Degree Completion by Women and Minorities in Sciences Increases

Women are moving rapidly to obtain the education required for a professional career in science or engineering, but their employment and advancement opportunities still trail those for men. The proportion of earned degrees in these fields by women have grown dramatically during the 1970's.

Their share of bachelor's degrees in engineering has risen from less than 1 percent in 1970 to 10 percent in 1980. At the doctorate level, their share of physical science degrees has increased from 4.5 percent in 1970 to 10.6 percent in 1979; in the life sciences from 12.8 percent to 23.4 percent; in psychology from 23.5 percent to 40.8 percent; and in the social sciences, from 11.9 percent to 23.7 percent. Women earned 23 percent of M.D. degrees in 1980, up from 8.5 percent in 1970; and 12 percent of first professional degrees in dentistry, up from 1 percent in 1970.

Minorities also have increased their share of degrees in science and engineering.

Blacks were 2 percent of freshman engineers in 1970 and are 6 percent in 1980, while their share of earned bachelor's degrees has risen from less than 1 percent to 2.3 percent during those years. Hispanics were 0.6 percent of the entering medical class in 1970 and 1.5 percent in 1980. Their share of M.D. degrees rose from 0.2 percent in 1970 to 2.6 percent in 1979, although their representation in medical school faculties is still below 1 percent.

Minorities earned 10.9 percent of all Ph.D.'s awarded to U.S. citizens and permanent visa immigrants in 1979. Among the minority doctorates, Asian Americans dominate in the sciences, Blacks in education, and Hispanics in humanities. Minorities (Blacks, Hispanics, Asian Americans, and American Indians) constitute 18 percent of the U.S. population, and 8.2 percent of all U.S. doctorates.

Despite these increases, women's opportunities for employment and advancement still lag behind men's.

Unemployment rates for professionally trained women continue to be two to five times higher than for men in the same field with the same level of training and the gap increases at higher degree levels. Among all science and engineering Ph.D.'s in 1979, only 0.8 percent of men were unemployed and seeking work compared to 3.4 percent of women. The difference occurs in every field.

Employment of women in higher education has grown slowly during the decade, as college enrollments began to level off, but their progress up the academic ladder continues well behind that of men from the same class in the same field. Less than 10 percent of all professors, but 52 percent of all instructors in 1980 are women, who constitute 26 percent of full-time instructional faculty. Women are 12.1 percent of all doctoral scientists and engineers employed in higher education, but they are 23 percent of nonfaculty Ph.D. staff and only 7.2 percent of tenured doctoral faculty.

The federal government is a major employer of scientists and engineers, including women and minorities. However, women of all races are still well behind their male counterparts in grade level, and thus in salary. For example, among 8250 chemists employed in November 1979, 16.5 percent were women (including 2.2 percent minority women) and 12.5 percent were minorities. Both majority and minority women earn 80 percent of men's earnings, while minority men earn 90 percent of the salary average of all men.

The Scientific Manpower Commission has published a new 200-page supplement to *PROFESSIONAL WOMEN AND MINORITIES—A Manpower Data Resource Service*, which updates to 1980 a comprehensive statistical picture of the professional work force in the United States, detailing the participation of women and minorities in the natural and social sciences, engineering, arts, humanities, education, and all of the professions. This comprehensive reference study, designed for use by manpower planners and affirmative action personnel in educational institutions, industry, and government, was first published in 1975. Its statistical tables are updated and supplemented annually.

The four-part reference book includes basic information on affirmative action; manpower data in all fields from more than 200 sources; annotated recruitment resources, both for specialized fields and for general recruitment of professional women and minorities; a detailed bibliography; and a comprehensive cross index. Approximately 400 tables and charts with breakdowns by sex and/or minority status provide historical and current data on enrollments, degrees, and on general, academic, and federal work force participation of women and minorities by field and subfield.

PROFESSIONAL WOMEN AND MINORITIES—A Manpower Data Resource Service by Betty M. Vetter and Eleanor L. Babco is available for $120 from the Scientific Manpower Commission, 1776 Massachusetts Avenue, NW, Washington, D.C. 20036.

BETTY M. VETTER
Scientific Manpower Commission

Call for Nominees—SFR Award

Submission of entries in the 1981 selection of the AAAS Award for Scientific Freedom and Responsibility is invited. Established in 1980 (see *Science*, vol. 210, p. 1115), the $1000 prize will be awarded annually to honor scientists and engineers whose exemplary actions, often taken at significant personal cost, have served to foster scientific freedom and responsibility. The new prize is intended to encourage awareness of the importance of moral principles in science and engineering.

A candidate for the award will be recommended to the chairman of the AAAS Board of Directors by a committee of judges which includes members from the AAAS Committee on Scientific Freedom and Responsibility. The deadline for receipt of entries is 30 June 1981. Nominations and requests for information should be sent to: Scientific Free-

dom and Responsibility Award, AAAS, 1515 Massachusetts Avenue, NW, Washington, D.C. 20005.

