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# Gazette

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

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## Guest editorial: When Life Intervenes, One University Steps Up to Help

By Bernice Durand, University of Wisconsin-Madison



Bernice Durand

he's making good progress toward tenure. Wham! Her young child is diagnosed with cancer. The child's oncologist says the prognosis is good with immediate and repeated chemotherapy. Her big grant renewal proposal is due in two months.

He's enjoying mid-career national prominence. Wham! He has a heart at-

tack. His cardiologist says he needs bypass surgery — soon! His big grant renewal proposal is due in two months. A lot of people's livelihoods and careers depend on those grants.

Health and family crises are often career crises, and they can be ruinous. Overnight your career can be in serious jeopardy. Although men and women experience these kinds of events, for women they may tend to occur earlier in the career (e.g., prior to the tenure

decision) when it is more difficult to recover from a setback. At the University of Wisconsin—Madison (UW-Madison), we are privileged to have Vilas Life Cycle Professorships, as a safety net against such crises (1). These grants, limited to \$30,000 (not to be used for the salary of the recipient), are available to UW-Madison tenure-track and tenured faculty and permanent principle investigators (PI's), regardless of discipline or gender, who "are at critical junctures in their professional careers and whose research productivity has been directly affected by personal life events (e.g., illness of a dependent, parent, spouse/partner, or oneself; complications from childbirth; combination of major life events)" (1).

Where did the Life Cycle grants come from? From 2002 to 2006, we had one of the first NSF five-year ADVANCE Institutional Transformation grants (2). The grant was named WISELI (3), for Women in Science and Engineering Leadership Institute. The two PI's and Co-Directors were Molly Carnes (4) and Jo

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# **Balancing Career and Family: Suggestions**

By Andrea Liu, University of Pennsylvania

t the 2007 APS March Meeting, CSWP sponsored a panel discussion on the topic, "Women in academic science: balancing career and family." The panel members were Susan Coppersmith (University of Wisconsin, Madison), Marija Drndic (University of Pennsylvania), Ka Yee Lee (University of Chicago), Nadya Mason (University of Illinois, Urbana-Champaign), and Katharina Vollmayr-Lee (Bucknell College). The panel was chaired by Andrea Liu (University of Pennsylvania).

The challenge of balancing career with family is listed by many women as the primary reason for leaving academic science. The panel discussion had three aims. One aim was to provide the audience with an "existence proof" by gathering several women faculty

members who have young children as well as highly successful scientific careers. The second aim was to collect practical strategies for balancing career and family from the panelists. The final aim was to compile a list of recommendations for departments, academic institutions, funding agencies and professional societies. Several female graduate students in the audience commented that they came from departments with no women faculty and that it was inspiring merely to see the panelists gathered together as a group.

Each panelist presented a list of recommendations that she felt would make a real and immediate difference to women academic scientists. As several panelists pointed out, many of the recommendations

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#### Balancing Career and Family, continued from page 1

would benefit men as well as women. These recommendations were collected and distilled into a final list, presented below. Those viewed to be the most important by the panel are in boldfaced font. Many of the recommendations concern special policies for faculty members who are undergoing major life events, defined as follows: childbirth, adoption, serious illness, extraordinary emotional stress or primary care of sick parent.

#### **Recommendations to Departments:**

- Do not schedule activities after 5 PM or on weekends, unless children may attend.
- Make meetings, etc., as efficient as possible.
- Make it clear that faculty members are welcome to bring babies/children to work.
- Allow dual-academic couples to have nonoverlapping teaching schedules, even if this requires some coordination with other departments.
- Support climate changes (more role models, more mentoring; see APS Best Practices http://www.aps.org/programs/women/reports/ bestpractices/female-faculty.cfm).
- Provide up to one year of relief from departmental service for major life events (see examples at top of page).
- Provide up to one year teaching relief for major life events. This is best carried out in the broader context of all the science and engineering departments; see below. The policy should be clear and should be consistent from chairperson to chairperson and across science and engineering departments.

#### **Recommendations to Academic Institutions:**

- Make it clear that diversity is an important goal.
- Do not schedule meetings after 5 PM.
- Provide faculty grants for child care while attending a meeting or participating in off-site research.
- Adopt an automatic one-year delay in tenure clock for major life events, with the option of turning this down.
- Provide one year of relief from university service for major life events.
- Adopt a flexible approach to the two-body problem. This includes showing willingness to release new FTE's for spousal hiring if the department involved is in favor, and allowing split appointments (e.g. 2/3 appointment for each), especially at primarily teaching institutions.
- Provide up to one year of paid teaching relief for major life events (see examples preceding list). This is often considered a departmental

- responsibility, but the resources must come from the university.
- Provide high-quality, extended day care on campus.
  - 1. Priority should be given to faculty who are single parents, and those with full-time working partners.
  - Subsidize this for graduate students and postdocs, with priority for those who are single parents, and for those with partners who are full-time students or hold full-time jobs.
  - 3. This should have enough capacity that trying to get a slot is not stressful.

#### **Recommendations to Funding Agencies:**

- Make it clear that diversity is an important goal (the NSF has worked hard on this).
- Allow no-cost extensions for grants to allow parttime postdoc and graduate researcher positions.
- Be flexible enough to quickly establish fellowship programs for part-time postdocs.
- Establish programs similar to the NSF RUI (Research in Undergraduate Institutions), to recognize the toll on research productivity of parents with young children.
- Provide one-year funded grant extensions for major life events.
- Make dependent child care to enable traveling an allowable expense.

#### **Recommendations to Professional Societies:**

- Provide dependent child care awards to enable people to attend conferences. The Division of Chemical Physics of the American Physical Society now provides such grants for its members to attend the March meeting. Note: In 2008, APS will provide small grants of up to \$200 to assist attendees who are bringing small children to the annual March (New Orleans) and April (St. Louis) meetings of the society. A bulletin board has been set up for those who wish to share child care. Preference will be given to applicants in the early stages of their careers. Details at http://www.aps.org/meetings/march/general.cfm.
- Advocate part-time postdoctoral positions for people who wish to have children.
- Provide active support for all of the above recommendations to departments, academic institutions and funding agencies.

Most of the recommendations are self-explanatory, but the recommendation of up to one year of paid teaching relief deserves some discussion. Why teaching relief,

#### Take a Student to Lunch!

By Catherine Fiore, MIT, CSWP chair 2008

Increasing the number of women who have successful physics careers will rely not only on expanding the available pipeline, but also on closing the leaks in the pipeline we have. There are two recent trends that are particularly alarming, however. The first is the exodus from the field of women who have successfully achieved the PhD degree, and the second is the fact young women are often not even considering participating in an academic career.

Recent postings on the WIPHYS listserv[1] and a study of postdocs done by NIH [2] have explored the reasons that women are not seeking faculty positions. The primary reasons appear to be 1) family/spousal/work life balance concerns and 2) lack of confidence in their ability to obtain faculty positions and ultimately achieve tenure.

Many physics departments are making efforts to include women in their applicant pools and to recruit women candidates for openings. However, if women are not applying for these positions, the efforts to increase the number of women in the tenured ranks cannot succeed. At the recent CSWP sponsored Gender Equity Conference in May 2007, it became evident that resolving these issues, while definitely needing top directed institutional change, also requires grass roots efforts from the bottom.

