Gazette

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

HOWS AND WHYS OF APS FELLOWSHIP NOMINATION

The CSWP has been concerned that women are under-represented 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 clearand completely reflects the candidates'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 candidates'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.

The editor for this issue is Ellen D. Williams; assistant editor is Amy Halsted.

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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.

Deadlines vary for submission of fellowship nominations, depending on when

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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 women listed on the computerized "Roster of Women in Physics," all US physics department chairs, and others on request. Because editorial responsibility rotates among CSWP members, please address all correspondence to: "CSWP Gazette," The American Physical Society, 335 East 45 St., New York, NY 10017.

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.

CSWP AND MINORITIES COMMITTEE GRANTED BYLAW STATUS

Following a review and recommendation by the APS Committee on Committees (COC), the CSWP and the Committee on Minorities (COM) were granted "bylaw status" in the revised and recently adopted APS Bylaws. Joining the ranks of such groups as the Committee on Education and the Panel on Public Affairs, CSWP is now officially noted and charged in the Society's Bulaws.

Established in 1972, the CSWP existed up until last fall as a "Council Committee," under a provision that allows Council to establish committees as it sees fit to aid in the management of the activities of the Society. Long recognized as an important and permanent APS committee, it was a natural move for the CSWP to change its status when the COC recommendation coincided with a major revision of the APS Bylaws.

that the two committees be adopted as Bylaw committees.

The COC also made recommendations to Council for continued interaction with COM and CSWP, including the development of five- and ten-year goals for outreach to minorities and women; regular publicizing of the committees' activities; the appointment of a single person to act as Council liaison for both committees: more nominations of and by women and minorities to positions of influence in the Society; and periodic review of APS' efforts and progress towards increasing the participation of these groups in physics.

The new status does not change the CSWP in any meaningful way. However, appearing on the formal slate of Bylaws committees raises the profile of the CSWP, and confirms its permanence and importance to the Societv.

According to the COC report, CSWP and COM "are unusual Society committees in that they have sizable individual constituencies. . . . these committees have long histories, significant name recognition, highly visible and stylized newsletters, and multiple activities that involve substantial community participation." However, the report states, APS "has failed to formulate long-term goals in the area of outreach to under-represented populations" including women and minorities. Noting that it was impressed with the "breadth and depth" of the activities of COM and CSWP, the COC recommended

The CSWP item in the new Bylaws reads as follows: "Committee on the Status of Women in Physics. -The membership of the Committee on the Status of Women in Physics shall consist of nine members appointed by the President to staggered three-year terms. The President shall appoint the Chair from among the members. This Committee shall address the production, retention, and career development of women physicists and shall gather and maintain data on women in physics in support of these objectives. It may recommend and supervise studies and programs relevant to this charge. It shall report annually to Council."

CONFERENCE TO BE HELD ON CHANGING THE "CHILLY CLIMATE" IN SCIENCE

Three National Science Foundation Science and Technology Centers (the Center for Particle Astrophysics, UC Berkeley; the Center for Quantized Electronic Structures, UC Santa Barbara; and the Center for Molecular Biotechnology, Caltech) are joining forces to organize a national conference to look at what can be done to effect change in the cultural climate in science at research and educational institutions.

After exploring the cultural environment at their own Centers, reading existing documentation, and drawing from the successful Recruitment and Retention of Women in Physics conference held in Washington last year, the three STCs agreed to co-host a conference to examine the issues and to develop viable answers. The sponsors are members of a network of 25 multidisciplinary Science and Technology Centers, funded by the National Science Foundation. They plan to invite university administrators, science faculty and department chairs, members of industry, graduate and undergraduate students, and postdoctoral researchers to come together to look at what can be done to effect change, starting with individual awareness and moving to the organizational level. The results of the conference will be presented to the network of Centers and will be available to industry and research institutions.

The conference will be held in June 1992 at the Center for Particle Astrophysics, located at the University of California at Berkeley. For information on attending, contact Rose Sergeant, Educational Coordinator, 301 Le Conte Hall, UC-Berkeley, Berkeley, CA 94720. Financial support will be available to students wishing to attend.

NSF SPECIAL OPPORTUNITIES FOR WOMEN

The NSF offers a spectrum of programs designed to increase the numbers and visibility of women in science. Booklets for the programs below can be obtained by writing to Forms and Publications, NSF, Washington, DC 20550, or by calling (202) 357-7861. In addition, the profiles below list phone numbers and departments that can be contacted for information on specific programs.

Career Access Opportunities in Science and Technology for Women, Minorities and the Disabled (ACCESS) includes model projects for women, minorities, and the disabled, designed to attract and keep young people from these populations in science careers. Funded activities are innovative, highly focused, and have good potential for replication; they may also be designed to study the issues of underrepresentation of these groups. Contact ACCESS, Division of Human Resource Development, NSF, (202) 357-7350 (NSF 90-126).

Visiting Professorships for Women (VPW) enables experienced women scientists and engineers to undertake advanced research at a host institution. This program has been covered in past issues of the *Gazette*. In addition to research responsibilities, the visiting professor undertakes lecturing, counseling and other activities to increase the visibility of women scientists in the academic environment of the host institution and to provide encouragement for other women to pursue careers in science and engineering. Contact the VPW Program, Human Resource Development, NSF, (202) 357-7051 (NSF 90-42).

Research Planning Grants (RPG) help increase the number of women investigators participating in NSF's research programs. The grants assist qualified women scientists and engineers, who have not previously submitted a successful independent proposal for federally-funded research, to develop a competitive research proposal. Contact the appropriate disciplinary program officer at NSF (NSF 90-121).

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Career Advancement Awards (CAA) support activities which advance research career potential for experienced women scientists and engineers. Investigators may seek support to develop new skills in an area which will expand their research programs, conduct exploratory or pilot work, or develop innovative research methods in collaboration with other investigators. Contact the appropriate disciplinary program officer at NSF (NSF 90-121).

NSF Faculty Awards for Women Scientists and Engineers is under revision. New deadlines and other information will appear in a future issue of the *NSF Bulletin*.

Research Initiation Consideration can be requested by a woman who has not had prior independent federal research funding and who is submitting a regular research proposal to NSF. In response to a written request by the investigator, the program officer gives recognition to the potential "first time federal funding" status in the final proposal evaluation. Contact the appropriate disciplinary program officer (NSF 90-121).

DEADLINE APPROACHING FOR BUNTING INSTITUTE SCIENCE FELLOWSHIPS

The Mary Ingraham Bunting Institute of Radcliffe College is a multidisciplinary center for advanced studies which sponsors women scientists, scholars, writers, and artists through vear-long residence fellowships. Funded by the Office of Naval Research, the 1992-93 Science Scholars Fellowship program will provide eight fellowships to women who have held a Ph.D. for at least two years in one of the following fields: astronomy, molecular and cellular biology, biochemistry, cognitive and neural sciences, computer science, electrical engineering, aerospace and mechanical engineering, geology, materials science, mathematics, physics, naval architecture and ocean engineering, and oceanography. Science fellows will receive a minimum stipend of \$29,000 plus a research allowance, and, when necessary, may affiliate with any

laboratory in the greater Boston area. Application materials can be obtained from the Fellowship Office of the Mary Ingraham Bunting Institute, 34 Concord Avenue, Cambridge, MA 02138; telephone (617) 495-8212. Applications must be postmarked by October 15, 1991.

NEW LOCATION FOR ORGANIZATION FOR EQUAL EDUCATION OF THE SEXES

A unique source of handsome posters depicting women of achievement in nontraditional careers, including many scientists, the Organization for Equal Employment of the Sexes (OEES) has relocated from Brooklyn to Maine. The move was made, according to the flyer that announced it, for more space,

lower costs, and clean air. The posters are especially useful for career or science fairs, women's history month (March), on-campus women's science education centers, or as inspirational gifts. Write to OEES, P.O. Box 438, Main Street, Blue Hill, ME 04614; telephone (207) 374-2489.

AUTOBIOGRAPHY AVAILABLE: A PASSION FOR PHYSICS,

THE STORY
OF A WOMAN PHYSICIST,
BY JOAN FREEMAN

Autobiographies of women physicists are not common literary fare, so *Gazette* readers will be interested to note the appearance of *A Passion for Physics*, by Joan Freeman, formerly of Cavendish Laboratory, Cambridge and the UKAEA Harwell Laboratory. Freeman's book is published by the Adam Hilger publishing house of the Institute of Physics in London, but is available in the U.S. from the American Institute of Physics (AIP). The following profile is taken from the AIP January–June 1991 New Book catalog.

Few research scientists write their autobiographies. Consequently their motivations, aspirations, and the ways in which they operate are poorly understood by the outside world. This book, putting a human face to physics, is a welcome addition to the small number of examples of its kind.

