

quately informed on technical issues involved in legislation and 88% felt that Congress is at a disadvantage compared to the Executive because of a lack of technical expertise. The two most popular choices for a solution to the problem were an agency like the new Office of Technology Assessment and internships like the APS Congressional Fellowships.

The APS committee found that the program would be beneficial to the scientific community in that eventually scientists around the country would be more effectively involved in the deliberations of Congress, and congressmen and congressional staffs would have a better understanding of the nature of science and the concerns of scientists.

APS has also called attention to the fact that this program signals that the society approves and seeks to promote public policy activities among its membership by providing recognition and reward for them. W. W. Havens, APS Executive Secretary, noted that "by establishing a Congressional Science Fellowship the American Physical Society gives its blessings to this type of activity and encourages physicists to become engaged in public-service science. In this type of activity," Havens said, "the APS is supporting the long-range goal of legitimizing for physicists activities other than traditional teaching and research in universities and industry."

According to APS a prospective fellow should show exceptional competence in some area of physics, have a broad background in science and technology, be aware of many matters in nonscientific areas and be articulate, literate and able to work efficiently with many types of people. The applicant should exhibit a willingness to learn in nonscientific areas and have a strong interest in applying his knowledge toward the solution of social problems. Applications from all age groups and levels of experience are invited.

Those interested in becoming APS Congressional Fellows should submit a resume, references and a statement indicating why their backgrounds and interests qualify them for the position.

Publications that support the application are also welcome. The applications will be screened by a committee appointed by APS president Joseph Mayer. These should be sent to W. W. Havens, Jr, Executive Secretary, American Physical Society, 335 E. 45th St., New York, N.Y. 10017. For an application to be considered for the 1973 Fellowship Program, material should be received at APS as soon as possible.

Energy

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of buildings, producing and converting organic materials to fuels and generation of electricity.

In addition to the funding for research on methods to develop cleaner fuels from coal, the FY 1974 budget includes a request for a 24% increase to \$47 million for other environmental control research including the construction of the TVA SO_x removal plant and R&D aimed at minimizing the thermal effects of power plants.

Geothermal energy has a requested funding level of \$4.1 million, up from \$3.4 million in FY 1974.

Nixon also stressed the importance of private backing of energy research and development and cited in particular the newly formed Electric Power Research Institute. EPRI was formed to administer the electric power industry's R&D program, and it is attempting to increase the funding for cooperative electric industry research from \$75.1 million in 1973 to \$118.9 million in 1974. Chauncey Starr, formerly the dean of the UCLA School of Engineering and Applied Sciences, is the president of the new institute.

Starr said that the EPRI program will have an in-house staff of between 100 and 200 and its research will be carried out "where it can be best performed," including universities, government laboratories, or with manufacturers, under close management by EPRI.

Another semi-public group, the Ford Foundation, has had an Energy Policy Project, headed by S. David Freeman,

since the middle of last year. The Ford research effort, with about \$2 million, has awarded a number of grants in a wide variety of fields.

The National Science Foundation has established a task force on energy that will study plans for energy-related research and development, and will assist in the development within NSF of some of the science advisory capabilities that became its responsibility with the demise of the Office of Science and Technology.

The overall objective of the NSF Task Force, which is headed by Paul F. Donovan, director of the Division of Advanced Technology Applications in the Research Applied to National Needs program, is to provide a detailed proposal for the development of a comprehensive national program for the conduct of energy-related R&D, including emphasis on the long-term federal role in furthering and coordinating energy R&D, and on overall environmental, conservation, and policy issues. NSF's total request for energy R&D in the FY 1974 budget is \$21.5 million.

The American Physical Society is investigating the feasibility of setting up a summer study of energy problems by physicists. The APS has set up a committee to examine the direction such a study might take and has appropriated \$5000 to fund a preliminary study.

—SMH

Bachelor's survey shows movement out of physics

Physics graduates indicated three notable changes in their postbaccalaureate plans in a recent survey conducted by Susanne Ellis of the American Institute of Physics manpower division. There has been a decrease in both the fraction of graduates employed by industry in physics-related jobs and in the fraction of new graduates who are interested in employment but cannot find job offers. The percentage of new physics bachelors entering medical school has continued to increase—even beyond last year's figure, which itself marked a dramatic rise from previous

Lay-offs at AEC-supported labs

PHYSICS TODAY recently conducted a survey of AEC-supported laboratories to find out the total reduction in jobs resulting from cuts in the FY 1974 budget (PHYSICS TODAY, April, page 82). We also asked for the number of physicists who were either being laid off or were retiring voluntarily; the resulting information is summarized in the table. Numbers of physicists are estimates in some cases. Five of the reported layoffs at Lawrence Berkeley come as a result of curtailment in hiring of postdoctoral term employees and summer staff; the total reduction affects about 10% of the staff. Argonne has 4300 people on the payroll before the cuts.

—SMH

Laboratory	Total reduction	Physicist reduction
Argonne	250	1
Brookhaven	200	2
Lawrence Berkeley	200	10
Lawrence Livermore	251	28
Los Alamos	167	16
Oak Ridge	400	4
Sandia		
Albuquerque	637	17
Livermore	91	2
SLAC	72	1

years. This movement into non-physics areas probably reflects the continuing adjustment of recent graduates to an inhospitable economic environment.