On speaking with a number of graduate students, I concluded that isolation from other women in physics and a dearth of role models remains an issue for them when considering a career. Young women often do not end up getting to know older established women in their field or even in their own institutions. They don't see those of us who have successfully integrated motherhood and career. They lack the perspective to recognize subtle biases that can undermine their self confidence. Many of these students are the only female in their research groups. While they may be aware of and have a nodding acquaintance with other women at their institutions, they don't necessarily know them well enough to seek advice or ask questions.

This was my experience at my home laboratory, which is a large interdisciplinary research center at MIT. The small number of women students were scattered among six different divisions and were in different class years. They had little interaction with each other or with senior staff women. I saw quite a few of these women drop out without finishing their PhDs. Several who did manage to graduate chose to pursue careers outside of physics.

To see if we could expand the support network for these students, in January of 2000 I joined with two other senior women staff at the center (we have no women faculty) to establish a monthly lunch outing. No agenda is planned, and the group attending is usually small (6-10 women) and we just talk. We talk about our kids, husbands, boyfriends. We talk about our research. We talk about navigating exams and course work. We talk about anything that comes up.

Over the past few years some of the members of our lunch group have experienced divorce, single mother-hood, pregnancy, cancer. We celebrate graduations and babies as they come. We welcome all women students to attend, including undergraduates working at the lab as well as summer visiting students. We often invite women faculty from outside our center to join us to add the faculty perspective and experience. We try to meet monthly, but actually achieve 8 to 10 meetings a year because of meetings and holidays.

I approached the director of our center for funds to subsidize lunch for the graduate students. He responded by providing us with a budget to pay for lunch for the entire group for about 10 meetings a year.

My observations are anecdotal, but I believe that we have vastly improved our graduation and retention rate by doing this. Ten years ago we graduated only one woman with a PhD every 3 or 5 years. In 2006 we graduated 3, and 2 more in 2007. We have several in the final stages of their PhD programs, with more in the pipeline. Better yet, the women we have graduated recently have all gone into physics positions post PhD. At least one stayed at our center as a Post-Doc. The rest have taken research positions at national laboratories.

The benefits to the students are that they have become comfortable asking for advice on careers, job applications, motherhood, and day care, and in choosing advisors, etc., from those of us who have been there. They also now know all of the other women students at the center, and many have formed strong friendships. I have benefited by having a pool of young women whose careers I am tracking. When I am asked to recommend someone for a position or an award, I have names in mind.

The advantage of the monthly lunch is that it is informal and lets relationships develop naturally. Each participant contributes as she can with none feeling obligated to establish more intense mentoring relationships. While I find the women's lunches or breakfasts held at the national meetings useful, I also observe that women segregate themselves into groups of people that they know. This results in only limited and superficial interaction occurring between senior and junior women. Therefore, I recommend meeting in small groups that don't require more than a single table. We often go to a Chinese restaurant that serves awful food but has wonderful big round tables, perfect for a group of 10.

This may be the easiest thing we can do to help with maintaining the pipeline: show those moving through it that we can have a successful career without sacrificing family and our lives outside physics. But we need to do it by telling them where we came from and how we managed to survive. We may be able to help individual students with finding appropriate job prospects or be able to advise them when they encounter difficult situations. Enabling them to see that prob-

We welcome all women students to attend, including undergraduates working at the lab as well as summer visiting students.

## **Special Events Focusing on Women in Physics**

#### APS Annual Meeting • New Orleans, Louisiana

#### Sunday, March 9, 2008

## 8:00 am-5:00 pm .......Professional Skills Development Workshop for Women Physicists (Marriott Hotel)

Workshop for developing communication, negotiation and leadership skills, for post docs and tenure-track/newly-tenured women physicists. Reception for participants to follow (participants must be pre-registered).

#### Tuesday, March 11, 2008

#### 7:30 am-9:30 am.......CSWP/FIAP Networking Breakfast (Marriott Hotel)

Enjoy a full breakfast and network with colleagues! Cost: \$15. \$5 for physics students, thanks to FIAP's generosity. All are welcome, both men and women, however pre-registration strongly advised as only limited walk-ins accepted. Register at http://www.aps.org/meetings/march/others/special/cswp\_fiap.cfm

#### 11:14 am-2:15 pm....... Invited Session: "Where is the Center of Mass for Family, Career & Self?"

Sponsored by the Committee on the Status of Women in Physics and the Forum on Graduate Student Affairs

#### 7:00 pm-8:30 pm .......COM/CSWP Dessert Reception (Marriott Hotel)

Learn about the work of the Committee on Minorities in Physics and the Committee on the Status of Women in Physics, network with colleagues, and unwind after a long day of sessions. All are welcome to join us.

#### Thursday, March 13, 2008

## 11:15 am–2:15 pm ......Invited Session: "International Gender Issues in Physics" (Convention Center)

Sponsored by the Committee on the Status of Women in Physics and the Forum on International Physics

#### APS Annual Meeting, St. Louis, Missouri

(all events will be held in the Hyatt Regency St. Louis Riverfront Hotel (formerly the Adams Mark Hotel)

#### Friday, April 11, 2008

#### 8:00 am-5:00 pm .......Professional Skills Development Workshop for Women Physicists

Workshop for developing communication, negotiation and leadership skills, for post docs and tenure-track/newly-tenured women physicists. Reception for participants to follow (participants must be pre-registered).

#### Sunday, April 13, 2008

#### 12:00-1:30 pm ......CSWP/DPF Networking Luncheon

Buffet luncheon, opportunity for networking with colleagues! Cost: \$20 (\$5 for students). All are welcome, both men and women, however pre-registration strongly advised as there will be only limited space for walk-ins. Register at http://www.aps.org/meetings/april/others/events/cswpdpf lunch.cfm

#### 7:30-9:00 pm ......COM/CSWP Dessert Reception

Learn about the work of the Committee on Minorities in Physics and the Committee on the Status of Women in Physics, network with colleagues, and unwind after a long day of sessions. All are welcome.

#### Monday, April 14, 2008

## 10:45 am-12:33 pm .....Invited Session: "Building a Successful Career: Perseverance, Funding & Climate"

Sponsored by the Committee on the Status of Women in Physics

## **Non-traditional Careers Beckon Physicists**

By Meghan Anzelc, Northwestern University

Lever since my first college physics course, I've been told that with a physics degree, you could go into any career you wanted. However, although the vast majority of students with physics degrees do not become faculty members, there is surprisingly little information for students on careers outside of academia. This is made more difficult because as students, our networks consist almost entirely of other graduate students, postdocs, and faculty in physics; most of us don't know people with physics degrees who have gone into a non-academic career.

