

Letters

Fusion classification

What many of my colleagues do not know is that the DOE or its predecessor organizations, the ERDA and AEC, have tried to suppress not only work done under their sponsorship and funded by them but also peaceful ICF work by unfunded outsiders like me who have never been exposed to any "secrets" the government claims to protect. For example, when I submitted some time ago a paper on controlled fusion research to a scientific journal in England, the DOE in cooperation with the British government stopped publication of my paper after being tipped off by someone. In another case several years back, the AEC even went so far as to solicit the cooperation of a Soviet official in Austria who is one of the editors of a journal published by the International Atomic Energy Agency in Vienna. In suppressing the scientific work of unfounded outsiders like me, the DOE has excavated a legal dinosaur called the Atomic Energy Act of 1954. This act in effect tells every citizen that whatever he may invent in the area of nuclear energy is classified at the moment of its inception and can only be made public after and if it has been declassified by the DOE. Apart from the fact that such a law clearly violates rights under the first amendment it is also completely out of step with the realities of 1980. These realities are that since the inception of the act in 1954 five countries have successfully developed and tested hydrogen bombs. In view of this fact it is not clear what kind of secret, if any, the government pretends to protect. The arrogant claim by the DOE that it or its large government funded laboratories are the only places having the right to know about these concepts and are the sole source for them not only is intellectually dishonest but also an insult to the intelligence of other scientists. The reason why every country is not in the possession of thermonuclear weapons has nothing to do with secrecy but is a consequence of the extremely complex and expensive manufacturing process associated with the production of nuclear explosives and which enables only highly industrialized countries to pro-

duce these weapons. It is a delusion to believe that nuclear arms proliferation can be stopped by declaring something secret that has long ago ceased to be a secret. The present DOE policy is in fact not only self-defeating but rather against than in the national interest. Controlled fusion research done in secrecy is removed from the scrutiny of the scientific community at large. If secrecy persists, errors will be made that will cost the taxpayer many million dollars. Ironically, by imposing secrecy on controlled thermonuclear research for peaceful power production, the government just may precipitate a thermonuclear energy war its secrecy policy wants to avoid. The third world wants nuclear energy for its people, and views all attempts by our government to sell them the uneconomical solar energy option as a new form of colonialism. Fusion is the great hope also for them.

F. WINTERBERG
Desert Research Institute
University of Nevada System
Reno, Nevada

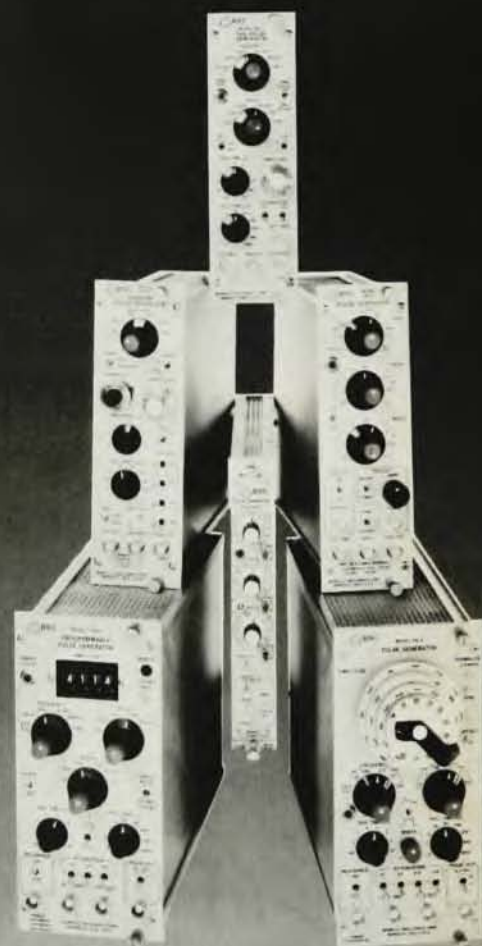
10/14/80

Women in physics

It is immoral for anyone to allow an individual's sex to influence the granting of a research fellowship or admission to an educational program. It should be illegal for the government to do so. I therefore find your support of Senate Bill 568 reprehensible. [According to your September editorial (page 144) S. 568 "allows NSF to fund ... programs" for individuals of one particular sex.]

Your statement that people of the same sex are "required as both examples and mentors to foster the careers" of some people is an insult to these people and the entire profession. "Examples and mentors" should exhibit the characteristics of good physicists. The particular individual's sex is not one of those characteristics. If someone thinks otherwise, the proper course of action is to explain their error. To initiate sexually biased or restrictive programs is to compound the error.

THE BNC PULSER FAMILY



NEW CATALOG AVAILABLE

Berkeley Nucleonics has a pulse generator for almost every job. Our pulsers cover a range from economical, general purpose models to programmable, precision ones. The pulsers are versatile and are used in many areas including design, performance testing, and calibration. Get our NEW SHORT FORM CATALOG and meet our family. Phone (415) 527-1121 or write to:



Berkeley Nucleonics Corp.
1198 Tenth St.
Berkeley, Ca. 94710

Circle No. 9 on Reader Service Card



WIDEST full scale sensitivity, 100nV-3V with TOTAL control of dynamic reserve and output stability.



SIMULTANEOUS in-phase (I), quadrature (Q), and vector magnitude outputs with selectable front panel display.



OPTIMUM frequency range and mode selection, with built-in calibrator and oscillator.



DYNATRAC®... means lock-in detection independent of signal waveform and type of interference. NO options required for precise vector operation.