This tenth annual survey of bachelor's degree recipients, which is based upon names of graduating physics students supplied by department chairmen across the country, was conducted during the summer of 1972. Of the 5282 individuals awarded bachelor's degrees in physics during the academic year 1971-72, 3241 (61%) responded to the questionnaire. Of that number 981 planned to pursue graduate study in physics, 843 were to enter graduate fields outside physics, and 1174 sought employment.

Fewer bachelors are entering graduate study in physics. Between 1967 and 1972 the number of graduates indicating that intention declined from 55% to only 30%. For the same period, the fraction entering non-physics graduate study has increased from 19% to 26%. Of this group 125 chose to enter medical school, while 100 out of the same percentage group did so the previous year.

Job prospects do appear to be improving. Thirty-seven percent of this year's graduates sought employment, and only 380 (32%) of that group were without job offers immediately following graduation. This is in marked contrast to the situation last year when an unemployment high was reached. With only 29% of the graduates seeking employment upon graduation in 1971, 468 of them (49%) were without offers.

Of the group that received job offers, the fraction entering industry has declined steadily—from 43% in 1970 to 32% in 1971, to 29% in 1972. However, in the most recent survey the list of employers was revised to include service industry. Part of this past year's decline can probably be attributed to this modification in the questionnaire.

Nevertheless, many graduates were forced to take jobs that made little or no use of their physics training. But faced with a choice of jobs, all of which constitute underemployment, the bachelors selected those that offered the highest salaries. On that basis computer science, a service industry, became a popular choice.

Free copies of the seven-page report are available from Susanne Ellis, Manpower Division, AIP, 335 E. 45th St., New York, N. Y. 10017.

NRC reorganization will aid its advisory function

The National Academy of Sciences is reorganizing the National Research Council in order to better fulfill its ad-

visory function to the government. Three Assemblies and five Commissions will eventually be formed as constituent parts of the Council. An Assembly of Behavioral and Social Sciences and a Commission on Natural Resources have already been formed.

Assemblies in the physical sciences, life sciences and mathematics will be concerned with the welfare of their component disciplines and the contributions these disciplines make to the national welfare. The Assemblies will also serve as sources of manpower and ideas for the Commissions.

The Commissions, which will deal with broad areas of national concern, will be multidisciplinary in character. They will be established in the areas of human resources, peace and national security, international scientific affairs, and technologies in large, complex social systems such as transportation, communication and urban development.

As a part of the reorganization of the NRC, the Academy is taking measures to strengthen its procedures for the selection and appointment of advisory committees. This is intended to assure the quality of scientific advice to the government and prevent potential sources of bias that could undermine the credibility of the advisory process.

Canadian science moves toward national needs

The Science Council of Canada has released a report that gives basic science in Canada what a spokesman termed a "nudge" toward areas of research of particular importance to the country. The report, entitled "Policy Objectives for Basic Research in Canada," is careful to point out that "a significant proportion of that research must continue to be conducted free from any influences external to the inner logic of the science itself," but the fact remains that the council will try to direct more research into areas critical to Canada.

Some of the recommendations do not involve changes in the orientation of research, but instead are directed toward the strengthening of basic research in Canada. The report asks for the continuing development of "Canadian experts who are members of the international community of scientists." The Science Council expects that they will help improve basic science in Canada by maintaining contacts with leading researchers in other countries. The council also recommends support of R&D with a view to maintaining the quality of higher education and "exerting positive influence on R&D activities in general."

Areas of research that are mentioned

as being of particular interest to Canada are those that may have side benefits to Canadian industry or that may offer training for consultation on future problems or that could shed light on assessment of the impact of new technologies on Canadian society. The council report also recommended the establishment of an institute to study Canada's long-range scientific, technological and social problems.

New MIT laboratory will coordinate energy studies

The Massachusetts Institute of Technology has created a new laboratory to study the complex energy problems confronting the nation. The central purpose of the laboratory will be to coordinate the \$5 million in energy-related research already underway in various departments at MIT and to assemble a full-time staff of physical scientists, engineers and social scientists. A key feature of the new facility will be this interdisciplinary approach to the solution of energy problems.

The director of the energy laboratory is David C. White, Ford Professor of Engineering at MIT. Associate directors of the various functional divisions will also be drawn from the MIT faculty.

According to Albert G. Hill, MIT vice-president of research and the person to whom the laboratory reports, the first outside support for the facility, a grant of \$100,000, has been received from the New England Electric System.

in brief

The Council of The Institute of Physics has approved the formation of a Combustion Physics Group. The chairman of the steering committee is F. J. Weinberg of Imperial College, London. Information on membership in the Group may be obtained from the Meetings Officer, IOP, 47 Belgrave Square, London SW1X 8QX, UK.

A report prepared for the Office of Science and Technology by Stanford Research Institute of Menlo Park, Calif., *Patterns of Energy Consumption in the United States*, is available from the Superintendent of Documents, Washington, D. C. 20402, for \$2.25 a copy.

Copies of the National Science Foundation report, *Research and Development in Industry, 1970* (NSF 72-309), may be obtained from the Superintendent of Documents, Washington, D. C. 20402, for \$1.00 per copy.