During my terms as Member-at-Large and Chair-Elect of the APS Forum on Graduate Student Affairs (FGSA), I decided to find physicists in non-traditional careers and interview them about their career paths, both for my own career research and as a resource for other graduate students. So far, I've completed interviews with eight physicists, in a wide range of non-traditional careers. The following is a summary of the interviews; the full interviews can be found on the Forum on Graduate Student Affairs website http://www.aps.org/units/fgsa/careers/

- Stephanie Chasteen, who has a PhD in condensed matter physics, has an unconventional postdoc position – she is working for the San Francisco Exploratorium, designing hands-on activities and creating their SmallTalk podcast on nanotechnology.
- Nancy Forbes, with M.A.s in both physics and Spanish, works as an independent science policy consultant and writer. She started in a physics PhD program but left with a Master's, a not uncommon choice. She has done work for government agencies such as the EPA, DARPA, and DHS, as well as for the Association for Women in Science (AWIS).
- Gregory Jaczko, a physics PhD in theoretical particle physics, was awarded an AAAS science policy fellowship after graduate school. He is now serving as a Commissioner of the Nuclear

- Regulatory Commission, in charge of regulating all nuclear materials in the United States.
- John Krane, who has a PhD in particle physics, knew he didn't want to be a professor. After attending a seminar by a financial recruiter, Krane knew his path. He now works as a "quant" for a trading firm in Chicago.
- Sean Mattingly intended to stay in academia. He
  did his PhD and a postdoc in particle physics and
  applied for faculty jobs. But his path changed,
  and he now works for Bank of America and loves
  going to work everyday.
- André Moreau, with a PhD in physics, has a
  unique career straddling industry and academia,
  working as part scientist and part manager. His
  career advice includes advocating for a broad
  skill set, believing networking and speaking to be
  two great skills to have.
- Thomas Richards, with a particle physics PhD, started thinking about a career in industry when he was a graduate student. He thoroughly prepared for the career transition, taking a job with Caterpillar. He recently retired from his long and rewarding R&D career with Caterpillar.

All of these people have successfully transitioned from a student or postdoc in academia to a non-academic career. Each of them chose a different path, and all had their own ways of preparing for the career transition. All of them have encouraging words for students considering a career outside academia. And best of all, they all love what they do.

## Are you looking for a graduate school that is "female friendly"?

Check out the results of an informal survey and read what departments say about themselves at:

www.aps.org/programs/women/female-friendly/index.cfm

Faculty may have to teach more, but all faculty, male and female, may someday benefit from teaching relief for major life events.

#### Balancing Career and Family, continued from page 2

when teaching is an important mission of a college or university? The answer is that if one ceases to teach for a year, the quality of one's teaching afterwards is not harmed. The same cannot be said of research. If one ceases to do research for a year, one may never be able to reach the same level as before, especially in today's precarious funding climate.

The recommendation of up to one year of paid teaching relief is somewhat expensive to implement. Here, we sketch the costs and benefits for faculty as well as academic institutions.

Costs and Benefits for Faculty: Faculty may have to teach more, but all faculty, male and female, may someday benefit from teaching relief for major life events.

Costs and Benefits at Research Universities: The university should provide funds for temporary instructors or additional FTE's to cover the slightly increased teaching load. This makes financial sense because teaching relief could easily prevent the loss of a grant by someone undergoing a major life event. The loss of a grant not only deprives the university of overhead, but it also may lead to the need for bridge funding, leading to an outlay that would far exceed the cost of a temporary instructor or even a slight increase in the number of faculty. In addition, a generous policy in teaching relief enhances faculty loyalty, possibly

cutting down on retention costs, which are enormous. There are more intangible benefits: sufficient teaching relief would improve the quality of teaching, because most faculty members undergoing major life events do not teach as well as they usually do. It would also improve the quality of research by enabling faculty undergoing major life events to put their energy into maintaining their research programs. Finally, a generous, forward-looking policy would help to attract the best talent.

Costs and Benefits at Primarily Teaching Institutions: Insurance (similar to catastrophic health insurance) could be made available to faculty to cover teaching relief for major life events. It could be similar to legal insurance that is now offered by many institutions to protect against lawsuits brought by disgruntled students. Insurance for teaching relief should be subsidized by the institution; this investment is worthwhile because sufficient teaching relief would improve the quality of teaching and research.

Note: The conference "Gender Equity: Strengthening the Physics Enterprise in Universities and National Laboratories", held in May 2007 at the American Physical Society generated a number of recommendations. Details at http://www.aps.org/programs/women/workshops/gender-equity/index.cfm.

#### Female Physicists, continued from page 3

lems they may be facing are common to many women in physics and not just theirs alone can go a long way to helping them persevere towards their goals.

Finally, we need to encourage them to stretch when they are looking for jobs. Just like high school students choosing to apply to a combination of safe schools and stretch schools, our graduating PhDs should apply both for jobs they think they can get and try for a few that they think are beyond them. I've been told by several members of faculty search committees that they often receive applications from males who are underqualified for the job and that the average male graduate launches far more applications than the average female graduate.

While we continue to work for institutional changes that will expand the ranks of our women colleagues, it is important to do what we can for those coming behind us. Just getting to know each other will help a lot, and it is an easy thing to do.

For more information on mentoring women in science, see A Hand Up: Women Mentoring Women In Science, by Deborah C. Fort, Stephanie J. Bird, and Catherine Jay Didion., Washington, DC: Association for Women in Science, 1993. This includes interviews with women scientists and students, essays about mentoring, and covers guidelines, resources, and networks. Now out in a new edition, it can be obtained from AWIS http://www.awis.org/pubs/ahandup.html.

- [1] To subscribe to WIPHYS, send a blank message to join-wiphys@lists.apsmsgs.org or use the web form at http://lists.apsmsgs.org/read/all\_forums/subscribe?name=wiphys. To view archives of past mailings, please go to http://lists.apsmsgs.org/read/?forum=wiphys.
- [2] http://www.nih.gov/news/pr/oct2007/od-31.htm and EMBO Reports, November 1, at http://www.nature.com/embor.

## Vicky Kalogera Wins MGM Award for 2008

By Calla Cofield, APS Media Relations Intern

Vicky Kalogera is the 2008 recipient of the Maria Goeppert Mayer Award, given to a female physicist who has shown outstanding achievement in the early part of her career. The MGM Award will finance Kalogera to present her research at four universities in the US. Having already given presentations in Florida, California, and Canada in just the past four months, it's all in a day's work for this busy astrophysicist.

Looking at her list of activities, awards, and publications, it's amazing Kalogera even had time to stop and accept the award. She is currently a professor of physics and astrophysics at Northwestern University, where she has been since 2001. She is also an active member of the Scientific Collaboration for the highly anticipated Laser Interferometer Gravitational Wave Observatory (LIGO). Extremely active in the physics community, she is a member of the Executive Committees of the APS Division of Astrophysics and the APS Topical Group on Gravity. She is also on four other scientific committees, a volunteer outreach group, has worked on two conference organizations this year, and is a reviewer for a number of journals. She has contributed to over 100 publications since receiving her PhD. Plus, she gets it all done in time to get home to her husband and two-year-old son each night.

Vassiliki Kalogera, who goes by Vicky, grew up in Greece where still maintains her citizenship. She got her B.S. in physics at the University of Thessaloniki in Greece, then came to the US to attend graduate school. Her accent is distinct, but she speaks English clearly and fluently. "[In Greece] there is nothing like an organized graduate program on the scale that we have in the US," she says. "The opportunities for financial support while you are in a graduate program are minimal. In terms of the education style, I think it's a lot more structured and organized here in the US. In Greece you're left on your own devices a lot of the time. I think it sort of builds a lot of self motivation but at the same time does not offer any safety nets for those who might need a little more advising." Kalogera got her Ph.D. in Astronomy in 1997 from the University of Illinois at Urbana-Champaign. She worked as a Postdoctoral Fellow at the Harvard-Smithsonian Center for Astrophysics, and decided to pursue a career in the US. "I'm grateful for having been in the US," she says. "Just being here has offered me tons of opportunities for professional development that I would probably never have had back in Greece."