Full zero suppress of ANY signal component.

DYNATRAC® 393 LOCK-IN. All the features you need at no extra cost.

The Ithaco 393 lock-in amplifier has built-in features available elsewhere only as options. WHY? Because time after time, in application after application, researchers have told us what they need in standard lock-in capability.

In applications from optical and materials research to solid state physics, chemistry, and laser fusion, the 393 offers more user capability than any other lock-in amplifier.

See it. Try it. For more information, an in-depth discussion of your application, or demonstration in your lab, call toll-free 1-800-847-2080 or 607-272-7640 or use the reader service number. ITHACO, Inc., 735 W. Clinton St., Ithaca, NY 14850.

ITHACO

APS Show — Booth #29

Circle No. 10 on Reader Service Card

letters

I encourage every physicist to deal with others in terms of professional qualifications and potential, independent of the sex of the individual.

ROBERT H. HARTFORD
Shippensburg State College
Shippensburg, Pennsylvania
9/26/80

I agree with the September editorial that opportunities need to be opened up for mid-career female physicists to provide role models for younger women and to compensate for the effects of past discrimination. However Senator Kennedy's Bill 5.568 is not designed to aid mid-career female scientists. The Kennedy Bill provides fellowships to women during the five-year interval after the PhD. This is hardly mid-career!

The following data are taken from the 1979 Survey by the National Research Council. Among scientists who received doctorates in 1975-78, the percentage of women who are assistant professors is about the same as the percentage of men at this rank. Thus the Kennedy Bill would provide funds for precisely the career stage at which women scientists do not need special help. The inequities occur after the first five years: among scientists who received PhD's in 1960-74, 73% of the men and only 46% of the women have reached tenured ranks.

Therefore, as a female physicist, I oppose the Kennedy Bill as a waste of my tax dollar, since this bill provides no funds for mid-career female scientists, the women most in need of assistance. I urge members of the physics community to communicate to Senator Kennedy the desirability of providing funds to mid-career female scientists rather than to young PhD's.

MICHELE KAUFMAN
Ohio State University
Columbus, Ohio
9/26/80

In response to your September editorial, I'd like to give further perspective to the problem of female survival in the physics domain.

The year I began as a physics major at the University of Maryland, College Park, there were four of us women in the introductory courses. By the time of my 1977 graduation, only one remained (not myself). Inadequate preparation, differing psychological perspectives and changing goals, not to mention poor response to the rigors of the program and deficient support systems, took their toll, forcing two of us into the liberal-arts realm, and myself into physics education.

Efforts of Congress to provide funding for women physicists is admirable,

and will, I hope, increase female productivity, visibility and self-esteem. But it is an approach that only works from the top of the academic ladder down.

If used concurrently, a "bottom-up" approach could do much more to encourage more and better female physicists implement programs on the undergraduate level to "salvage" those female physics-major drop-outs, and other science-oriented women, and recruit them into well-managed science education programs like that of the University of Maryland. As a secondary teacher, I have had rewarding opportunities to direct students into physics and engineering programs, and my role-model position cannot be equaled by a research scientist for drawing the attention of female high-school students to physics as a career.

The American Association of Physics Teachers is currently working to support this rationale. I feel it is worth the attention of the entire physics community.

PAULA ANNE SCHAEFER
Chesapeake Senior High School
Baltimore, Maryland
10/27/80

COMMENT BY CHAIR OF THE APS COMMITTEE ON THE STATUS OF WOMEN IN PHYSICS: When discrimination against women and the cumulative effects of such discrimination have passed from our society, I will sympathize with Robert Hartford's comments and empathize with his views on affirmative action. The need for mentors and examples, however, will vanish only when professors lecture to their students in profound isolation, instructing them solely on academic subjects without influence on their students' perceptions, motivations and consequent social adaptations. Michele Kaufman's point regarding increasing inequity with increasing rank is well taken. This effect may be seen, however, as a cumulative phenomenon with remedies at every level being appropriate and desirable. Because of the complex nature of providing midcareer opportunities, initiatives are required from within the physics community to identify and to secure the means by which this can best be accomplished. The importance of removing the inequities in the mid-career ranks is sufficient to justify the special effort this challenge requires.

CAROL JO CRANNELL
NASA Goddard Space Flight Center
Greenbelt, Maryland
10/31/80

More on efficient funding

Some caution is advisable when interpreting the graph and comments presented by Lawrence Cranberg ("Efficient Funding," August page 63). Colleagues who have observed the de-

500 Watts of H.F. Power



ENI A-500
broadband
power amplifier
delivers 500 W
0.3 to 35 MHz

Here is the biggest, toughest, ruggedest, solid state Class A linear amplifier we make. It's designed to stand up in hostile environments, yet it's easy to field service because all major subassemblies are "plug in" replaceable.

Designed for use in HF transmitters, RFI/EMI applications, linear accelerators, and gas plasma equipment, the ENI Model A-500 broadband power amplifier is capable of delivering more than 500 watts of output over the frequency range of 0.3 to 35 MHz.

And like all ENI power amplifiers, the A-500 features unconditional stability, instantaneous failsafe provisions, and absolute protection from overloads.

For more information, a demonstration, or a full line catalog, please contact us at ENI, 3000 Winton Road South, Rochester, N.Y. 14623.
Call 716/473-6900 or
telex 97-8283 ENI ROC.

ENI



The advanced design line of power amplifiers

APS Show—Booth # 22
Circle No. 11 on Reader Service Card