It is doubly opportune since the author is one of a rare breed—a woman physicist. As she graphically describes, it was not easy for girls to acquire a broad scientific education, particularly before World War II in Australia, where she was born and grew up. Girls in general still meet some discouragement in taking up physics as a career, though their prospects are now much better than they were. Dr. Freeman's story provides an encouraging role model for aspiring young women physicists.

The book, avoiding emphasis on technical aspects of physics, is also a source of entertainment for the general reader, with its many, often humorous, anecdotes about the author and about other

scientists she has known. Beginning with an account of her early life, the author describes her struggles to gain a physics education, the vicissitudes of the Depression, her experiences at Sidney University, and her years in the wartime radar establishment in Sydney. The story continues with the tribulations and triumphs of the author's period at the Cavendish Laboratory , Cambridge; her meeting with the physi-

cist John Jelley, whom she ultimately married, her transition to the Atomic Energy Research Establishment, Harwell, and her adventures in the U.S. The book conveys vividly the author's sense of excitement and awe in gaining, through her profession, a fresh insight into the beauty, the intricacies, and the mystery of the physical world, and her admiration of the advances in understanding that have been achieved

through continuing human endeavor.

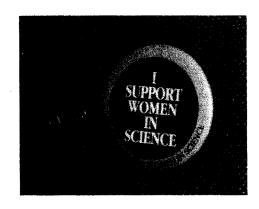
Look for a review of *A Passion for Physics* in a future issue of the *Gazette*. The book (hardcover, 240 pages) is available from AIP for \$35.00, with a 20% discount offered to members of APS, AAPT, and other AIP societies who purchase it for personal use. To order or request a catalog of current titles, call toll free (800) 445-6638.

BUTTONS AND LAPEL PINS FROM AWIS

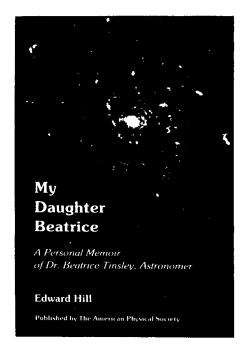


(photo courtesy June Schultz)

The Association for Women in Science (AWIS) is offering handsome buttons and lapel pins, modeled here by APS staff members who do indeed support women in science. Left to right: Ricki Bar-Zeev, Staff Liaison to the CSWP (sporting lapel pin as well as button); Kristin Roessner, Administrative Assistant for CSWP; APS Executive Secretary Dick Werthamer; and Amy Halsted, Assistant Gazette Editor.



The lapel pins, which would make a subtle statement on a business suit, are \$5.00 each. If you prefer to wear your heart on your sleeve, the buttons are \$1.00 each, \$15 for 25, \$25 for 50, and \$40 for 100 buttons. Order from The Association for Women in Science, 1522 K Street NW, Suite 820, Washington, DC, 20005; telephone (202) 408-0742.



New from the American Physical Society

My Daughter Beatrice

A Personal Memoir of Dr. Beatrice Tinsley, Astronomer

by Edward Hill

Reprinted from Physics Today, November 1986:

APS PUBLISHES MEMOIR OF BEATRICE HILL TINSLEY

APS has published a memoir of Beatrice Tinsley (1941–81), who was an astrophysicist and professor of astronomy at Yale University. The book, *My Daughter Beatrice*, is by her father, Edward O. E. Hill. Hill says in the foreword that he decided to write this memoir when Sandra Faber of Lick Observatory informed him of the medal and prize that had been established in Tinsley's honor by the American Astronomical Society. He realized that his daughter would be widely remembered as a scientist and that many people would want to know more about her as a person.

In 1984 Hill circulated photocopies of his typescript to a few of Tinsley's friends in astronomy and astrophysics, who in turn shared it with their friends. Last fall the APS Committee on the Status of Women in Physics recommended that APS publish the book as part of the society's program to encourage young people, particularly women, to choose careers in physics and to help their families and teachers understand the preparation and struggles, risks and rewards, such a choice involves.

APS Deputy Executive Secretary Miriam A. Forman, an

astrophysicist at the State University of New York at Stony Brook, says that Tinsley is remembered as a brilliant astrophysicist and professor of astronomy. "In her tragically brief career she revolutionized the study of the evolution of galaxies. She was famous among astronomers for her prodigious creativity, and also as a gracious friend, dedicated teacher, mentor and colleague," Forman says.

In the book's introduction Faber writes, "Fatally afflicted in midcareer by melanoma, she had by that time already produced a body of research worthy of a full lifetime's effort. Her influence extended far beyond the halls of Yale and was felt, literally, wherever galaxy evolution was an active subject."

In the book, her father gives a parent's view of his daughter's growth from a bright and sensitive child into a world-famous astronomer. Hill quotes extensively from letters Tinsley wrote from the age of seven until just before her death. Her own words to her family give an intimate look into all stages of the development of a scientist, including a very candid view of her struggles between home and career.

The introduction by Faber and obituary by Richard B. Larson (Yale) and Linda L. Stryker (Arizona State University, Tempe) put Tinsley's life and personal contributions into the context of her scientific achievements.

Order Form	Name
Please send me:	Address
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at \$11.00	
additional copies at \$9.00 each	
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PHYSICS COLLOQUIUM SPEAKERS LIST

compiled by the

COMMITTEE ON THE STATUS OF WOMEN IN PHYSICS

July 27, 1991

Sec. I: Speakers by geographic area, with address and phone numbers.

Sec. II: Talk titles by physics subfield, with speakers' names and affiliations.

Travel Grants Available for Women Colloquium Speakers

The CSWP has recently announced a grant program to encourage schools to invite female physicists as colloquium speakers. See details at end of CSL listing.

I. PHYSICS COLLOQUIUM SPEAKER INFORMATION, 1991/1992

This first section lists speakers, with addresses and phones, by geographic area (alphabetically within each subsection), together with references to the sections where talk titles appear. The symbol '*' identifies those listed in the section for GENERAL AUDIENCES. The symbol '+' denotes individuals who have indicated an interest in working with high school (h+) or middle school (m+) students, where the '+' alone indicates both. The section abbreviations in brackets are used for reference in the second section.

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II. COLLOQUIUM TITLES BY FIELD

This second section lists the speakers and titles, grouped by physics subfield and alphabetically by speaker within each group. Refer to the first section for address and phone information on the speakers. The two-character abbreviation after each name refers to a geographic region in the first section.

Dr. Eva Bozoki, Brookhaven 1. Synchrotron radiation and its use	[NE]
Dr. Ling-Lie Chau, UC Davis 1. Weak decays of charm and beauty part cp noninvariance	[SW] ticles and

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Dr. Gail G. Hanson, Indiana Univ. [MW]
1. Physics and detectors at the superconducting supercollider

Dr. Andrea Palounek, LBL [SW]
1. Physics and detectors at the SSC

Dr. Betty P. Preece, [SE]
1. Elementary particles: Lecture demos for teachers K-12

Dr. Cynthia A. Volkert, AT&T [NE]
1. Damage produced in silicon by high energy ion beams

Dr. Dorothy S. Woolum, Cal. State-Fullerton [SW]
1. Trace element microdistribution analysis by
PIXE

ASTROPHYSICS

Dr. Elise Albert, U. S. Naval Academy 1. Interstellar gas in the galactic hole	[EC]
Dr. Fran Bagenal, U. of Colo. 1. The peculiar role of lo in the magnetosy Jupiter 2. Voyager explores the magnetospheres of giant planets	,
Dr. Sallie Baliunas, Ctr. for Astrophysics 1. Solar and stellar magnetism	[NE]
Reta Beebe, NM State	[SW]

1. Winds and clouds of the giant planets
2. The Voyager exploration of the giant planets
Dr. Bonnie J. Buratti, Caltech/JPL [SV

1. Comets: Rosetta stones of the solar system?
2. Icy moons of the solar system

Dr. Bel Campbell, Univ. of NM
1. Disks and jets in star formation

Dr. Judith Cohen, Caltech
1. The Keck telescope project
2. Trends in globular cluster research

2. Irends in globular cluster research

Dr. Lynn R. Cominsky, Sonoma State Univ. D.