By the time Kalogera joined the faculty at Northwestern, she had already contributed to over twenty publications in her area of interest. "My research interests cover a wide range of problems related to the origin and evolution of compact objects in stellar systems found both in the Milky Way and other galaxies. I am most interested in the formation of compact objects in binary systems, where mostly unobservable neutron stars and black holes can be revived as unique sources of electromagnetic and gravitational radiation," ac-

cording to Kalogera's website. Her own research is heavily computational, and is mostly focused on indepth data analysis and on creating system models. "Our projects are motivated by observations; we are trying to understand observations through theoretical models," she says. Kalogera is closely involved with observation teams, particularly those using X-ray and radio waves to observe compact objects. She and her team assist observers in interpretation of observations and with planning future observations.

While her focus can be very specific, her work has yielded discoveries that have proved important for other areas of astronomical research, most notably gravitational waves. It wasn't until after her graduate work that Kalogera says she took a research interest in gravitation, but now she's giving about half her research time to LIGO. She says of her work there, "My interest there so far has been mostly in terms of making predictions for what the instruments should see based on our most current physical understanding, using astrophysical information for the development of optimal data analysis methods for searches and parameter estimation. It's a different kind of research for an astrophysicist, because in astrophysics we don't traditionally have such big collaborations."

Kalogera has recently submitted a paper for publication titled Gravitational-Wave Astronomy with Inspiral Signals of Spinning Compact-Object Binaries which exemplifies how she and her team are moving LIGO forward. In the paper they "specifically highlight the potential for measurements of masses, spins, source sky location and distance of such objects with just one or two gravitational-wave detectors."

When asked how she has managed to balance her work, career, and family, Kalogera laughs, "I have not!" She says it's a challenge for anyone in academia to balance everything. Her husband is also a physics and astronomy professor at Northwestern. "Having an equal partner in taking care of children is the number one priority. And I don't think I could be doing this without that equal partner," she says. One point Kalogera feels strongly about is the need for more universities to offer on-site daycare for parents to help with the long hours and days. Women pursuing careers in academia are more likely than men to be married to other academics, and it is these couples who need university support. "It's a financial burden if you want to find a really good daycare service for your child outside the university campus. "More and more [universities] have taken this step, but it's considered an exception and not the rule. And I think in that sense top universities are behind top private companies in providing this kind of service for their employees. Reliable day care at conferences is also glaringly absent from the organization of our research community; it is particularly needed for academic couples who may want to attend



Vassiliki Kalogera

Kalogera is closely involved with observation teams, particularly those using X-ray and radio waves to observe compact objects.

## Twenty-five Women Named to Fellowship in the APS

By Sue Otwell, APS Staff

Twenty-five women are among the 231 new Fellows of the American Physical Society. Each new fellow is elected after careful and competitive review and recommendation by a fellowship committee on the unit level, additional review by the APS Fellowship Committee and final approval by the full APS Council. Only 1/2 of 1% of the total APS membership is selected for Fellowship in the Society each year. A listing of all 2007 Fellows, as well as information on the Fellowship program and how to nominate an individual, may be found at www.aps.org/programs/honors/. A listing of all women Fellows of the APS can be found at www.aps.org/programs/honors/fellowships/women.cfm.

#### **Marina Artuso**

Syracuse University

For achievements in building RICH and silicon detectors for high energy experiments and for studies of heavy quark decays.

Division of Particles & Fields

#### **Amy Barger**

University of Wisconsin

For her pioneering observations and fundamental insights into the formation and evolution of galaxies and supermassive black holes.

Division of Astrophysics

#### Gail Brown

Wright Patterson Air Force Base

For contributions to the fundamental physics and development of "quantum confined" or "quantum well" semiconductor heterostructure materials for applications in high-performance infrared detectors

Forum on Industrial & Applied Physics

#### Haiyan Gao

Duke University

For her extensive contributions to understanding the quark/hadron transition region and for determinations of the nucleon electromagnetic form factors.

Division of Nuclear Physics

#### Gabriela Gonzalez

Louisiana State University

For her experimental contributions to the field of gravitational wave detection, her leadership in the analysis of LIGO data for gravitational wave signals, and for her skill in communicating the excitement of physics to students and the public.

Topical Group on Gravitation

#### **Marilyn Gunner**

City College of New York

For her work in both experimental and theoretical studies of electron and proton transfer processes in proteins, in particular for her beautiful work coupling the theory of electrostatic interactions to the dynamics of charge transfer in photosynthetic reaction centers, and in recognition of her service to the Division of Biological Physics.

Division of Biological Physics

#### Carol Hall

North Carolina State University

For creating a new paradigm to simulate protein aggregation through a combination of intermediateresolution molecular models and the discontinuous molecular dynamics method.

Division of Biological Physics

#### Paula Heron

University of Washington

For her leadership in the physics education research community and development and active dissemination of research-based curricula that significantly impact physics instruction throughout the world.

Forum on Education

#### Joanne Hewett

Stanford Linear Accelerator Center

For her contributions to our understanding of constraints on and searches for physics beyond the Standard Model, and service to the particle physics community leading studies of future experiments.

Division of Particles & Fields

#### **Denise Hinkel**

Lawrence Livermore National Laboratory

For extensive contributions to laser-plasma interaction physics and radiation hydrodynamic design of inertialconfinement fusion targets, and to the fundamental physics of linear and nonlinear wave propagation in plasma.

Division of Plasma Physics

#### Jennifer Lewis

University of Illinois

For seminal contributions to the fields of colloidal science and directed assembly of materials.

Division of Materials Physics

#### **Ellen Longmire**

University of Minnesota

For innovative experiments in turbulent and particleladen flows, and the development of new and improved flow diagnostic techniques.

Division of Fluid Dynamics

#### Sara Majetich

#### Carnegie Mellon University

For innovative research on magnetic nanoparticles and their interactions, the development of novel self-assembly techniques to prepare ordered nanoparticle assemblies, and the design of plasmonic magnetic nanoparticles for biomedicine.

Topical Group on Magnetism

#### Luz Martinez-Miranda

#### University of Maryland College Park

For sustained achievements in recruiting, mentoring, and advancing women and minorities in physics; for engaging K-16 students in the excitement of research; and for being a superb role model through her elegant research to understand liquid crystal systems and further their application.

Forum on Education

#### Anne McCoy

#### The Ohio State University

For contributions to the development of theoretical and computational insight into the spectroscopy and dynamics of molecules and molecular complexes that exhibit large amplitude motions.

Division of Chemical Physics

#### Anita Mehta

#### National Center for Basic Science, Calcutta

For being a pioneer in granular physics, and contributions to many and diverse areas in complex systems and nonlinear dynamics; for her efforts to help 'invisible scientists' in emergent countries become globally visible, with special reference to women in international science.

Forum on International Physics

#### Noemi Mirkin

#### University of Michigan

For her leadership in establishing productive international collaborations, her many achievements in biological molecular physics and for her long service to the international community as an officer and Executive Committee member of the Forum on International Physics

Forum on International Physics

#### Meenakshi Narain

Brown University

For important contributions to the measurement of the properties of the top quark.