Puerto Rican Scientists to Meet in Washington

Increasing the participation of Puerto Ricans in science and biomedicine will be the theme at a conference of Puerto Rican scientists 22–24 April in Washington, D.C.

The AAAS Office of Opportunities in Science (OOS) will convene the conference, which will explore education of Puerto Rican students in the United States; the status of Puerto Rican science students in the United States and in Puerto Rico; programming to address underrepresentation of Puerto Rican students in science; combating stereotypes and developing role models; and ethnic considerations of disease and health. The role of professional societies, community groups, federal agencies, and the private sector will be considered. Support for the conference comes from the National Institutes of Health (NIH).

The April conference is a result of the long involvement of AAAS and NIH with the concerns of the Puerto Rican science community in the United States. Particular emphasis has been on the low number of Puerto Ricans in science and biomedicine, and the limited access to science and mathematics education for Puerto Rican students.

In May 1976, the OOS hosted a meeting of mainland Puerto Rican scientists and educators at the New York Academy of Sciences. That meeting addressed reasons for the small number of Puerto Ricans in the science fields and suggested programs and strategies for change. Participants expressed the need for identification of Puerto Rican scientists living in the United States and formation of a network for communication, support, and other activities. Responding to this need, OOS, with the assistance of its Puerto Rican advisers, compiled a directory of nearly 400 Puerto Rican scientists and engineers.

The National Institutes of Health have also had a long-standing commitment to improving the training and status of Puerto Rican scientists. Through the Minority Biomedical Support (MBS) program and the Minority Access to Research Careers (MARC) program, NIH continues to support training and participation in biomedical research at colleges and universities in Puerto Rico and the United States.

The following institutes and divisions of NIH have contributed to the support of the conference: Division of Equal Opportunity; Division of Research Resources; National Cancer Institute; National Institute of General Medical Science; National Institute of Neurological and Communicative Disorders and Stroke; National Institute of Allergy and Infectious Diseases; National Institute of Arthritis, Metabolism, and Digestive Diseases; National Institute of Child Health and Human Development; National Institute of Dental Research; National Eye Institute; and Fogarty International Center.

For more information on the conference or networking activities, write to Conference of Puerto Rican Scientists, OOS, at the AAAS address, or call 202-467-5438.

Foreign Graduate Students Attend AAAS Meetings

Self-sponsored foreign students studying in the United States are invited to apply for a limited number of grants to attend the VIth AAAS Colloquium on R&D and Public Policy in Washington, D.C., 25–26 June 1981. Grants up to $250 will be made toward travel and per diem expenses. Registration for successful applicants will be paid by AAAS.

Applicants should submit (i) a curriculum vitae (including telephone number); (ii) a budget (round-trip to Washington and living expenses); and (iii) a short statement (250 to 300 words) describing the focus of current research, career plans, how training is expected to be applied on return to home country, and interest in attending the Colloquium.

Material should be send to Denise Weiner, Office of International Science, at the AAAS address. Applications must be received *no later than 8 May 1981.*

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A group of nine self-sponsored foreign graduate students attended the 1981 AAAS Annual Meeting in Toronto under the combined auspices of AAAS and the Canadian International Development Agency.

The students, currently studying at universities in the United States and Canada, were from Bangladesh, Egypt, India, Nigeria, and Pakistan. Their fields of study include mechanical, chemical, and textile engineering; botany; climatology; chemistry; food technology; and solid-state, atomic, and molecular physics.

This is the sixth year that foreign graduate students have received grants to attend the AAAS Annual Meeting.

Energy Needs of Northeast Tribes Subject of Seminar

Native American tribes and communities in New England, New York, and southeastern Canada face vastly different energy problems than do the energy-producing western tribes. Their energy needs and the technological alternatives facing northeastern tribes and communities will be addressed at a AAAS regional energy seminar in Hanover, New Hampshire, 7 and 8 May.

Among the topics for discussion will be (i) how state and federal energy policies affect northeastern tribes and communities; (ii) energy resources and technologies which can be used for heat, electricity, and economic development, that is, solar, wind, tidal, low-head hydro, and wood; (iii) the concerns, within and outside native communities, brought about by energy development; and (iv) the relationships necessary for meeting energy needs, that is, those between tribes, governments, and private institutions and those between tribes, scientists, engineers, and energy planners and developers.

In addition to calling attention to the energy needs of northeastern tribes and communities, the seminar's goals are to identify the scientific resources available for energy planning and implementation, and to encourage information sharing between concerned parties.

Along with AAAS, cosponsors of the seminar, "Northeast Tribes and Communities: Energy Needs and Alternatives," are the Native American Science Resource Center at Dartmouth College; Sigma Xi, the Scientific Research Society; and Dartmouth College. The AAAS Regional Energy Seminar Series is supported by a grant from the U.S. Department of Energy.

The second 1981 regional energy seminar, "Energy Independence: Consequences for Human Health," will be held at the Lawrence Hall of Science, University of California, Berkeley. Scheduled for 28–29 May, the seminar will consider two complementary components of energy and health issues: (i) effects of energy development and conservation policies on human health and