Dr. Lynn R. Cominsky, Sonoma State Univ. [NW] 1. X-ray binaries: An overview

Dr. Carol Jo Crannell, NASA [EC] 1. Imaging high-energy emissions from solar flares
2. Using balloon-borne platforms for observations
of solar flares 3. The physics of high-energy solar processes in solar flares
Dr. Irene M. Engle, US Naval Acad. [EC] 1. Idealized Jovian magnetosphere shape and field
Dr. Katherine Freese, MIT [NE] 1. Fundamental physics and dark matter 2. Baryogenesis: An explanation of the matter/antimatter content of the universe 3. Magnetic monopoles and cosmology
Dr. Shadia R. Habbal, Ctr. for Astrophys. [NE] 1. Exploring the dynamic nature of the magnetic field on the sun
Dr. Martha P. Haynes, Comell Univ. [NE] 1. Extragalactic sociology: Environmental effects on galaxy evolution 2. Large-scale structure in the universe
Dr. Jacqueline N. Hewitt, MIT [NE] 1. Gravitational lenses
Dr. Juliette W. Ioup, Univ. of New Orleans [SE] 1. Digital filtering for tethered satellite dynamics measurements
Dr. Christine Jones, Harvard [NE] 1. Hot Gas in early type galaxies
Einstein x-ray images of the structure of clusters of galaxies
Dr. Kate Kirby, SAO [EC] 1. Atomic and molecular processes in astrophysics
Dr. Gillian R. Knapp, Princeton [NE] 1. Gas, dust, and star formation 2. The life and death of stars
Dr. Deborah A. Konkowski, USNA [EC] 1. Cosmic strings
Dr. Lucy-Ann McFadden, Cal Space [SW] 1. What the asteroids tell us about solar system formation
Small solar system objects: Interrelationships among asteroids, meteorites, and comets Planet-crossing asteroids: Their nature and origins
Dr. Karie Meyers, Occidental College [SW] 1. Variability in Seyfert Galaxies
Dr. Nancy D. Morrison, U. of Toledo [MW] 1. The fundamental properties of massive stars
Dr. Theresa Nagy, NASA [EC] 1. Binary star light curve modeling

Dr. Anneila Sargent, Caltech 1. Searching for forming planetary syste. 2. Merging galaxies 3. Molecular clouds and star formation	[SW]
Dr. Janet Sisterson, Harvard U. 1. Measuring cross sections for long live radioisotopes produced by proton bear	
Dr. Virginia Trimble, UC-Irvine 1. Supernova: Bigger and better bangs 2. The universe you don't see: Existence nature of dark matter 3. Formation and evolution of close bind	
Dr. Belinda J. Wilkes, SAO 1. Quasars in full (multi-wavelength) vie 2. Tour of the Universe	[NE]
Dr. Dorothy S. Woolum, Cal. State-Fulle 1. Meteorites and what they tell us about system 2. Nucleosynthesis of the heavy elements 3. interpreting solar system elemental ab of the N=50 neutron shell	t the solar
BIOLOGICAL AND MEDICAL I	PHYSICS
Dr. Beverly S. Cohen, NYU Med. Ctr 1. Deposition of ultrafine particles on th tracheobronchial tree: A determinant of	[NE] e human
from radon daughters 2. Sampling airborne particles for estimation inhalation exposure	of the dose
from radon daughters 2. Sampling airborne particles for estime	of the dose ation of [NE]
from radon daughters 2. Sampling airborne particles for estiminalation exposure Margaret C. Foster, SUNY	of the dose ation of [NE] viology
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from radon daughters 2. Sampling airborne particles for estimation exposure Margaret C. Foster, SUNY 1. X-ray microanalysis as a tool for phys Dr. Suzanne Gronemeyer, St. Jude Hosp. 1. Clinical magnetic resonance imaging Dr. Joyce J. Kaufman, Johns Hopkins Un 1. Ab-initio quantum chemical calculation drugs and biomolecules Dr. Sonja Krause, RPI 1. Transient electric birefringence studies muscle proteins Dr. Susan Lea, SFSU 1. Accretion onto magnetized neutron stanumerical models Dr. Arlene J. Lennox, Fermilab 1. Neutrons against cancer: The clinical	if the dose ation of [NE] itiology [SE] iv. [EC] ons on [NE] is of [SW] ars: [MW]

Prof. Eugenie V. Mielczarek, George Mason U[EC] 1. Iron transport and storage compounds in living systems: Mossbauer spectroscopy	Dr. Branka M. Ladanyi, Colorado St. [MW] 1. Solvation and chemical reaction dynamics in polar media 2. Computer simulation of fluid properties of	Dr. Shirley Chiang, IBM [SW] 1. Scanning tunnelling microscopy of metals on semiconductors 2. Atomic force microscopy
Dr. Marilyn E. Noz, NYU 1. Local area networks in an imaging environment	spectroscopic interest	3. Imaging molecules on surfaces by scanning tunneling microscopy
Dr. Elizabeth A. Rauscher, Tecnic Research [SW] 1. Magnetic flux control of pain	Dr. Marsha I. Lester, Univ. of PA [EC] 1. Photodissociation and photoionization of van der Waals complexes	Dr. Deborah D. L. Chung, SUNY [NE] 1. Intercalation and exfoliation of graphite 2. Ohmic contacts to III-V compound
Prof. Geraldine L. Richmond, Univ. of OR [NW] 1. The spectroscopy of metal ions bound to proteins and polymers	Dr. Carmay Lim, Harvard [NE] 1. Nonequilibrium effects in chemical kinetics 2. Dynamics of gas-surface interactions	semiconductors 3. Superconducting composite materials 4. Carbon fiber composites
Dr. Beverly A. Rubik, Temple Univ. [EC] 1. Frontier issues in physics and biophysics	Dr. Susan R. McKay, Univ. of ME [NE] 1. The random field problem: Phase diagrams and thermodynamics	Dr. Esther Conwell, Xerox [NE] 1. Differences between one- and three-dimensional semiconductors
Dr. Petra Schmalbrock, Ohio State [MW] 1. Magnetic resonance imaging and spectroscopy 2. Investigations of flow with magnetic resonance 3. Pulse sequence development for magnetic resonance imaging	Spin glasses and chaos Renormalization group methods and exactly- solvable models of phase transitions Cherry A. Murray, AT&T Bell Labs [NE]	Metal-insulator transition in doped trans- polyacetylene Solitons, polarons, and photoconductivity in polyacetylene Conducting polymers
Dr. Janet Sisterson, Harvard U. [NE] 1. Medical applications of proton beams 2. Proton radiation therapy at the Harvard Cyclotron Laboratory	Colloidal crystals Two-stage melting in two dimensional colloidal crystals Dr. Kathie Newman, Notre Dame [MW]	Dr. Denice Denton, Univ. of Wisconsin [MW] 1. Effects of moisture on the dielectric properties of polyimide films
Dr. Sara A. Solla, Bell Labs [NE] 1. Statistical mechanics of neural networks	Ordering transitions in semiconductors Dr. Mary Jo Ondrechen, Northeastern Univ. [NE]	Dr. Stephanie B. DiCenzo, AT&T [NE] 1. Photoelectron spectroscopy of supported metal clusters: The molecular-metallic transition
Dr. Claudia Tesche, IBM [NE] I. MEG: A technique for imaging brain function with superconducting devices	Predeicting the spectroscopic properties of discrete mixed-valence systems The role of polarizable bridging ligands in discrete-molecular, conducting, and superconducting systems	Dr. Vicky Diadiuk, MIT Lincoln Lab [NE] 1. Fabrication and characterization of semiconductor microlens arrays
Dr. Audrey V. Wegst, [MW] 1. Medical physics in diagnostic radiology 2. Quality control in nuclear medicine and diagnostic radiology	Dr. Mary Beth Ruskai, U. Lowell/U. Mich. [MW] 1. Relative entropy in quantum statistical mechanics: inequalities, extremal properties, and	Dr. Renee D. Diehl, Penn State [NE] 1. LEED studies of alkali metals adsorbed on transition metals
3. Placental transfer of radionuclides and fetal radiation dose	estimation 2. Mathematical analysis of the stability and breakup of diatomic molecules	Dr. Flonnie Dowell, Los Alamos [SW] 1. Molecular modeling of complex materials 2. New phase and molecule predictions for partially-ordered chains
CHEMICAL AND STATISTICAL PHYSICS Dr. Juana V. Activos, San Jose State [SW]	Dr. Marie-Louise Saboungi, Argonne [MW] 1. Order in disordered materials 2. Metal-nonmetal transition in alloys	Dr. Mildred Dresselhaus, MIT [NE] 1. Intercalation and superlattices
 Solid state physical chemistry of high T_c superconductors Dynamics of triplet states in organic conductors 	Dr. Roberta P. Saxon, [SW] 1. Theoretical studies of multiphoton processes	2. Liquid carbon Dr. Georgia Fisanick, AT&T [NE]
Dr. Estela Blaisten-Barojas, Johns Hopkins [EC] 1. Molecular dynamics simulation of clusters and polymers	Theoretical study of Rydberg molecules Prof. Jodye Selco, Univ. of Redlands [SW] 1. Spectroscopy and kinetics of transient species	Periodic Structures in laser-materials interactions Dr. Judy R. Franz, West Virginia Univ. [EC]
Dr. Nancy J. Brown, Lawrence Berkeley Lab. [SW] 1. Theoretical and experimental chemical kinetics 2. Energy transfer	Dr. Sara A. Solla, Bell Labs [NE] I. A statistical mechanics approach to optimization problems	Do Coulomb gaps exist? Metal-nonmetal transitions in expanded liquid mercury
Dr. Sally Chapman, Bamard [NE] 1. Classical and semiclassical studies of molecular reaction dynamics	2. Statistical mechanics of neural networks CONDENSED MATTER PHYSICS	Dr. J. Tinka Gammel, NOSC [SW] 1. The search for metallic sandwich wrap: Conductivity in low dimensional systems
Dr. Joan M. Frye, Howard Univ. [EC] 1. Photodissociation dynamics studied using tunable diode laser spectroscopy	Dr. Juana V. Activos, San Jose State [SW] 1. Solid state physical chemistry of high T _c superconductors 2. Dynamics of triplet states in organic conductors	Dr. Laura H. Greene, Bellcore [NE] 1. High Tc oxide superconductors 2. Metallic superlattices 3. Proximity effects in novel superconductors: Heavy fermions and high T.
Dr. Sandra C. Greer, Univ. of MD 1. Chemical reactions and critical points 2. Equilibrium polymerization as a phase transition	Dr. Sheila Bailey, NASA [MW] 1. Advances in photovoltaics 2. Space photovoltaics	Dr. Elisabeth Gwinn, UCSB [SW] 1. Nonlinear dynamics in semiconductors 2. The quantum hall effect in parabolic wells
Prof. Judith Herzfeld, Brandeis Univ. [NE] 1. Self-assembly in crowded solutions: Nonideality and long-range order 2. Solid-state NMR studies of light-driven proton	Dr. Estela Blaisten-Barojas, Johns Hopkins [EC] 1. Molecular dynamics simulation of clusters and polymers Park VII C. Parenta University P. (NIC)	Prof. Judith Herzfeld, Brandeis Univ. [NE] 1. Self-assembly in crowded solutions: Nonideality and long-range order 2. Solid-state NMR studies of light-driven proton
pump Dr. Juliette W. Ioup, Univ. of New Orleans [SE] 1. The always-convergent iterative technique of deconvolution	Prof. Jill C. Bonner, Univ. of RI [NE] 1. Spin-Peierls transitions 2. Quantum effects in spin dynamics Dr. Alison Chaiken, NRL [EC]	pump Gina l. Hoatson, W&M [EC] 1. ² H-NMR studies of liquid crystals and solids 2. Orientational order in binary mixtures of liquid
Dr. Joyce J. Kaufman, Johns Hopkins Univ. [EC] 1. Ab-initio quantum chemical calculations on large molecules and molecular systems 2. Ab-initio quantum chemical calculations on drugs and biomolecules	I. Integrated magnetics Superconducting intercalation compounds Dr. Meera Chandrasekhar, Univ. of MO [MW] I. Semiconductors and quantum wells under hydrostatic pressure	crystals Dr. Frances A. Houle, IBM [SW] 1. Interdependence of excitation and reaction in laser-solid interactions 2. Charge carriers and semiconductor taking
Dr. Kate Kirby, SAO [EC] 1. Energy storage in metastable molecular systems	nyarosianic pressure	 Charge carriers and semiconductor etching Photochemical deposition of thin films: Gas phase and surface chemistry

