

## FORUM AFFAIRS

### **Introduction of Fps 2001 Awardees: the Joseph Burton Forum Award, the Szilard Lectureship Award and the FPS Fellowships.**

I am Aviva Brecher, outgoing Chair of the FPS, the FPS unit that for 30 years has brought to the fore at annual meetings, and in our Physics and Society newsletter, the major societal impacts of Physics and physicists. Chairing the annual Forum on Physics and Society Prize session is both a privilege and the reward of the outgoing FPS Chair. After we welcome, introduce and hear from our awardees, I will be giving the Chair's address, a very short goodbye. Before I recognize the awardees, I want to acknowledge extraordinary service from the FPS Fellowship Comm. Chair, Laurie Fathe and from Anthony Nero, the FPS member of the APS awards comm., as well as the Burton and Szilard selection comm. Members, all of whom are former FPS leaders, such as David Hafemeister, Philip Goldstone and Beverly Karplus Hartline. Our warm thanks to you all!

First I call on this year's APS Fellow nominated by FPS, Professor Priscilla Stanton Auchincloss. She is currently Dean at the University of Rochester and Director of its program for Women in Science and Engineering (WISE), and a former Forum officer. Her Fellowship certificate citation reads:

"In recognition of her exemplary record of service to the APS and for her ongoing effective work to improve the climate for women physicists and to ensure gender equity".

Congratulations, Priscilla!

Next I want to introduce the 3 Burton Forum Awardees, George Lewis, David Wright and Lisbeth Gronlund, who are sharing the 2001 prize for their "creative and sustained leadership in building an international arms control physics community and for their own excellence in arms control physics". Their recent work was also prominently featured in the Dec 2000 Physics and Society issue, where they co-authored a well referenced and illustrated article entitled "The Continuing Debate on National Missile Defense"

They will each speak about 15 min as listed in the program, and each will have a 5 min Q&A, reserving general floor discussion to the end. (see full bios on the APS awards website)

1. Prof George Lewis, Assoc Dir of the MIT Securities Studies Program (read bio and talk title "The Patriot Experience in the Gulf War") ...
2. Drs. David Wright will speak on "The North Korean Missile program" and
3. Lisbeth Gronlund whose paper is entitled "What would an adequate NMD test program look like?"

The latter two speakers are senior staff scientists at the Union of Concerned Scientists in Cambridge, MA and also research fellows at the MIT/SSP.

4. The Leo Szilard lectureship award this year recognizes Prof. John Harte of UC Berkeley, where he is distinguished professor of Energy and Resources. His citation is "for his diverse and incisive efforts utilizing physical reasoning and analytical tools for understanding environmental processes and for his teaching and writing to encourage this approach among students and colleagues". His talk is entitled "A look at life from both sides: Newtonian and Darwinian perspectives on global change".

### **Forum on Physics and Society (FPS) Outgoing Chair's Report (2000-2001)**

*Aviva Brecher*

This has been a very active and eventful year for me and the FPS, a year of change and growth.

By way of intro, my recent term as Chair elect and Chair was like coming home.; I first joined the FPS ExCom (and moved up to Program Chair) after my 1983-84 year as an APS Congressional Science Fellow, when I wanted to bring the skills and insights gained on the Hill to serve the FPS activist ideal and agenda... After a hiatus of 15 years, during which I served on various other professional societies committees (like AAAS COSEPP for 6 years, on POPA

for a productive term that resulted in an energy paper and statements on EMF and helium) and on some Fellowship selection comm's, I decided to return. Not surprisingly, I found the same old timers, a hardened bunch of idealists and activists still running the FPS because they care!

My chair-line term was compressed from a 3 years gradual crescendo to 2 years and became "a trial by fire" when Priscilla Auchincloss stepped down in mid-term as Chair elect and I had to take over the Program Chair last year and the Chair this year, ably assisted by a dedicated group of idealists who serve on the FPS ExCom (which stands for Executive Committee, not excommunicated physicists!). The ExCom works cooperatively and builds consensus: we communicate and consult via frequent e-mails on policy issues and session topics, speakers, etc quite often, openly, contentiously and productively...(but don't get caught in the crossfire, though ExCom is a democracy!)

Here's a brief report on some of FPS key accomplishments since last April:

1. **FPS website now hosted by the APS server:** We adopted the home page "look and feel" of the APS and transferred our website to the APS host computer, with hard work by Marc Sher, our webmaster and Joan Fincham, APS webmaster. All files, including P&S archives were transferred from Marc Sher's Williams and Mary University host. This gives us **greater visibility**, a **simpler URL** ([aps.org/fps](http://aps.org/fps)) and by mainstreaming we are taking advantage of APS services, more easily hot-linked and integrated with other APS websites. The transformation also **improved FPS transparency**: all our officers, their bios, even some photos, their roles and responsibilities are now posted on the web, along with the Forum history, recruitment posters, a questionnaire for members; our Bylaws, meeting programs, speakers presentations and P&S issues are all very attractively and clearly organized, presented and accessible.
2. **FPS budget status and Web publication of the Physics and Society (P&S) newsletter:** Because the FPS was in the red last April, we could no longer afford to print and mail 4 issues of P&S to about 4700 members and libraries. Therefore we decided and implemented 2 web-only P&S issues (spring and fall), preserving mailed paper copies for the January Ballot issue (as APS ByLaws requires) and for July. In addition, we introduced more topical variety, publishing 2 Science Fiction in Oct 00 and one this April, (as well as a resource bibliography of teachers of science concepts via SciFi). We publicize each issue with an e-mail listing the TOC, and structured the web posted issues so that either the full issue or only selected entries are easily printable in Adobe. However, we count the number of "hits" and noticed that relatively few readers take the time to access (and presumably print and read) the web issues. Of course, we don't know how many do read the hard copy P&S issues, or just pile them in the corner or carry them around, but we are worried about the small readership. We try to get interesting themes and contributions, so tell us what and why you read or don't read... As a real breakthrough, I tried to convince Martin Blume, the Chief Editor of APS publications on the web, to include all Units newsletters, including P&S, among the posted and linked Society's publication, a further step towards mainstreaming and integration of Forum activities...
3. **Membership and Budget:** The Forum currently has about 4500 members, about 11% of the 41,570 APS membership, which is a lower share than in '97. However, FPS is the second largest Forum of 5 after FIAP (5800 or 12.7%). We have lost members in absolute number (from 4750 in 97 to 4500 in 01) and we must grow, since our funding share is proportional. To increase membership. for the past 2 years I have strategically placed "Join the FPS" leaflets near our sessions and in the registration area, but saw little progress. To attract more student members, the FPS has sponsored this year 2 "Students Lunch with Experts" tables at both the March and the April meeting, to afford interested students personal contact with speakers featured in FPS sessions. While we were in the red last year, under Mike Sobel's able budget management, we are now in the black and have some margin to fund new initiatives like the student lunches and perhaps renew the Forum Technical Studies. However, the margin is slim and precarious and the only viable long-term solution is to increase membership, while controlling expenses.
4. **E-mail Messages to promote FPS Web access:** Of our members, 94% are known to be reachable by e-mail; therefore, I have used APS e-mail member services more frequently and to good effect this year, in order to announce meeting highlights, to call for volunteers to serve as officers, to remind members to vote on time, publicize elections results, etc.

5. **Topical, Timely and Interesting FPS invited sessions:** These remain the key to attracting more members, as well as arousing their interest and participation. The core of our mission is to communicate, educate the community and explore policy and funding issues, as well as timely physics and society issues ranging from arms control (like this session's NMD and national security sessions we sponsored) to environment and energy policy (like Transportation, Energy, Environment last year and the Climate Change session this year). In the past 2 years we have diversified the range of traditional Forum topics to include also: effective communication with the Congress (co-sponsored with FED and to be repeated), science and anti-science or voodoo science, physics and the law, a session on hot local Physics topics, like this year's Seattle in Physics and Physics in Seattle; and a series on Successful Physicists Writers (I organized 2 so far) to encourage physicists to write and communicate both the beauty and excitement of science, as well as remold the public mad scientist image...
6. **FPS Leadership:** The FPS needs broader-based membership involvement and I invite you to get involved. Each year we scout for willing members to serve on a Nominating Committee, which must come up on a very tight timetable with a slate of interested candidates for FPS Executive Committee or Chair-line positions. We also must appoint a Fellowship Committee (headed by the Vice-Chair), a Program Comm. (chaired by the Chair Elect) and an Awards Committee, and the P&S Editorial Board members who rotate off. Finding candidates was usually a small circle of social activists and friends, perhaps a "buddy" system or "old boys network", but in effect there were and are few willing, dedicated enough or with the time to serve on FPS committees.

This year I am proud of the fact that- as an exercise in democracy- I issued an e-mail calling for volunteers interested in serving on FPS Bylaws Committees and got a gratifying response. In addition, from respondents to the FPS questionnaire on the web, designed to gauge the range of members' interests, yielded more names of interested volunteers. This pool of past and future candidates that will make the task of Nom Com and easier and provide us with a core of people interested in making the FPS more representative and serving broader based membership interests.

*Please get involved! Volunteer to serve, or to organize and chair a topical session. Write to the FPS officers whose e-mail is posted on the web and let us know what we are doing well, not so well, or should be doing more of in the future. Please join the Forum and let others know about it at your university, lab or company. We need a more representative set of officers, from government, academia, industries and the Congress. For the first time two currently serving APS Congressional Science fellows were elected and will serve on the ExCom, promising to bring a breath of fresh air to our program offerings and activities. The old guard is changing, retiring, or just served long and hard enough- we thank them and invite the younger generation to take over the helm. Dear FPS colleagues, thank you for the opportunity to serve with you and learn from you, it is time to let the incoming Chair, Philip Bo Hammer take over the helm (it's a hot seat, Bo!)*

#### **Comments from the New Chair**

*Bo Hammer*

The Forum on Physics and Society has begun to redefine itself due to an interesting interplay among the Forum's long-active leadership, its new generation of leaders, its traditional issues, and the myriad forces at play in the physics community. Two of these forces are worth noting: bachelors degree production in the US is below pre-Sputnik levels and there is a new APS Forum on the books – The Forum on Graduate Student Affairs (FGSA). I have been reflecting on these issues, particularly as they relate to the long-term health of physics, as well as to the future of FPS and our ability to continue impacting public policy debates.