Division of Particles & Fields

#### **Lucia Reining**

Ecole Polytechnique, Palaiseau, France

For her fundamental contributions to ab initio computation of spectroscopic properties of solids, employing many-electron Green's function and time-dependent density functional approaches

Division of Computational Physics

#### **Roseanne Sension**

#### University of Michigan

For pioneering work on dynamics in the condensed phase, steady state and ultrafast measurements of excited state dynamics, and optical control of chemical reaction dynamics.

Division of Laser Science

#### Nicola Spaldin

#### University of California

For her development and implementation of new computational and theoretical tools for computing the properties of complex solids and their application to the rational design and understanding of new multifunctional materials, and for her profound and diverse contributions to Physics education.

Division of Materials Physics

#### Svetlana Sukhishvili

#### Stevens Institute of Technology

For fundamental contributions to the science of polymer monolayers and multilayers adsorbed at water/solid interface, and for understanding the correlations of polymeric self-assembly in solutions and at surfaces. Division of Polymer Physics

#### Barbara Terhal

#### IBM TJ Watson Research Center

For her fundamental contributions to the theory of entanglement, quantum information theory, and quantum computational complexity.

Topical Group on Quantum Information

#### Sufi Zafar

#### IBM TJ Watson Research Center

For her contribution to the understanding of electrical degradation and charge transport mechanisms in high permittivity and SiO2 dielectric thin films, with a focus on advanced CMOS and memory device applications.

Forum on Industrial & Applied Physics

#### **Annette Zippelius**

#### Universitaet Goettingen

For her many deep, innovative and lasting contributions to statistical physics, especially in the areas of spin glasses, neural networks, vulcanized matter and granular media.

Group on Statistical and Nonlinear Physics

#### When Life Intervenes, continued from page 1

During their funding year, the recipients used their money for whatever would help most, for example, to hire a manager, data collector, graduate student, postdoc, or lab technician.

Handelsman (5), and they hired Jennifer Sheridan (6) as the Executive Director and Research Director, who later became a co-PI as well. The idea for the Life Cycle grant program came from Drs. Carnes and Handelsman, and Dr. Sheridan implemented the program, aided by two senior faculty members who served as a review committee for proposals at the beginning.

Part of the original WISELI grant proposal (7), the Life Cycle Research Grants (LCRG) program started in Fall 2002 with starter funds from the AD-VANCE grant and extender funds from the UW-Madison Graduate School to extend the grants to men and more awardees. In the first two years, five women and one man benefited. During their funding year, the recipients used their money for whatever would help most, for example, to hire a manager, data collector, graduate student, postdoc, or lab technician. The faculty were freed up to write papers, give talks and write grant proposals (that had the potential to bring back to the university ten times the LCRG investment).

Early recipients identified some key themes: the LCRG was the only grant of its kind on campus; came at a critical juncture in their personal and professional lives; provided psychological support; had an impact on others' lives as well; and was an investment in the grantees' futures and the University's. Some memorable phrases: "... validated personal lives ... recognized suffering can impact professional lives," "emotionally important ... justifying my request based on health-related issues," "It's not a huge amount of money ... but it really reverses the psychological effect of the life event."

In Spring 2005 the trustees of the William F. Vilas estate granted \$310,000 to WISELI's LCRG, and it became the Vilas Life Cycle Professorships (VLCP) program. The Vilas funds enabled the pilot LCRG program to expand beyond the biological and physical sciences, to faculty in all disciplines. The Vilas grant was renewed in 2006, and in 2007 the Trustees increased the allotment to \$372,000. From 2005 through 2007, 36 women and 10 men received grants.

In May 2006, the VLCP Program was selected as a recipient of the Alfred P. Sloan Award for Faculty Career Flexibility, funded by the American Council on Education (ACE) and the Sloan Foundation. The VLCP program was recognized for its "innovation in career flexibility for tenured and tenure-track faculty." The \$25,000 award was used in support of WISELI's administration of the program. As the award letter states:

"The Vilas Life Cycle Professorship Program exemplifies a true model of innovation in career flexibility for tenured and tenure-track faculty. This outstanding program provides financial support and personal attention to faculty who encounter critical junctures in their careers that affect both their research and personal lives. It demonstrates your university's commitment to changing the structure of the traditional academic career path in ways that both improve the lives of the faculty and contribute to the retention of valued faculty at the University of Wisconsin-Madison."

In the most recent (April 17, 2007) report (1, under reports), the evaluators concluded about the VLCP that it enables continued success, it decreases attrition in the faculty, its effects extend beyond the recipients, and it is an example of the university at its best.

Due to the success of this program and others, WISELI soon had impact on the campus beyond women in science and engineering, and now lives on beyond the original NSF ADVANCE grant. WISELI is embedded in the institution and is continuing its most successful programs at UW-Madison as well as developing new programs with a positive impact on the climate campus-wide. WISELI also disseminates its work to other campuses that are ready to transform their institutions for women in academic science and engineering.

Two other ADVANCE programs have similar grants: the University of Washington Transitional Support Program (8), and the University of Michigan Elizabeth C. Crosby Research Fund (9); there may be others.

Thank you to Dr. Sheridan for reading and augmenting this article. If you would like to learn more than is on the web sites, contact Bernice Durand bdurand@wisc.edu or Jennifer Sheridan sheridan@engr.wisc.edu.

- (1) http://wiseli.engr.wisc.edu/initiatives/lifecycle/LifeCycle-Grants.htm
- (2) http://www.nsf.gov/crssprgm/advance/itwebsites.jsp
- (3) http://wiseli.engr.wisc.edu/
- (4) http://wiseli.engr.wisc.edu/people/bios/carnes.html
- (5) http://wiseli.engr.wisc.edu/people/bios/handelsman.html
- (6) http://wiseli.engr.wisc.edu/people/bios/sheridan.html
- (7) http://wiseli.engr.wisc.edu/mission/grantapp.html
- (8) http://www.engr.washington.edu/advance/tsp.html
- (9) http://sitemaker.umich.edu/advance/grants

#### Have you moved? Changed jobs? Changed fields?

Take a moment to update your name/address/qualifications on the Roster of Women in Physics.

This database also serves as the Gazette mailing list. See pages 13-14.



#### CAREERS CORNER

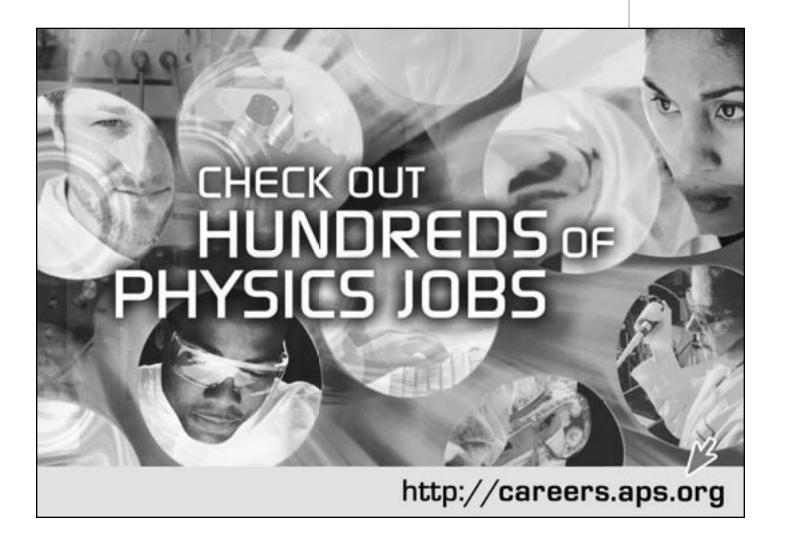
#### Q: What should I look for in a post-doctoral position?