Dr. Juliette W. Ioup, Univ. of New Orleans [SE] 1. Orthogonality of measured normal modes in underwater acoustics	Prof. Genrude F. Neumark, Columbia Univ. [NE] 1. Luminescence characterization of materials: ZnSe 2. Properties and role of alkalai metal impurities	Dr. Claudia Tesche, IBM [NE] 1. Testing quantum mechanics with superconducting circuits 2. MEG: A technique for imaging brain function
Dr. Deborah Jackson, Hughes Research [SW]	in ZnSe	with superconducting devices
1. Teaching old atoms new tricks 2. Interference effects between different optical harmonics	Dr. Kathie Newman, Notre Dame [MW] 1. Ordering transitions in semiconductors	Dr. Tineke Thio, NECI [NE] 1. Hopping conductivity and magnetism in pure La ₂ CuO _{4+y}
Dr. Shirley A. Jackson, AT&T [NE] 1. Magnetic polarons in diluted magnetic semiconductor superlattices 2. Zone-folding and quasi-direct optical transitions in semiconductor superlattices 3. Excitonic magnetic polaron effects in stressed	Dr. Marjorie Olmstead, UCB [SW] 1. Formation of the interface between a polar insulator and a non-polar semiconductor 2. Initial stages of semiconductor interface formation [SW]	Dr. Judith A. Todd, USC [SW] 1. Microstructure-mechanical property relationships in advanced structural materials 2. A new look at interphase precipitation reactions
diluted magnetic semiconductors Dr. Barbara A. Jones, IBM [SW]	Dr. Mary Io Ondrechen, Northeastern Univ. [NE] 1. The role of polarizable bridging ligands in discrete-molecular, conducting, and	Dr. Cynthia A. Volkert, AT&T [NE] I. Damage produced in silicon by high energy ion beams 2. Density changes in silicon due to the creation
1. The two-impurity Kondo model: Numerical renormalization group study	superconducting systems Dr. Carmen Ortiz, IBM [SW]	and annealing of point defects 3. Viscous flow of metallic glasses
Dr. Kathleen Kash, Bellcore [NE] 1. Optical properties of quantum wires and dots	1. Physics of magnetic thin films 2. Physics of laser irradiation of thin films	Dr. Gwo-Ching Wang, RPI 1. Two-dimensional phase transitions studied by
Dr. Joyce J. Kaufman, Johns Hopkins Univ. [EC] 1. Ab-initio quantum chemical calculations on large molecules and molecular systems	Dr. Elga Pakulis, IBM [NE] 1. Microwaves as a probe of high temperature superconductors	low-energy electron diffraction Prof. Mary Anne White, Dalhousie Univ. [FO] 1. Thermal properties of clathrates: Tempest in a
Prof. Karen L. Kavanagh, UC, San Diego [SW] 1. Atomic diffusion in GaAs 2. High resolution X-ray scattering from	Prof. Martha Pardavi-Horvath, GWU [EC] 1. Charge-uncompensated magnetic garnets 2. Modeling of magnetic recording process	teapot? Dr. Alice E. White, AT&T Bell Labs [NE]
semiconductors Dr. Jacqueline Krim, Northeastern Univ. [NE] 1. Nanotribology of adsorbed films	Dr. Julia M. Phillips, Bell Labs [NE] 1. Materials issues in high T _e superconducting thin films	 Mesotaxy: Single-crystal growth of buried silicide layers by ion implantation Ion-beam-induced damage in YBa₂Cu₃O₇₋₈: A mobility edge?
2. Floppy disks and fractal dimensions Dr. Kei May Lau, UMass/Amherst [NE] 1. Quantum-size and strain effects in semiconductor heterostructures 2. Organometallic chemical vapor deposition technology	Dr. Talat S. Rahman, Kansas St. Univ. [MW] 1. Dynamics of ordered overlayers on metals 2. Surface reconstruction and surface phonon dispersion - a lattice dynamical study 3. Surface lattice dynamics and electron energy loss spectroscopy	Dr. Barbara A. Wilson, JPL/Caltech [SW] 1. Optical properties of heteroepitaxial III-V and II-VI materials 2. Recombination mechanisms in Type II heterostructures 3. Optical probes of semiconductor interfaces
Dr. Gabrielle G. Long, NIST [EC] 1. Small angle neutron and x-ray scattering by ceramics	Dynamics of associative desorption of hydrogen from metal surfaces Shang-Fen Ren, Univ. Ill, Urbana [MW] I. III-V semiconductor surfaces studied by total	Dr. Jane E. Zucker, AT&T [NE] 1. Spectroscopy of excitons and phonons in quantum wells 2. Nonlinear optics below the band edge in quantum wells
Dr. Weili Luo, Univ. of Chicago [MW] 1. Dynamics of spin glasses 2. Magnetic properties of a quenches ferrofluid system	energy calculation 2. Anisotropy of optical phonons and interface modes in GAAs-AlAs superlattices 3. Orientation dependence of phonons in GaAs-	ENVIRONMENTAL/ENERGY PHYSICS
Dr. Rosemary A. MacDonald, NIST [EC] 1. Modelling porous media: Application to macromolecular separation	AlAs Superlattices Prof. Geraldine L. Richmond, Univ. of OR [NW] 1. Nonlinear optics as a probe of solid/liquid	Dr. Sallie Baliunas, Ctr. for Astrophysics [NE] 1. Sun, stars, and climate Dr. Nancy J. Brown, Lawrence Berkeley Lab. [SW]
Dr. Susan R. McKay, Univ. of ME [NE]	interfaces Dr. Marie-Louise Saboungi, Argonne [MW]	1. Combustion-generated air pollutants
The random field problem: Phase diagrams and thermodynamics Spin glasses and chaos Renormalization group methods and exactly-	Dr. Marie-Louise Saboungi, Argonne [MW] 1. Order in disordered materials 2. Structure of liquids 3. Metal-nonmetal transition in alloys	Prof. Janice Button-Shafer, Univ. of MA [NE] 1. Physicists' views of the strategic defense initiative
solvable models of phase transitions 4. Phase diagrams and models of chalcogens adsorbed on nickel surfaces	Dr. Pia N. Sanda, IBM [NE] 1. Polymeric photoconductors	Dr. Beverly S. Cohen, NYU Med. Ctr [NE] 1. Deposition of ultrafine particles on the human tracheobronchial tree: A determinant of the dose
Dr. Laurie E. McNeil, Univ. of NC [EC] 1. Delight in disorder: Structural studies of chalcogenide glasses	Dr. Rozalie Schachter, Amer. Cyanamid [NE] 1. GaAs devices grown by non-arsine MOVPE	from radon daughters 2. Sampling airborne particles for estimation of inhalation exposure
2. Layered materials the old-fashioned way Dr. Patricia M. Mooney, IBM [NE]	Dr. Lynn F. Schneemeyer, AT&T [NE] 1. High temperature superconductors	Dr. Joanne K. Fink, Argonne [MW] 1. Characterization of fission products released
Deep level defecs in III-V semiconductors DX centers in III-V semiconductor alloys Influence of DX centers on heterojunction device characteristics	Dr. Mary Silber, Georgia Tech. [SE] 1. Pattern formation in nonequilibrium systems Prof. Mary Beth Steams, Ariz. St. Univ. [SW]	from experiments that simulate hypothetical severe reactor accidents 2. The final stage of a postulated reactor melidown: Interaction of a molten core with
Dr. Cherry A. Murray, AT&T Bell Labs [NE] 1. Surface enhanced Raman scattering 2. Colloidal crystals	Origin of magnetism in 3D metals Structural and magnetic behavior of multilayered films	concrete Dr. Luisa F. Hansen, Lawrence Livermore [SW] 1. Neutron and gamma-ray transport through
3. Two-stage melting in two-dimensional colloidal crystals 4. Ordering in Abrikosov flux lattices of high Tc	Dr. Katherine Strandburg, Argonne Natl Lab [MW] 1. Quasicrystals and random tilings 2. Phase diagram of a quasiperiodic crystal model	materials of interest to fusion reactors B. K. Lunde, [MW]
superconductors	3. Melting in two dimensions	1. Capital costs of building design Dr. Elizabeth A. Rauscher, Tecnic Research [SW]
Dr. Barbara Neuhauser, SFSU [SW] 1. The design and fbrication of an ultralow temperature bolometer for detection of solar	Dr. Janet Tate, Oregon St. Univ. [NW] 1. High temperature superconductivity	1. A model of population dynamics Dr. Martha H. Redi, Princeton [NE]
neutrinos and dark matter		1. The 1990's: A critical decade for fusion energy 2. Recent research in transport: Plasma physics and controlled fusion