The mission of FPS is to explore the intersection of physics and major physics-based societal issues, and to take action where appropriate through symposia, this newsletter, studies, and by educating and encouraging our membership about their role in society. Traditionally, FPS has focussed on arms control and energy because of the ongoing importance of these issues and because these are areas where our membership has had aggregate expertise and interest. These issues remain important and timely, particularly as the Bush administration begins its initiative for a layered national missile defense coupled to strategic arms reductions, and as the administration develops its energy policy. These issues are steeped in physics and FPS is well-positioned to have an impact on the scientific aspects of the policy debate. Yet, as the APS membership ages and as younger physicists seek new outlets for their

concerns, FPS must explore whether its traditional agenda resonates with younger physicists. Are there other physics-and-society issues which the FPS should be pursuing so that the Forum remains both populated and relevant? Recognizing that FGSA will be, to a large extent, a pass-through organization, FPS has an opportunity to reach out to early-career physicists by addressing the connections between many of their professional concerns, the evolving role of physics in society, and the overall health of our field.

To understand how FPS can reach out effectively to younger APS members, we should start by recognizing that the basic social unit of the physics community is the physics department, and that in many ways the future of physics depends on actions taken at the departmental level. Furthermore, I suggest that we adhere to and promote the fundamental notion that society benefits from physics and physicists. Therefore, I propose that the Forum on Physics and Society expand its thinking about physics and society to include the following two inter-connected perspectives:

Physics and Society - The External Perspective, or how physics departments prepare physicists to have an impact in society. The education and professionalization of future physicists -- *regardless of degree level* -- are important to society in both quantitative terms (society needs more physicists) and qualitative terms (society would benefit from improvements in the education and professionalization). Currently, physics education largely ignores the intersection between physics and policy. Physicists generally are not exposed to techniques for applying their quantitative and problem-solving skills to policy issues such as risk, national defense, energy, and transportation. Plus, our educational culture typically does not expose students to important concerns such as professional ethics and integrity, social responsibility, and the role played by taxpayers in our fundamental professional well-being.

If we agree that these issues are critical, then FPS should encourage appropriate programmatic reforms at the departmental level. But that's not all. FPS should embrace these ideas and encourage graduate students and early-career physicists to take leadership roles in defining the Forum's agenda so that physics education becomes more student-centered and society-focussed. These are the sorts of pan-issue, nuts-and-bolts kinds of physics-and-society ideas that younger physicists might embrace as they prepare to enter the profession and before they have defined which specific issues light their fire.

Physics and Society - The Internal Perspective, or a look at our professional society and physics departments, and their relationship to students. The basic state of, and departmental culture surrounding, graduate student education is obviously a concern to grad students and others. Hence the emergence of FGSA. And FGSA is not simply a result of grad student self-interest. Our whole enterprise will suffer if future generations are disgruntled. Indeed, declining degree production indicates that students are voting with their feet. It would seem that physics ain't where it's at anymore. Why? Where's the disconnect? The physics profession has some very serious problems as indicated by our precipitous loss of market share on campus and our continuing inability to attract under-represented groups in a significant way. Perhaps these demographics reflect a perspective that physics is no longer relevant for meeting the career goals of students; or that physics is not doing enough to address the workforce and technical needs of industry; or that physics is no longer a player on the global policy front.

In understanding and addressing these suppositions and the overall health of our field, we may want to examine them and take action *from the grad students' perspective*. Doing so would extend discussions related to the relevance of physics to a dialogue on the education and treatment of grad students. As above, I suggest that the Forum actively engage these concerns and do so in a grad student-centered way. We should give grad students and early-career physicists the authority to take the lead on defining the issues and setting the agenda, and we should cultivate them as our future leaders. In many ways, the health of physics is as much in the hands of the next generation of physicists as it is in those of department chairs.

APS, physics departments, and FPS should candidly address their connections to undergraduate physics majors, to graduate students, and to early-career physicists, as well as to those who employ physicists or require the benefits of physicists' expertise. If the Forum does so, then our ability to impact positively major societal issues will improve, as will the health of physics overall.

The above perspectives provide an approach that FPS should consider taking. Externally, we should contribute to

improvements in the way physicists are trained, so that they can enter the professional world poised to succeed, regardless of career choice; and so that physicists are well-prepared to have a positive impact on whatever societal issues they may choose to tackle. Internally, FPS and the physics community should confront our declining market share and make changes that revitalize the profession and bring students back into the field. Physics departments are the key to reform, but the Forum can play a complementary role by involving graduate students and early-career physicists in setting the FPS agenda, organizing symposia, and by cultivating them as leaders.

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