Answer: The answer depends on your career goals. If you are focused on a research career, the most important consideration may be the quality of the work you could do — but also whether you will have sufficient opportunity to publish and present your work. Try to contact present or recent postdocs to learn where they have gone, the number or impact of publications they produced, and whether they received funded travel to conferences. Try also to discover how much freedom you would have to set your own research agenda or to develop collaborations; this varies widely. If you are interested in a faculty position, it could be very important to find a postdoc that gives you the opportunity to teach. This experience is essential for many positions particularly at undergraduate institutions. And teaching also has the advantage of making you more a part of the department, combating the isolation that postdocs often experience.

Employers vary widely in the employment benefits they provide postdocs, or even whether they provide any benefits at all. Some institutions provide the full range of benefits made available to other employees, such as health insurance and retirement benefits; or the retirement benefits may be optional or excluded. Maternity or parental leave policies are often nonexistent. The decision as to what benefits to provide may be made by the institution or by the person doing the hiring. At this point, there are no national guidelines on benefits for postdocs, so check carefully.

These responses were drawn by the APS Committee on Careers and Professional Development from a recent APS survey about postdoc best practices.

Do you have a career-related question? Send it to careers@aps.org.



#### ASK THE PHYSICS MENTOR

Bernice Durand, University of Wisconsin-Madison, is the Physics Mentor for this issue

I am a senior physicist, recently turned 50. Maybe that has made me too contemplative: I have no idea what I should do with my next 15 to 20 years! I have done well: I have a good grant, lead a research group, achieved tenure in five years, and was a full professor four years later. My husband is a scientist in another field, also doing very well; and we have one child in college and another about to finish high school. So why am I full of uncertainty?

I now realize how much the chair who hired me kept things moving for my promotions. He retired eight years ago, and my two chairs since then haven't paid any attention to my (well-regarded) research or (highly-rated) teaching. I see my male colleagues, and my husband in his department, being nominated for and receiving honors and invitations, and I've been left behind. I am active in my APS division and am appreciated there. I'm not even sure I care about my department any more. This makes me pretty sad.

Answer: You aren't alone; your questions are common among senior women scientists. How do I plan for and achieve what I want to accomplish for the next five, ten, or fifteen years? Do I want to keep building my research group or do more in education or administration? Do I want my service time to be spent locally or nationally? And why hasn't anybody recognized the good things I do?

You probably are a good mentor to students and junior colleagues in your department. Now it's your turn; our need for mentors never ends. Get together with other senior women scientists on campus. Meet over lunch to share stories. Be sure not to "whine" of blame anyone, and to honor any confidences. You will learn how some of them reached their decisions whether to concentrate on national service, take a lead in campus groups dedicated to teaching and learning, or stay in the lab, ever more driven by their science. Some will be just where you are, needing a sounding board for their long-range planning. Some of us just aren't horn-tooters for ourselves, so it's time to help each other out.

Start an email list of senior women. Get together to list all the honors, professorships, tenure and other key committees on campus, and work on getting each other nominated. If some have consistently gone to men only, point that out to the campus awards or nominating committees. If a nomination must come from within the department, ask a colleague (even nationally) to broach the subject with your chair. In your department, be sure there's a committee assigned to nominate colleagues for local and national honors, and volunteer to be on it. You may meet some kindred spirits.

Meantime, go for it in your APS division and see if this is really what works best for you. For ideas and reassurance, visit the same website featured in the guest editorial, http://wiseli.engr.wisc.edu/initiatives/seniorwomen/seniorwomen main.htm.

Do you have a question for the Physics Mentor? Send it to women@aps.org. A member of the Committee on the Status of Women in Physics will offer suggestions in the next issue of the Gazette. No name, institution or other identifying feature will be attached to your question.

# Katherine Weimer Award Recognizes Women in Plasma Physics By Catherine Fiore, MIT

The Division of Plasma Physics established the Katherine Weimer Award in 2002 to recognize and encourage outstanding achievement in plasma science research by a woman physicist in the early years of her career. The nominee's Ph.D. must have been received within the ten-year period prior to the nomination deadline, April 1, 2008. The nomination guidelines are similar to the standard APS guidelines. Complete details at http://www.apsdpp.org/weimer\_award.html.

The Katherine Weimer Award is presented once every three years to a woman of outstanding achievement for work done during the first ten years following receipt of her doctoral degree. The award honors the life and work of Dr. Katherine Weimer, a pioneering, research physicist at the Princeton Plasma Physics Laboratory (PPPL) at Princeton University who made many important contributions to research advancements in magnetohydrodynamic equilibrium and stability theory for magnetically confined plasmas.

Nominations for the 2008 award should be sent to the chair, Catherine Fiore fiore@psfc.mit.edu. Deadline for receipt of nominations is April 1, 2008.

## Thank you, Nina Byers!

By Bernice Durand, University of Wisconsin-Madison and Andrea Liu, University of Pennsylvania

Nina Byers (1), Professor Emerita at the University of California Los Angeles (UCLA), has given us all two gifts. The 1995 gift is the website she created and co-edited with UCLA Professor Steve Moszkowski (1), "Contributions of 20th Century Women to Physics" (2), featuring 85 women, from astronomy and a broad range of physics fields.

Forty of these women were selected for the 2006 gift, the book Nina Byers co-edited with Professor Gary Williams (1), also of UCLA, *Out of the Shadows: Contributions of Twentieth-Century Women to Physics* (3). The women in Out of the Shadows are written about by scientists with in-depth knowledge of the women's fields, and who, in many cases, are also very familiar with the women (some are their wives or mothers). The editors' selection of both subjects and authors is very impressive. The Cambridge University Press site (4) lists who is featured in the book and who wrote the profiles, and gives some brief reviews.

The format of the book is essays, with physics accomplishments first, followed by biography, then bibliography, similar to the website. As "life" and profession are inseparable, those two sections often overlap. The book has been reviewed positively in three previous physics publications during 2007 (5, 6, 7).

Out of the Shadows is aimed at a readership of scientists, so most chapters are written in somewhat technical language. This is necessary, because the primary aim of the book is to set the historical record straight by bringing to light the women's scientific achievements. Each chapter describes the specific contributions of the featured scientist in the context of the field at that time. In several cases, we were surprised to learn that a woman had originally discovered a piece of knowledge that has since entered the canon and is taught in standard courses. By highlighting these achievements, Byers and Williams have made a valuable and inspiring contribution to the history of women and history of science.

Once one appreciates how much the featured women contributed to physics, the discrimination they faced is thrown into even more glaring relief. All of the featured women overcame multiple barriers in order to pursue their science, and most of them never received due recognition for their contributions. Indeed, many of them never received any salary or held any official position. Their stories still resonate. We need the perspective gained from reading about, as reviewer (7) put it, the "suffocating discrimination" that accompanied the scientific contributions of these women. They are a part of our history that still echoes into the present, and thanks to *Out of the Shadows*, we won't forget them.