FLUID AND PLASMA PHYSICS	Dr. Shirley Chiang, IBM 1. Scanning tunnelling microscopy of metals	[SW]	Dr. Gwo-Ching Wang, RPI 1. Two-dimensional phase transitions studie	[NE] d by
Dr. Barbara Abraham-Shrauner, Univ. of WA[MW] 1. symmetries, sophus lie and nonlinear systems: The secret method	semiconductors 2. Atomic force microscopy 3. Imaging molecules on surfaces by scannin tunneling microscopy		low-energy electron diffraction 2. Kinetics of 2D ordering studied by high resolution low energy electron diffraction 3. Growth of large lattice mismatch metal-	
Dr. Fran Bagenal, U. of Colo. 1. The peculiar role of Io in the magnetosphere of	Dr. Deborah D. L. Chung, SUNY	[NE]	semiconductor heteroepitaxy thin films by	MBE [NE]
Jupiter 2. Voyager explores the magnetospheres of the giant planets	1. Ohmic contacts to III-V compound semiconductors		Dr. Margaret H. Weiler, Raytheon 1. Semiconductor devices for high frequenci	
Dr. Mary L. Brake, Univ. of MI [MW] 1. Unusual light emission in relativistic electron	Dr. Denice Denton, Univ. of Wisconsin 1. A solid state humidity sensor device	[MW]	Dr. Margaret H. Weiter, Honeywell 1. HgCdTe photodiodes for infrared imaging systems	[NE]
beam pumped gases Dr. Weili Luo, Univ. of Chicago [MW]	Dr. Vicky Diadiuk, MIT Lincoln Lab 1. Fabrication and characterization of semiconductor microlens arrays	[NE]	Dr. Alice E. White, AT&T Bell Labs 1. Mesotaxy: Single-crystal growth of buried	[NE]
1. Magnetic properties of a quenches ferrofluid system	Dr. Mildred Dresselhaus, MIT	[NE]	silicide layers by ion implantation 2. Mechanisms of formation of buried oxide by ion implantation	_
Dr. Martha H. Redi, Princeton [NE]	1. Intercalation and superlattices	0.001		(CM)
The 1990's: A critical decade for fusion energy Recent research in transport: Plasma physics and controlled fusion	Dr. Laura H. Greene, Bellcore 1. Heavy fermion 2. Metallic superlattices	[NE]	Dr. Cindra Widrig, Utah State 1. Scanning tunneling microscopy and chem applications	[SW] ucal
Dr. Helen L. Reed, Arizona St. Univ. [SW] 1. Stability and transition of laminar viscous flows	3. Proximity effects in novel superconductors Heavy fermions and high T e	s:	Dr. Barbara A. Wilson, JPL/Caltech 1. Optical properties of heteroepitaxial III-V	[SW]
	Dr. Frances A. Houle, IBM	[SW]	II-VI materials	
Dr. Mary Silber, Georgia Tech. [SE] 1. Pattern formation in nonequilibrium systems 2. Symmetry-breaking bifurcations and spatial	Interdependence of excitation and reaction laser-solid interactions Charge carriers and semiconductor etchings.		Recombination mechanisms in Type II heterostructures Optical probes of semiconductor interfact	es
pattern formation 3. Pattern selection in convection	3. Photochemical deposition of thin films: G phase and surface chemistry		Dr. Jane E. Zucker, AT&T	[NE]
3. Failern Selection in Convection		(6)(7)	1. Spectroscopy of excitons and phonons in	[112]
GEOPHYSICS	Dr. Deborah Jackson, Hughes Research 1. Lightwave technology	[SW]	quantum wells 2. Nonlinear optics below the band edge in quantum wells	
Dr. Fran Bagenal, U. of Colo. [MW] 1. The peculiar role of Io in the magnetosphere of Jupiter	Dr. Shirley A. Jackson, AT&T 1. Magnetic polarons in diluted magnetic semiconductor superlattices	[NE]	MOLECULAR AND POLYMER PH	ivsics
2. Voyager explores the magnetospheres of the giant planets	2. Zone-folding and quasi-direct optical transitions in semiconductor superlattices		Dr. Esther Conwell, Xerox	[NE]
Dr. Nadine G. Barlow, Johnson Space Ctr. [SW] 1. Planetary geophysics 2. Past and future exploration of Mars	Prof. Karen L. Kavanagh, UC, San Diego 1. What is an interface? 2. High resolution X-ray scattering from	[SW]	 Solitons, polarons, and photoconductivity polyacetylene Conducting polymers 	y in
3. Impact cratering as a geologic process	semiconductors 3. Scanning tunneling microscopy of		Dr. Flonnie Dowell, Los Alamos 1. Molecular modeling of complex material.	[SW]
Dr. Prabha Durgapal, Welex [SW] 1. An analytic model for electromagnetic wireline tools for geophysical exploration	semiconductor interfaces Dr. Kei May Lau, UMass/Amherst	[NE]	 Molecular theories for polymers New phase and molecule predictions for partially-ordered chains 	
Dr. Juliette W. Ioup, Univ. of New Orleans [SE] 1. Inversion of seismic data using Fourier	1. Quantum-size and strain effects in semiconductor heterostructures		Dr. Sandra C. Greer, Univ. of MD 1. Equilibrium polymerization as a phase	[EC]
coefficients 2. The modified image method for airborne	Dr. Carmay Lim, Harvard 1. Dynamics of gas-surface interactions	[NE]	transition Prof. Judith Herzfeld, Brandeis Univ.	[NE]
electromagnetics	Dr. Patricia M. Mooney, IBM	[NE]	1. Self-assembly in crowded solutions: Non	
Dr. Elizabeth A. Rauscher, Tecnic Research [SW] 1. Resonant magnetic field pulsations and the mechanisms of the earth ionosphere excitation	1. Influence of DX centers on heterojunction device characteristics	ı	and long-range order 2. Solid-state NMR studies of light-driven p pump	rolon
modes	Dr. Cherry A. Murray, AT&T Bell Labs 1. Surface enhanced Raman scattering	[NE]	Dr. Joyce J. Kaufman, Johns Hopkins Univ.	[EC]
Dr. Sara A. Solla, Bell Labs [NE] 1. A scaling model for crack propagation and fracture	Dr. Marjorie Olmstead, UCB 1. Formation of the interface between a pole	[SW]	Ab-initio quantum chemical calculations large molecules and molecular systems Ab-initio quantum chemical calculations	on
INTERFACE AND DEVICE PHYSICS	insulator and a non-polar semiconductor 2. Initial stages of semiconductor interface	-	drugs and biomolecules	
	formation	0.600	Dr. Sonja Krause, RPI 1 Transient electric birefringence studies of	[NE] f
Dr. Susan D. Allen, Univ. of Iowa [MW] 1. Laser deposition and etching 2. Dust, holes and wires: Laser processing for electronics and optics	Dr. Talat S. Rahman, Kansas St. Univ. 1. Dynamics of ordered overlayers on metal 2. Surface reconstruction and surface phono dispersion - a lattice dynamical study		muscle proteins 2. Polymer morphology changes in electric Immiscible polymers 3. Membrane pore structure studies using	fields:
Dr. Sheila Bailey, NASA 1. Advances in photovoltaics	3. Surface lattice dynamics and electron ene loss spectroscopy	rgy	scattering methods Dr. Rosemary A. MacDonald, NIST	[EC]
Dr. Alison Chaiken, NRL [EC] 1. Integrated magnetics	Shang-Fen Ren, Univ. III, Urbana 1. III-V semiconductor surfaces studied by t energy calculation	[MW] otal	1. Modelling porous media: Application to macromolecular separation	
Prof. Siu-Wai Chan, Columbia Univ. [NE] 1. Grain boundaries in high temperature superconductors	Prof. Geraldine L. Richmond, Univ. of OR 1. Nonlinear optics as a probe of solid/liqui interfaces		Dr. Mary Jo Ondrechen, Northeastern Univ. 1. Predeicting the spectroscopic properties discrete mixed-valence systems	of
How crystals dance to each other Dr. Meera Chandrasekhar, Univ. of MO [MW]	Dr. Rozalie Schachter, Amer. Cyanamid 1. GaAs devices grown by non-arsine MOV.	[NE] PE	Prof. Geraldine L. Richmond, Univ. of OR 1. The spectroscopy of metal ions bound to proteins and polymers	[NW]
1. Semiconductors and quantum wells under	D. C.M. D. L.G		protein and posytimes	

