Astrophysics 5640 S. Ellis Ave. Chicago, IL 60637 Tel.: 312/ 702-8206 FAX: 312/ 702-8212 OLINTO@ODDJOB.UCHICAGO.EDU	-ASTROPHYSICS -NUCLEAR/PARTICLE	1. Strange Matter and Strange Stars 2. The Universe Then and Now: from inflation to galaxies	3 1

COLLOQUIUM SPEAKERS LIST OF WOMEN IN PHYSICS
 January 1993 Addendum



COLLOQUIUM SPEAKERS	PHYSICS SUBFIELDS	TALK TITLES	4	3	2	1
<i>(ORDERED BY ZIP CODE)</i>						
Dr. Yuyao Zha University of Chicago 5640 S. Ellis James Franck Institute Chicago, IL 60637 Tel.: 312/ 702-0946 FAX: 312/ 702-5863 ZHA@CONTROL.UCHICAGO.E DU	-CONDENSED MATTER	1. Theory of Spin Dynamics of High T. Cuprates				1
Dr. Naomi J. Halas Rice University, ECE Dept. P.O. Box 1892 Houston, TX 77251 Tel.: 713/ 527-4020	-CONDENSED MATTER -OPTICS	1. Time-Resolved Carrier Dynamics in Fullerene Solids				1
Dr. Liwen Pan NCAR Atmospheric Chemistry Division P.O. Box 3000 Boulder, CO 80307-3000 Tel.: 303/ 497-1467 FAX: 497-1492 LIWEN@CAR.VCAR.EDU	-OPTICS	1. Atoms in intense laser fields				1
Dr. Hilda Kanber Hughes Aircraft Company 3100 W. Lomita Blvd. M/S 231-2019 Torrance, CA 90509 Tel.: 310/ 517-6408 FAX: 310/ 517-5657	-CONDENSED MATTER -INTERFACE/DEVICE	1. Ion Implantation in GaAs 2. Selective Area Growth of GaAs by MOCVD 3. Defects and impurities in III-V semiconductors 4. Material-device correlations in GaAs FETs and HEMTs	3			1
Dr. Iwona Sakrejda Lawrence Berkeley Laboratory 1 Cyclotron Rd. Mailstop 50D Berkeley, CA 90720 Tel.: 510/ 486-6373 FAX: 510/ 486-4818 SAKREJDA@LBL.GOV	-NUCLEAR/PARTICLE	1. The Experimental Search for Quark Gluon Plasma 2. Subnuclear Composition of (Very) Hot Deuse Matter	4	3	2	1
Dr. Sarita Thakoor Jet Propulsion Laboratory 4800 Oak Grove Drive M/S 302-231 Pasadena, CA 91109 Tel.: 818/ 354-0862 FAX: 818/ 393-4540	-INTERFACE/DEVICE	1. Ferroelectric Non-Volatile Memories 2. Perovskite Titanates, Sensing and Processing Applications		4	3	1
Dr. Patricia D. Sparks Harvey Mudd College Dept. of Physics Claremont, CA 91711 Tel.: 714/ 621-8024 FAX: 714/ 621-8465 SPARKS@HMCVAX	-CONDENSED MATTER	1. Light emitting tunnel junctions		4	3	1

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COLLOQUIUM SPEAKERS (ORDERED BY ZIP CODE)	PHYSICS SUBFIELDS	TALK TITLES	4 3 2 1
Dr. Frances Hellman UCSD Dept. of Physics 0319 9500 Gilman Drive La Jolla, CA 92093 Tel.: 619/ 534-5533 FAX: 619/ 534-0173 FHELLMAN@UCSD.EDU	-CONDENSED MATTER	1. Growth-induced magnetic anisotropy in amorphous tin films	3 1
Dr. Jacqueline Gallet U. of California, Irvine Dept. of Rad. Sci. Med. Sci. I, Rm. B140 Irvine, CA 92717 Tel.: 714/ 856-4090	-BIOLOGICAL & MEDICAL	1. Acoustical Microscopy: A Novel Technique for Medical Imaging 2. Avoiding Pitfalls on the Road Towards a PhD	4 3 2 1
Dr. Katja Lindenberg U. of California, San Diego Dept. of Chemistry 0340 La Jolla, CA 92093-0340 Tel.: 619/ 534-5489 FAX: 619/ 534-7244 KLINDENBERG@USCD	-CHEMICAL/STATISTICAL -CONDENSED MATTER	1. Transport processes and chemical reactions in constrained geometries 2. Noise in physical systems 3. Energy transport in condensed phases: nonlinear effects	1
Dr. Carmen Ortiz IBM 650 Harry Rd. San Jose, CA 95120 Tel.: 408/ 927-2481 FAX: 408/ 927-2100 CARMINA AT ALMADEN	-CONDENSED MATTER -INTERFACE/DEVICE	1. Materials Issues in Optical Storage 2. Laser Deposition of Thin Films 3. Let's Open Your CD Player	3 2 1
Dr. Elisa Molinari Dipartimento Di Fisica Universita Di Modena Via Campi 213/A Modena, Italy I-41100 Tel.: 3959-586052 FAX: 3959-367688 LH4RMCHA@ICINECA2	-CONDENSED MATTER -INTERFACE/DEVICE	1. Vibrations in Semiconductor Superlattices 2. Electron-Phonon Interaction in 2- and 1-Dimensional Semiconductor Nanostructures 3. Localization and Enhanced Anharmonic Coupling of Ultrasonic Waves in Fractal Structures: Theory and Experiments	1

Colloquium Speakers List of Women in Physics Enrollment/Modification Form • January 1993

The *Colloquium Speakers List of Women in Physics* is compiled by The American Physical Society Committee on the Status of Women in Physics and maintained by the APS office. Comments, questions and entries should be addressed to:

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To enroll or to update your current entry, please fill out this form and return it to the address above. Please print clearly or type.