The scientific and the gender inequity aspects of the stories are both essential. This collection is a valuable historical reference book, that should be read and consulted by women physicists and astronomers, for both aspects, and as reviewer (6) wrote, as source of encouragement to female students interested in physics and astronomy as well as anyone teaching in those fields. There is a "wish list" from the other reviewers and from us. For example, one can hope there will one day be a sequel of stories of women physicists born after 1950, for reviewer (5); or an edition written for high-school level readers, featuring about twenty of the women, as reviewer (7) encourages the editors to consider publishing. Our wish is to read more about the remaining 45 on the website and others beyond those.

Consider Marietta Blau (1894-1970), a Viennese Jewish physicist who pioneered nuclear emulsion techniques and interpretation. Read about her, and you will understand why the co-authors of the essay on her, Leopold Halpern and Maurice M. Shapiro, write so compassionately that Marietta Blau's story requires insight into the times when her achievements were accomplished. Blau forewent a paid position to be near her ailing mother; she mentored and collaborated with a non-Jewish woman, who took over Blau's lab when Blau had to re-locate to Mexico (with help from Einstein), then to the U. S. Blau developed cataracts attributed to her work. Her physics merited two nominations for the Nobel Prize by Schrödinger and two offerings of the Leibnitz medal, which she could not travel to East Berlin to accept as she was working for the U. S. Atomic Energy Commission at the time.

Read about one and you'll want to read about all — both to learn about their physics and to renew your dedication to equal opportunity. We thank Nina and Steve for the website and Nina and Gary for the book!

- 1. To read about Professors Nina Byers, Steve Moszkowski, and Gary Williams, see http://personnel.physics.ucla.edu/directory/index.php.
- 2. To view the website, see http://cwp.library.ucla.edu/.
- 3. Out of the Shadows: Contributions of Twentieth-Century Women to Physics (Cambridge University Press, September 2006, 471 pages, illustrated, \$35.00, ISBN-13: 9780521821971).
- 4. Cambridge University Press, http://www.cambridge.org:80/ us/catalogue/catalogue.asp?isbn=9780521821971
- 5. Andrea K. Dobson (Whitman College) in Physics Today, June 2007, pp 65-66, see
- http://ptonline.aip.org/dbt/dbt.jsp?KEY=PHTOAD&Volume =60&Issue=6#MAJOR7
- 6. Marty Epstein (California State University, Los Angeles) in Newsletter of the Forum on Physics and Society, Vol. 36, No. 4, October 2007, see http://units.aps.org/units/fps/newsletters/2007/october/epstein.cfm
- 7. Eugenie V. Mielczarek (George Mason University) in History of Physics Newsletter, Volume X, No. 3, Fall 2007, pp 17-18, see http://units.aps.org/units/fhp/FHPnews/upload/fall07.pdf

All of the featured women overcame multiple barriers in order to pursue their science.

## **APS Offers Blewett Scholarship for Women Physicists**

The Blewett Scholarship has been established to enable women to return to physics research careers after having had to interrupt those careers for family reasons. The scholarship consists of an award of up to \$45,000. The applicant must currently be a legal resident or resident alien of the US or Canada. She must currently be in Canada or the US and must have an affiliation with a research-active educational institution or national lab. She must have completed work toward a PhD.

Applications are due by June 2, 2008. Selection will be made by a sub-committee of the APS Committee on the Status of Women in Physics. Announcement of the award is expected to be made by July 1, 2008.

Details and an on-line application form can be found at www.aps.org/programs/women/index.cfm (click on Scholarships). Contact: Sue Otwell in the APS office at blewett@aps.org for more information.

This unique award was established from a generous bequest from M. Hildred Blewett, a particle accelerator physicist who died in 2004. Hildred Blewett was passionate about physics and wanted to help women overcome obstacles by establishing the scholarship.

Past winners of the scholarship are Rebecca Forrest, University of Houston (2005), Elizabeth Freeland, School of the Art Institute of Chicago (2006), and Archana Dubey, University of Central Florida (2007).







Elizabeth Freeland



Archana Dubey

#### MGM Award for 2008, continued from page 7

the same conference. This may be a small fraction of scientists, but remember that women pursuing careers in academia are more likely than men to be married to other academics; lack of day care at conferences can indirectly bias against women scientists who may decide to avoid traveling, giving a talk, etc."

Kalogera emphasizes that she has had a very positive experience as a female astrophysicist, but she believes certain societal norms still put additional pressure on women trying to balance careers and family. "You're not being discriminated against to your face, but there are certain kinds of set-ups and how things work in our community that sometimes make it harder for women."

Kalogera believes that university support would also help more women get through graduate school and make it to the professor level. "I came from Greece where in the student population with physics we were more or less fifty-fifty...however, in retro-

spect if you looked at my professors, it was clear that there was one woman among a hundred professors. I'm still amazed now how at the time it did not strike me as unusual or weird or unbalanced. It was so engrained into your upbringing that professors are men that you don't even question it, even though you're a woman yourself," she says. "It's a very important issue in terms of having enough women as active professors, so students can look up to [them] and realize that of course they could be that person in their life....I think there is no doubt that there is an issue with losing women along the professional pipeline, usually after graduate school. So there is still work to be done and effort is needed in that direction."

Vicky Kalogera has also been the recipient of the David and Lucile Packard Foundation Fellowship in Science and Engineering, the Cottrell Scholar Award, the NSF CAREER Award in Astronomy, and the AAS-AAUW A.J. Cannon Award, among others.

## **The American Physical Society 2007-2008 Travel Grants for Women Speakers Program**

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

Grant The program will reimburse U.S. colleges and universities for up to \$500 for travel expenses for one of two women colloquium/seminar speakers invited during the 2007–2008 academic year.

#### **Oualifications**

All physics and/or science departments in the United States are encouraged to apply. Canadian and Mexican colleges and universities are also eligible, provided that the speakers they invite are currently employed by U.S. institutions. Invited women speakers should be physicists or in a closely related field, such as astronomy. Speakers should be currently in the U.S. The APS maintains the Women Speakers List which is available online at www.aps.org/programs/women/speakers/enroll.cfm. However, selection of the speaker need not be limited to this list. Neither of the two speakers may be a faculty member of the host institution.

#### Guidelines

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

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

#### See following page for application form.

## **Women Speakers List**

Need a speaker? Consider consulting the American Physical Society Women Speakers List (WSL), an online list of over 300 women physicists who are willing to give colloquium or seminar talks to various audiences. This list serves as a wonderful resource for colleges, universities, and general audiences. It has been especially useful for Colloquium chairs and for those taking advantage of the Travel Grant Program for Women Speakers. To make the WSL easy to use, we have made the online version searchable by state, field of physics, or speakers' last names.



If you'd like to search the list to find a woman speaker, go to: www.aps.org/programs/women/speakers/index.cfm.

Women physicists who would like to be listed on the Women Speakers List or those who would like to modify their existing entries can do so at: www.aps.org/programs/women/speakers/enroll.cfm or see page 15.

APS has a companion program for minority speakers. Information on the Minority Speakers List and the Travel Grant Program for Minority Speakers can be found at: www.aps.org/programs/minorities/speakers/index.cfm.