[SW]

Dr. Linda Stuk, Univ. of Texas [St 1. Diffusion of small molecules in polymers, or: Why are there no plastic beer bottles?

[SW]

Prof. Mary Beth Stearns, Ariz. St. Univ. 1. Structural and magnetic behavior of multilayered films

Dr. Meera Chandrasekhar, Univ. of MO 1. Semiconductors and quantum wells under hydrostatic pressure

NUCLEAR AND PARTICLE PHYSICS	Prof. Johanna Stachel, SUNY Stony Brook [NE] 1. Collisions between ultra-relativistic heavy ions	Dr. Sheila Bailey, NASA [MW] 1. Solar power in space
Prof. Karen Barad, Barnard College [NE] 1. Numerical simulations of quantum chromodynamics	Dr. Julia A. Thompson, U. of Pittsburgh [EC] 1. Direct photon production at the CERN ISR	Dr. Sallie Baliunas, Ctr. for Astrophysics [NE] 1. Solar and stellar magnetism
Prof. Janice Button-Shafer, Univ. of MA [NE] 1. Utilization of polarized targets and polarized	Anomalous electron production at low transverse momentum Relativistic heavy ions and close-packed quarks	2. Sun, stars, and climate Prof. Karen Barad, Barnard College [NE]
beams in nuclear and particle physics 2. Is there a fifth force?	4. CP violation: Collaborative physics research in the USSR	1. Quarks and supercomputers Dr. Nadine G. Barlow, Johnson Space Ctr. [SW]
Prof. Jolie A. Cizewski, Rutgers Univ. [NE] 1. Symmetry and supersymmetry in heavy nuclei 2. Onset of deformation in heavy nuclei	Dr. Sallie A. Watkins, Univ. of So. Colorado [MW] 1. The beta ray work of Lise Meitner Dr. Drauthy S. Washer, Cal. State Entlance (SW)	1. Past and future exploration of Mars 2. Impact cratering as a geologic process 3. Planetary science: Between the earth and stars
Dr. Bunny C. Clark, Ohio State Univ. [MW] 1. Relativistic effects in nuclear physics	Dr. Dorothy S. Woolum, Cal. State-Fullerton [SW] 1. interpreting solar system elemental abundances of the N=50 neutron shell 2. Trace element microdistribution analysis by	Reta Beebe, NM State [SW] 1. Winds and clouds of the giant planets 2. The Voyager exploration of the giant planets
Prof. Cynthia A. Gossett, Univ. of WA [NE] 1. The giant dipole resonance in hot nuclei	PIXE	Dr. Eva Bozoki, Brookhaven [NE]
2. Hard photon production in heavy ion collisions	OPTICS and OPTICAL PHYSICS	1. Synchrotron radiation and its use
Dr. Luisa F. Hansen, Lawrence Livermore [SW]		Dr. Mary L. Brake, Univ. of MI [MW]
Microscopic optical model potentials in the analysis of nucleon-nucleus scattering The transport of 14-MeV neutrons through	Dr. Susan D. Allen, Univ. of Iowa [MW] 1. Dust, holes and wires: Laser processing for electronics and optics	Plasmas that glow in the dark Prof. Janice Button-Shafer, Univ. of MA [NE] The Strategic Defense Initiative - physicists'
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1. Physics of the neutral weak vector boson 70 2. Physics and detectors at the superconducting	semiconductor microlens arrays	Dr. Bel Campbell, Univ. of NM [SW] 1. Star formation: The sound and the fury
supercollider	Dr. Sarah L. Gilbert, NIST, Boulder [MW] 1. Fiber lasers	2. Does astronomy matter?
Dr. Lorella M. Jones, Univ. of IL [MW] 1. Quark and gluon jets - trails of color in a colorless world	Dr. Helen Vogele Gourley, System Sci. Group[SW] 1. Heat and light in optical systems 2. Optical properties of surfaces: How to use them	Dr. Yue Cao, U. Hawaii [NW] 1. Atomic hydrogen isotopes generated by β decay of T_2 stored in solid molecular hydrogen isotope lattice
Dr. Noemie Benezer Koller, Rutgers [NE] 1. Studies of nuclear structure via magnetic moment measurements	in system design Dr. Juliette W. Ioup, Univ. of New Orleans [SE] 1. Higher order correlations and spectra	Dr. Shirley Chiang, IBM [SW] 1. The scanning tunnelling microscope: A microscope that sees atoms
Dr. Deborah A. Konkowski, USNA [EC] 1. The nature of singularities in general relativity	Dr. Katharine J. Jones, Naval Avionics Ctr [MW] 1. All about lasers	Dr. Deborah D. L. Chung, SUNY [NE] 1. Aerospace materials
Dr. Corinne A. Manogue, Oregon St. Univ. [NW] 1. The Klein paradox: Rolling relativistic quantum balls uphill	2. Optical computing 3. Solitons	Superconducting composite materials Metal-matrix composites Carbon fiber composites
2. Changing topology: The trousers problem 3. The rotating vacuum	Dr. Cherry A. Murray, AT&T Bell Labs [NE] 1. Surface enhanced Raman scattering	Dr. Beverly S. Cohen, NYU Med. Ctr [NE] 1. The radon problem: An overview
Prof. June L. Matthews, MIT 1. Probing the nucleus with high-energy photons 2. How many nucleons does it take to scatter a	Dr. Carmen Ortiz, IBM [SW] 1. Physics of laser irradiation of thin films	Dr. Lynn R. Cominsky, Sonoma State Univ. [NW] 1. X-ray visions of the universe
pion?	Liwen Pan, Univ. Maryland/NIST [EC] 1. Atoms in intense laser fields	Dr. Denice Denton, Univ. of Wisconsin [MW]
Dr. Marilyn E. Noz, NYU [NE] 1. Group theoretical examples in relativistic	Dr. Mary S. Tobin, HDL [EC]	1. Microfabrication of integrated circuits: An overview
quantum mechanics	Optical properties of doping superlattices Introduction to optical phase conjugation	Dr. Irene M. Engle, US Naval Acad. [EC]
Dr. Andrea Palounek, LBL [SW]		1. Big machine computing using a desktop system
1. Physics and detectors at the SSC	Dr. Reeta Vyas, Univ. of Arkansas [SE] 1. Resonance fluorescence from a two-level atom	Dr. Helen Vogele Gourley, System Sci. Group[SW]
Dr. Betty P. Precce, [SE] 1. Elementary particles: Lecture demos for teachers K-12	driven by squeezed light 2. Fluctuation properties of squeezed light	How to find a job in industry Future work: The individual scientist and new modes of working
Dr. Sathyavathi Ramavataram, Brookhaven [NE] 1. Nuclear shell models 2. Continuum theories of nuclear reactions	Dr. Margaret H. Weiter, Honeywell [NE] 1. HgCdTe photodiodes for infrared imaging systems	Dr. Suzanne Gronemeyer, St. Jude Hosp. [SE] 1. Clinical magnetic resonance imaging
Polarization phenomena in nuclear reactions Model calculations at intermediate and high energies	TALKS FOR GENERAL AUDIENCES	Dr. Shirley W. Harrison, retired [NE] 1. Contributions of women to astronomy and space science
Dr. Elizabeth A. Rauscher, Tecnic Research [SW] 1. Cosmology models, strings, and particle physics	Dr. Elise Albert, U. S. Naval Academy [EC] 1. Tour of the universe	2. The poor crescent moon Dr. Martha P. Haynes, Cornell Univ. [NE]
Dr. Susan J. Seestrom, Los Alamos [SW]	Dr. Susan D. Allen, Univ. of Iowa [MW] 1. More and more about less and less: The	1. Extragalactic sociology: Environmental effects on galaxy formation
The nucleus as an amplifier of violation of parity and time reversal invariance The pion as a probe of isospin effects in nuclei	meaning of a PhD 2. The use of selective ignorance in interdisciplinary research	2. Large-scale structure in the universe Dr. Caroline L. Herzenberg, Argonne [MW]
Dr. Junko Shigenitsu, Ohio State [MW] 1. Uses of lattices in elementary particle physics	3. Women in science: What's a nice girl like you doing in a business like this? 4. Is there a laser in your future?	1. Women scientists and engineers of antiquity and the Middle Ages 2. Advances in science: Discoveries by women
		3. Women scientists of the Manhattan Project
Dr. Elizabeth H. Simmons, Harvard [NE] 1. Why do we need a superconducting super collider?	Dr. Priscilla Auchincloss, U. of Rochester [EC] 1. The climate workshop: Changing the classroom experience for women in science and engineering	Dr. Katharine J. Jones, Naval Avionics Ctr [MW] 1. On this matter of girls and mathematics
Dr. Janet Sisterson, Harvard U. [NE] 1. Measuring cross sections for long lived radioisotopes produced by proton beams	Dr. Fran Bagenal, U. of Colo. [MW] 1. Voyager explores the magnetospheres of the giant planets	Prof. Karen L. Kavanagh, UC, San Diego [SW] 1. What is an interface?