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Please check the boxes below if you would be available for occasional "Career Day" presentations to students in:

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New Entry

Modification of Existing Entry

To register a new title, give the title as you want it to appear, including capitalization, in the left column below. Then check the subfields to which it applies. Also check the box above if this is a MODIFICATION of an existing entry. If more than four talks are registered, please use an additional copy of this form, stapling them together. A limit of seven total entries (check in right hand column) will be imposed.

Title	<input type="checkbox"/> Accelerators <input type="checkbox"/> Env/Energy <input type="checkbox"/> Nuclear/Particle <input type="checkbox"/> Astrophysics <input type="checkbox"/> Fluid/Plasma <input type="checkbox"/> Optics/Optical Physics <input type="checkbox"/> Bio/Medical <input type="checkbox"/> Geophysics <input type="checkbox"/> Talks for General <input type="checkbox"/> Chem/Statistical <input type="checkbox"/> Interface/Device Audiences <input type="checkbox"/> Cond Matter <input type="checkbox"/> Molec/Polymer
Title	<input type="checkbox"/> Accelerators <input type="checkbox"/> Env/Energy <input type="checkbox"/> Nuclear/Particle <input type="checkbox"/> Astrophysics <input type="checkbox"/> Fluid/Plasma <input type="checkbox"/> Optics/Optical Physics <input type="checkbox"/> Bio/Medical <input type="checkbox"/> Geophysics <input type="checkbox"/> Talks for General <input type="checkbox"/> Chem/Statistical <input type="checkbox"/> Interface/Device Audiences <input type="checkbox"/> Cond Matter <input type="checkbox"/> Molec/Polymer
Title	<input type="checkbox"/> Accelerators <input type="checkbox"/> Env/Energy <input type="checkbox"/> Nuclear/Particle <input type="checkbox"/> Astrophysics <input type="checkbox"/> Fluid/Plasma <input type="checkbox"/> Optics/Optical Physics <input type="checkbox"/> Bio/Medical <input type="checkbox"/> Geophysics <input type="checkbox"/> Talks for General <input type="checkbox"/> Chem/Statistical <input type="checkbox"/> Interface/Device Audiences <input type="checkbox"/> Cond Matter <input type="checkbox"/> Molec/Polymer
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ANNOUNCEMENTS

CALENDAR

The APS Committee on the Status of Women in Physics (CSWP) is pleased to announce the following receptions, hosted by CSWP Chair Bunny Clark (Ohio State University), in conjunction with upcoming APS meetings. Materials of interest to educators and others will be available. All are cordially invited to attend!

Seattle, Washington: On Sunday, March 21, 1993 from 5:30-8:00 PM.

Washington, DC: On Monday, April 12, 1993 at 7:00 PM. Dr. Margaret Rossiter (Cornell University) will speak on Women and Science from a Historical Viewpoint. An open reception will follow (7:30-9:30 PM).

POSITION OPENINGS

Assistant/Associate Professor - Experimental Relativistic Heavy Ion Physics. Assistant Professor applicants will preferably have one to two years post-doctoral experience. Preference will be given to candidates with recent participation in one of the large experiments at the AGS or CERN. Contact: Thomas

M. Cormier, Chair, Department of Physics and Astronomy, Wayne State University, Detroit Michigan 48202. Tel.: 313/ 577-2720.

Assistant Professor - Applicants should have postdoctoral and teaching experience. Experimentalist preferred, but outstanding theorists will receive serious consideration. Contact: David L. Ederer, Faculty Search Committee, Department of Physics, Tulane University, New Orleans, LA 70118. Tel.: 504/ 865-5520.

Research Associate - Density Functional Theory of Electronic Structure. Applicants should have completed all the requirements for the Ph.D. by the starting date (between February and September 1993). Contact: John P. Perdew, Postdoctoral Search, Department of Physics, Tulane University, New Orleans, LA 70118. Tel.: 504/ 865-5520. Deadline: February 1, 1993.

Assistant Professor - Experimental Astrophysics. The successful candidate will be expected to teach at undergraduate and graduate levels and lead a vigorous research program. Contact: Chair, Search Committee, Experimental Astrophysics, Physics Department, U. of

California, Riverside, CA 92521. Tel.: 714/ 787-5334. Deadline: March 31, 1993.

Coordinator - Caltech Resource Center for Women in Science and Engineering. The Coordinator will identify the needs of Caltech women faculty, students, and staff, and provide programs such as workshops, seminars, and educational programs to heighten awareness of gender issues and foster equality throughout the Caltech community. Experience relevant to such activities and knowledge of women's issues are essential. Experience in science or engineering is desirable. Contact: Women's Center Search Committee, Mail Code 147-75, Caltech, Pasadena, CA 91125. Deadline: February 28, 1993.

Tenure-Track Faculty - Department of Physics and Astronomy. Applicants should have strong commitment to undergraduate teaching and to research involving undergraduates. Ph.D. or equivalent required. Interest in innovative curriculum and teaching methods is desired. Contact: Guy T. Emery, Chair, Dept. of Physics and Astronomy, Bowdoin College, Brunswick, ME 04011. Deadline: January 25, 1993.

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