## 2007-2008 TRAVEL GRANTS FOR WOMEN SPEAKERS

### ◆ APPLICATION FORM ◆

This form is also available on the Internet at www.aps.org/programs/women/speakers/travel-grants-app.cfm

This form must be filled out and approval received from the APS in order to be eligible for up to \$500 travel reimbursement.

Please note that submitting this application form does not guarantee reimbursement.

You will be notified within two weeks of receipt of this application whether or not it has been approved.

DATE:		
INSTITUTION:		
DEPARTMENT:		
ADDRESS:		
CITY:	STATE:	ZIP:
APPLICATION PREPARED BY (Required):		
NAME:	TITLE:	
PHONE:	FAX:	
EMAIL:		
rlease list information on the speakers below (	and indicate if speakers' dates or talk titles are to	entative.
DATE OF COLLOQUIUM:		
CITY:	STATE:	ZIP:
PHONE:	FAX:	
EMAIL:		
DATE OF COLLOQUIUM:		
SPEAKER'S NAME:		
HOME INSTITUTION:		
HOME DEPARTMENT:		
ADDRESS:		
CITY:		ZIP:
PHONE:	FAX:	
EMAIL:		

Please return this form to: Pahola Elder, Travel Grants for Women Speakers Program

The American Physical Society

One Physics Ellipse

College Park, MD 20740-3844

Tel: (301)209-3232 • Fax: (301)209-0865 • Email: travelgrant@aps.org

## Roster of Women and Minorities in Physics Enrollment Form

The Roster is the basis for statistical reports on women and minority physicists; mailing lists corresponding to announcements, publications of the APS Committee on the Status of Women in Physics (CSWP); and confidential searches. The Roster will not be made available to commercial or political organizations as a mailing list, and all information provided will be kept strictly confidential. Although the Roster is employed to serve women and minority physicists, enrollment is open to anyone interested in issues affecting these groups. Please give a copy of this form to others who might be interested in joining the Roster, or in receiving the newsletter.

Please complete all entries on BOTH SIDES OF THE FORM and indicate changes if this is an update of a previous entry. After completing this form, please return to:											is															
The Roster of Women and Minorities in Physics ♦ American Physical Society ♦ One Physics Ellipse ♦ College Park, MD 20740-3844																										
Please indicate whether you are interested in receiving:  ☐ The Gazette, CSWP (women's) newsletter  Is this a modification of an existing entry?											try?															
☐ Employment Announcements (women and/or minorities								s only	·)						□	yes		no		not s	sure					
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Other																										
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<b>Current Employment Information</b>	(28 Characters per line)									
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Department/Division:										
Position/Title:										
Professional Activity Information										
CURRENT WORK STATUS (Check One)	TYPE OF WORK ACTIV	ITY Current	FIELD OI Highest	F PHYSICS						
1 Faculty, Non-Tenured 2 Faculty, Tenured 3 Inactive/Unemployed 4 Long-term/Permanent Employee 5 Post Doc./Research Assoc. 6 Retired 7 Self-Employed 8 Student Full Time 9 Student Part Time 10 Teaching/Precollege 11 Other (please explain)  TYPE OF WORKPLACE FOR CURRENT OR LAST WORK  1 College - 2 year 2 College - 4 year 3 Consultant 4 Government 5 Industry	Please check up to four of the a in which you engage most frequent of the animal of th	1	5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	Accelerator Physics Acoustics Astronomy & Astrophysics Atomic & Molecular Physics Biophysics Chemical Physics Computational Physics Computer Science Condensed Matter Physics Education Electromagnetism Electronics Elementary Particles & Fields General Physics Geology Geophysics High Polymer Physics Low Temperature Physics Materials Science Mathematical Mechanics						
6 National Lab 7 Non-Profit Institution 8 Secondary School 9 University 10 NA 11 Other (Please explain)  APS Membership Information	1 Theoretical 2 Experimental 3 Both 4 Other (please explain	22 23 24 25	22 23 24 25 26 27 28 29 30 31 32	Medical Physics Non-Physics Nuclear Physics Optics Physics of Fluids Plasma Physics Quantum Electronics Solid State Physics Space Physics Superconductivity Surface Science Thermal Physics Other (please specify)						
Are you an APS member?:		Office Use Only								
☐ No Check here if you wish to receive a		Date of entry:								
☐ Yes Please provide your APS membersh from the top left of an APS mailing —		Roster #:								

Thank you for your participation. The information you have provided will be kept strictly confidential and will be made available only to CSWP and COM members and APS staff liaisons. Please return this form to the address on the reverse side.

## Women Speakers List (WSL) Enrollment/Modification Form 2007–2008

Additions/Modifications may also be made on the Internet at www.aps.org/programs/women/speakers/enroll.cfm

An online copy of the WSL is also available.

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

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<b>□</b> Middle school	☐ High school	□ General Aud	liences (	<b>J</b> Colloquium	

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1.	□ Add this title	□ Delete this title	☐ Accelerators ☐ Astrophysics ☐ Atomic/Molecular ☐ Biological/Medical ☐ Chemical ☐ Computational ☐ Condensed Matter ☐ Diversity	☐ Education ☐ Fluid Dynamics ☐ General ☐ Geophysics/ Environmental/Energy ☐ History ☐ Interface/Device ☐ Materials	<ul> <li>Nuclear</li> <li>Optics/Optical</li> <li>Particle</li> <li>Physics &amp; Society</li> <li>Plasma</li> <li>Polymer</li> <li>Statisical/Nonlinear</li> <li>Other</li> </ul>				
2.	□ Add this title	□ Delete this title	☐ Accelerators ☐ Astrophysics ☐ Atomic/Molecular ☐ Biological/Medical ☐ Chemical ☐ Computational ☐ Condensed Matter ☐ Diversity	☐ Education ☐ Fluid Dynamics ☐ General ☐ Geophysics/ Environmental/Energy ☐ History ☐ Interface/Device ☐ Materials	□ Nuclear □ Optics/Optical □ Particle □ Physics & Society □ Plasma □ Polymer □ Statisical/Nonlinear □ Other				
3.	□ Add this title	□ Delete this title	☐ Accelerators ☐ Astrophysics ☐ Atomic/Molecular ☐ Biological/Medical ☐ Chemical ☐ Computational ☐ Condensed Matter ☐ Diversity	☐ Education ☐ Fluid Dynamics ☐ General ☐ Geophysics/ Environmental/Energy ☐ History ☐ Interface/Device ☐ Materials	<ul> <li>Nuclear</li> <li>Optics/Optical</li> <li>Particle</li> <li>Physics &amp; Society</li> <li>Plasma</li> <li>Polymer</li> <li>Statisical/Nonlinear</li> <li>Other</li> </ul>				
4.	□ Add this title	□ Delete this title	☐ Accelerators ☐ Astrophysics ☐ Atomic/Molecular ☐ Biological/Medical ☐ Chemical ☐ Computational ☐ Condensed Matter ☐ Diversity	☐ Education ☐ Fluid Dynamics ☐ General ☐ Geophysics/ Environmental/Energy ☐ History ☐ Interface/Device ☐ Materials	<ul> <li>Nuclear</li> <li>Optics/Optical</li> <li>Particle</li> <li>Physics &amp; Society</li> <li>Plasma</li> <li>Polymer</li> <li>Statisical/Nonlinear</li> <li>Other</li> </ul>				



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