COLLOQUIUM SPEAKERS LIST ENROLLMENT/MODIFICATION FORM

The PHYSICS COLLOQUIUM SPEAKERS LIST is compiled annually by the American Physical Society Committee on the Status of Women in Physics. Comments or questions, as well as modifications or new entries for the 1990/91 CSL should be addressed to

Luz Martinez-Miranda, Rm. 362 Univ. of Pennsylvania, Electrical Engineering Dept. 200 South 33d St. Philadelphia, PA 19104-6390

To modify an existing entry, or to make a new one, please fill out a copy of the form below and return it to the address above. PLEASE PRINT CLEARLY OR TYPE! Check whether this is a modification of an existing entry (_____) or a new entry (_____). Today's date: ____ Phone:_ Please check if you would be Short name of institution (for use in second section of CSL): available for occasional "Career-Day" presentations to students in Address: (please use no more than three lines of about 38 char maximum per line) ☐ Middle Schools ☐ High Schools zipcode_ CSWP Roster registration number, if known: _ Bitnet address OR FAX number (only one will be listed): ____ To cancel a listed talk, give the title as it appears in the list and the section(s) where it is to be cancelled. If you wish to delete all old entries, just enter "ALL", and register the new titles in the next section. Use an additional sheet if necessary: To register a new title, give the title as you want it to appear (first word and proper nouns capitalized) in the left column below. Then check the section(s) where it is to be inserted. Also check the top box if this is a CORRECTION of an existing title. If more than 4 talks are registered, please use an additional copy of this form, stapling them together. A limit of seven total entries (checks in right hand column) will be imposed. □ CORRECTION Title □ Chem/Statistical
□ Fluid/Plasma □ Bio/Medical □ Astrophysics □ Cond. Matter □ Env/Energy □ Fluid/Plasma
□ Geophysics □ Interface/Device □ Molec/Polymer
□ Nuclear/Particle □ Talks for General Audiences □ Optics/Opt. Phys. □ Accelerator Physics □ CORRECTION Title ☐ Astrophysics □ Bio/Medical □ Chem/Statistical □ Cond. Matter □ Env/Energy □ Fluid/Plasma □ Interface/Device □ Molec/Polymer □ Geophysics □ Nuclear/Particle □ Talks for General Audiences ☐ Optics/Opt. Phys. ☐ Accelerator Physics □ CORRECTION Title □ Chem/Statistical □ Astrophysics □ Bio/Medical □ Env/Energy □ Fluid/Plasma Cond. Matter □ Interface/Device □ Molec/Polymer ☐ Geophysics □ Nuclear/Particle □ Talks for General Audiences Optics/Opt. Phys. - Accelerator Physics CORRECTION Title □ Chem/Statistical □ Astrophysics □ Bio/Medical □ Fluid/Plasma Cond. Matter □ Env/Energy ☐ Interface/Device ☐ Molec/Polymer □ Geophysics □ Nuclear/Particle □ Talks for General Audiences □ Optics/Opt. Phys. □ Accelerator Physics

The American Physical Society

335 East 45 Street, New York, New York 10017 (212) 682-7341

CSWP ANNOUNCES 1991-1992 "TRAVEL GRANTS FOR WOMEN COLLOQUIUM SPEAKERS" PROGRAM

The APS Committee on the Status of Women in Physics (CSWP) is pleased to announce that the "Travel Grants for Women Colloquium Speakers" Program is entering its second year. The program is designed to stimulate the recognition of women physicists. The response to last year's program was much greater than anticipated. Twice as many requests were received as we could fund. This year, the APS Executive Board has generously doubled the funding for this program.

The program is intended to expand the opportunity for physics Purpose:

> departments to invite women colloquium speakers who may prove role models for women undergraduate and/or graduate students and faculty. The program also reinforces the awareness of the accomplishments of

women physicists.

Grant: The program will reimburse institutions for up to \$500 for travel

expenses for either of two women colloquium speakers invited during

the 1991-1992 academic year.

Qualifications: All physics and/or science departments are encouraged to apply.

> Invited women speakers should be physicists or in a closely related field, such as astronomy or geophysics. For your convenience, a copy of the CSWP Colloquium Speakers List for Women in Physics has been

included in this packet, but selection need not be limited to this list.

Guidelines: Reimbursement is for travel and lodging expenses only. Honoraria or

extraneous expenses at the colloquium itself, such as refreshments, are

not reimbursable. Travel by car is reimbursable at 25¢ per mile.

Application

Institutions will be reimbursed in the order applications are received. Procedure: Institutions must submit the attached application form together with any

> receipts for the travel expenses for either one of the two speakers. Requests for Travel Grants should be submitted after both women speakers have actually spoken. For the convenience of institutions who have scheduled speakers for later in the academic year, four travel grants will be reserved for those institutions which submit a letter of intention to file, with the dates of the anticipated colloquia and the names of the speakers. Both speakers must have actually presented

their talks by April 15, 1992.

For further information, please feel free to contact: The Travel Grant for Women Colloquium Speakers Program, APS, 335 East 45th Street,

New York, NY 10017 or 212-682-7341.

The American Physical Society 335 East 45 Street, New York, New York 10017 (212) 682-7341

TRAVEL GRANTS FOR WOMEN COLLOQUIUM SPEAKERS

THE TRAVEL GRANTS PROGRAM WILL REIMBURSE UP TO \$500.00 FOR THE TRAVEL EXPENSES OF EITHER OF TWO WOMEN PHYSICS COLLOQUIUM SPEAKERS IN THE 1991-1992 ACADEMIC YEAR

Please note: application	E 1991-1992 ACADEMIC YEAR s will be accepted in the order in which they are received and funding is limited.
	DATE OF COLLOQUIUM
SPEAKER #1:	NAME
	HOME INSTITUTION
	ADDRESS
	TITLE OF TALK
	INVITED BY
	INTRODUCED BY
AUDIENCE COMPOSITION:	UNDERGRADUATE () GRADUATE () FACULTY ()
	NUMBER OF ATTENDEES% FEMALE
SPEAKER #2:	DATE OF COLLOQUIUM
	NAME
	HOME INSTITUTION
	ADDRESS
	TITLE OF TALK
	INVITED BY
	INTRODUCED BY
AUDIENCE COMPOSITION:	UNDERGRADUATE () GRADUATE () FACULTY ()
	NUMBER OF ATTENDEES % FEMALE

(please complete reverse side)

TOTAL TRAVEL EXPENSES OF ONE Please attach proof of expenses, such as c	
INSTITUTION SUBMITTING APPLICATION	
CHECK SHOULD BE MADE OUT TO	
ADDRESS	
APPLICATION PREPARED BY:	DEPARTMENT HEAD:
(Print Name)	(Signature)
(Title)	(Date)

Confirmation of receipt of your application will be sent to you within 5 business days of receipt. If you receive no confirmation, please contact Ricki Bar-Zeev, APS, at 212-682-7341.

Please return this form to:

Travel Grants for Women Colloquium Speakers Program American Physical Society 335 East 45th Street New York, NY 10017

INVITATION TO JOIN THE NEW APS FORUM ON EDUCATION

The American Physical Society (APS) Council, at its most recent meeting on 21 April 1991, approved the formation of a *Forum on Education* to meet the expressed interest of APS members in Education.

The goals of the Forum on Education have been defined as, but are not limited to:

- Improving channels for all interested physicists, including those not directly involved in teaching, such as those working in industrial and government labs, to become involved with physics education
- Focusing attention on the importance of good and universally available education to the health of the physics research enterprise and the quality and quantity of future researchers
- Promoting two-way communication between the physics research community and the physics education community
- Working cooperatively with other organizations for a sustained national effort in science education

Because of the importance and relevancy of science education, we are inviting APS members to join the **Forum on Education** now for fiscal year 1992. There are no dues required for joining the Forum. I am an APS member and wish to become a member of the **Forum on Education**.

(Please fill in your name, address,	and APS	Membership Number	as it appears on	APS mailings)
I am also an AAPT member	Yes 🗆	No 🗖		

Surname/Family Name		First Name	Middle initial
Institution/Title			
Mailing Address			
City		State Zip	Country
Electronic Mall			
Daytime Telephone Number	FAX Number	APS Membership Number	

PLEASE RETURN THIS FORM TO:
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The American Physical Society
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New York, NY 10017-3483
(this form can be copied for additional use)

Dr. Sonja Krause, RPI 1. Introduction to polymers	[NE]	Dr. Betty P. Preece, [SE] 1. Elementary particles: Lecture demos for	Dr. Linda Stuk, Univ. of Texas [SW] 1. Chaos in physics and chemistry
Dr. Christine E. Krohn, Exxon 1. Reservoir description: Seismic opportu	[SW] unities	teachers K-12 2. Science math careers that work for women and minorities 3. Physics demos for teachers K-12	Dr. Beverley A. P. Taylor, Miami Univ. [MW] 1. The physics of toys
well to well 2. Communication skills for industrial sc	iantiete	3.1 hysics demos for leachers 1x-12	Dr. Claudia Tesche, IBM [NE]
2. Communication sails for industrial sc	<i>16/111010</i>	Dr. Elizabeth A. Rauscher, Tecnic Research [SW]	1. Testing quantum mechanics with
Dr. Susan Lea, SFSU 1. X-rays from collapsed stars	[SW]	1. The nature of the scientific method and scientific discovery	superconducting circuits 2. MEG: A technique for imaging brain function with superconducting devices
D. Astona I Language Farmilah	[MW]	Dr. Martha H. Redi, Princeton [NE]	Wars Super Cornancisting and victor
Dr. Arlene J. Lennox, Fermilab 1. Neutrons against cancer: The clinical experience at Fermilab		1. The 1990's: A critical decade for fusion energy	Dr. Julia A. Thompson, U. of Pittsburgh [EC] 1. CP violation: Collaborative physics research in
2. A woman's career in physics		Dr. Beverly A. Rubik, Temple Univ. [EC] 1. The new physics: Toward an emerging	the USSR
B. K. Lunde,	[MW]	paradigm	Dr. Judith A. Todd, USC [SW]
1. Use of fiber optics by the telephone co 2. Development and marketing of a techn		2. Frontier issues in physics and biophysics 3. The Universe is a symphony and all of us are the musicians	1. The earliest metals smelting in Europe 2. Studies of the African Iron Age
product		THE THIS ICHETIS	Dr. Virginia Trimble, UC-Irvine [SW]
Prof. June L. Matthews, MIT 1. What is inside the inside of the atom, a holds it together?	[NE] and what	Dr. Mary Beth Ruskai, U. Lowell/U. Mich. [MW] 1. The role of creativity, intuition, abstraction, and objectivity in science	Cosmology: Man's place in the universe Supernovae: Bigger and better bangs The universe you don't see: Existence and nature of dark matter
Prof. Lillian C. McDermott, U. of Washin	ngton [EC]	Dr. Nora H. Sabelli, NCSA [MW]	•
1. Identifying and addressing conceptual difficulties in physics		 Supercomputers and science education: Who needs supercomputers? why? 	Dr. Reeta Vyas, Univ. of Arkansas [SE] 1. How photons come out of a light source
2. Preparing precollege teachers to teac		D. M. J. T. alia O. Laural, American D. B.U.	2. Trip to a nuclear world
3. What we teach and what is learned: C gap	losing the	Dr. Marie-Louise Saboungi, Argonne [MW] 1. Structure of liquids	Dr. Sallie A. Watkins, Univ. of So. Colorado [MW] 1. A woman's place in early twentieth century
Dr. Lucy-Ann McFadden, Cal Space 1. A guided tour of the solar system thro eyes of robot spacecraft	[SW] ugh the	Dr. Anneila Sargent, Caltech [SW] 1. Searching for forming planetary systems	physics 2. Two discoveries, two responses 3. Lise Meitner and the discovery of fission
-,,,,		Dr. Petra Schmalbrock, Ohio State [MW]	
Dr. Theresa Nagy, NASA 1. Comets as viewed by the media througages	[EC] gh the	1. The basics of magnetic resonance imaging and spectroscopy	Dr. Audrey V. Wegst, [MW] 1. Experiences in the developing countries using nuclear medicine: 2 years with the IAEA
200		Dr. Lynn F. Schneemeyer, AT&T [NE]	•
Dr. Barbara Neuhauser, SFSU 1. The search for dark matter	[sw]	1. High temperature superconductors	Prof. Mary Anne White, Dalhousie Univ. [FO] 1. Chemistry of materials
		Dr. Mary Silber, Georgia Tech. [SE]	Dr. Alice E. White, AT&T Bell Labs [NE]
Dr. Mary Jo Ondrechen, Northeastern Un 1. The role of polarizable bridging ligan		1. Pattern formation Dr. Elizabeth H. Simmons, Harvard [NE]	Dr. Alice E. White, AT&T Bell Labs [NE] 1. Materials modification using ion beams
discrete-molecular, conducting, and superconducting systems		Dr. Elizabeth H. Simmons, Harvard [NE] 1. Why do we need a superconducting super collider?	Dr. Cindra Widrig, Utah State [SW] 1. Scanning tunneling microscopy and chemical
Dr. Andrea Palounek, LBL	[SW]		applications
1. Physics and detectors at the SSC		Dr. Janet Sisterson, Harvard U. [NE]	
Prof. Martha Pardavi-Horvath, GWU	(EC)	Medical applications of proton beams Measuring cross sections for long lived radioisotopes produced by proton beams	Dr. Belinda J. Wilkes, SAO [NE] 1. Tour of the Universe
1. Magnetic recording		Dr. Katherine Strandburg, Argonne Natl Lab [MW]	Dr. Barbara A. Wilson, JPL/Caltech [SW] 1. Women in physics: An international perspective
		1. Quasicrystals and random tilings	D D 4 0 W 1 0 0 1 0 1 0 1 0 1 0 10 10
		2. Melting in two dimensions 3. Phase transitions in flatland	Dr. Dorothy S. Woolum, Cal. State-Fullerton [SW] 1. Meteorites and what they tell us about the solar system
			2. Nucleosynthesis of the heavy elements

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