The Annual Meeting Comes to Town

The AAAS Annual Meeting in Washington, D.C., served as a lightning rod for controversies over the federal budget for research and development, judicial rulings on the teaching of creationism, and mounting concern over the regulation of research.

January meeting attendees were allowed no respite from harsh budget forecasts. A special symposium focused on the funding of basic research in the 1980's. Representatives from several federal agencies discussed present and future research funding. In addition, *Congressional Action on Research and Development in the FY 1982 Budget*, the latest report of the AAAS Budget Project, was made public. The report indicates that total support of basic research is declining. The Congress reduced the amount targeted for defense basic research in the Reagan budget by about 3.4 percent. Nondefense basic research was reduced by about 4.1 percent. While in current dollars total funding for basic research is estimated to increase over the 2-year period FY 1980–82, in constant dollar terms (adjusted for inflation) total support for basic research is declining. Copies of the report, *Congressional Action on Research and Development in the FY 1982 Budget*, are available from the AAAS Office of Public Sector Programs.

The note of fiscal austerity was sounded again by the Meeting's keynote speaker, George A. Keyworth, presidential science adviser (see *Science*, 22 January 1982, pp. 380–381).

A day-long symposium focused on the problems science teachers face in dealing with creationism. The next day Judge William Overton of the Federal District Court in Little Rock, Arkansas, ruled that "creation science" is religion and not science. Arkansas' Balanced Treatment Act is, therefore, a violation of the Constitutional separation of church and state. Judge Overton's decision was met with enthusiasm by most Meeting attendees and was praised in an official statement by William D. Carey, AAAS executive officer, who observed: ". . . The real point is that public school education in Arkansas has been given another chance. Teachers now can get back to teaching science, and students can get back to learning."

In a speech almost guaranteed to cause a loud reaction, Admiral Bobby R. Inman, deputy director of the Central Intelligence Agency, told scientists that scientific freedom may have gone too far. Inman said that U.S. national security is at stake because of a heavy transfer of U.S. technologies to other countries, especially the Soviet Union. He warned that the Congress may now be in the mood to institute more restrictions, and suggested that scientists voluntarily cooperate with intelligence agencies.

Carey responded that to have scientists submit their research ideas would hinder the progress of science and thus damage U.S. security more than does the free flow of scientific information.

In his presidential lecture, D. Allan Bromley, director of the A. W. Wright Nuclear Structure Laboratory, Yale University, called for greater attention to the linkages between the scientific community and other interests—including the federal government, education, private industry, and international affairs. Of special concern, said Bromley, must be increasing science literacy of the general public. More emphasis must be placed, he noted, on the teaching of science and mathematics at the elementary and secondary levels if we are to have a work force and general public capable of dealing with an increasingly technological society.

A total of about 8000 people attended the January meeting—some 2000 of them junior high and high school students who participated in the Annual Youth Symposium.

More than 600 media people from the United States and several other countries registered in the AAAS newsroom during the week. The press coverage given the Meeting increased its audience many times over. Correspondents from the major newspapers, news magazines, and television and radio outlets reported daily on the symposia, lectures, and special events of the Meeting. A series of press conferences had been set up to allow reporters the opportunity to more closely question some key Meeting speakers. The combined efforts of newsroom staff and the reporters resulted in hundreds of news stories. The AAAS Office of Communications is now sorting through some 5000 news clippings.

National Public Radio (NPR) broadcast live from a special booth throughout the Meeting. NPR also broadcast a live debate on genetic engineering. The par-

A variety of exhibits attracted viewers throughout AAAS Annual Meeting.

ticipants (Bernard Davis, Harvard University Medical School; J. Leslie Glick, Genex Corp.; and Sheldon Krimsky, Tufts University) discussed current research in the field, hoped-for breakthroughs, the commercialization of genetic research results, and the ethical questions many aspects of genetic engineering raise. After a lively exchange among the guests, audience members addressed questions to the debaters. Hosted by NPR science correspondent Ira Flatow, the live debate was heard on NPR stations throughout the country.

As in the past, the AAAS Meeting was accessible to handicapped participants. This year some of the disabled scientists attending the Meeting participated in a special luncheon program. At the lunch disabled young people, most of them from the Washington, D.C., metropolitan area, had an opportunity to meet and talk to handicapped scientists as well as to each other. Throughout the week, some 40 student volunteers, aged 15 to 20, worked in the Resource Center for Disabled Registrants.

The AAAS Committee on Scientific Freedom and Responsibility sponsored two events to focus attention on the role of the medical profession in deterring the use of torture and other inhumane treatment for political or psychiatric purposes. A symposium on "Torture, Medical Practice and Medical Ethics" included representatives from Amnesty International, physicians involved in treating torture victims, and a former political prisoner who had been subjected to torture. Following the symposium, the Committee hosted a luncheon at which Alfred Gellhorn, past president of the Council of International Organizations of Medical Sciences, discussed ways in which scientific organizations, particularly in the medical area, could become more involved in human rights activities. Phyllis Taylor of Amnesty International USA's Medical Capacity Committee described that committee's efforts to support medical colleagues who refuse to participate in torture or psychiatric abuse. Copies of the symposium papers and the luncheon speeches are available from the AAAS Clearinghouse on Science and Human Rights.

A first for the Washington Meeting was the establishment of a Minority Scientists' Resource Room. A number of discussion sessions were arranged to fo-

Key Science and Technology Contacts

A wide range of Cabinet-level offices, executive agencies, and congressional committees are involved with policy and funding questions for science and technology. The following listing, assembled by the Office of Communications with guidance from the AAAS Office of Public Sector Programs, indicates some of the key individuals in the agencies and on Capitol Hill.

Executive Branch

Executive Office of the President
Office of Science and Technology Policy, George A. Keyworth, II, *director*; Council on Environmental Quality, A. Alan Hill, *chairman*.

U.S. Department of Agriculture
John R. Block, *secretary*; Anson R. Bertrand, *director*, Science and Education.

U.S. Department of Commerce
Malcolm Baldrige, *secretary*; Robert Ellert, *acting assistant secretary*, Productivity, Technology, and Innovation; Ernest Ambler, *director*, National Bureau of Standards; John V. Byrne, *administrator*, National Oceanic and Atmospheric Administration.

U.S. Department of Defense
Caspar W. Weinberger, *secretary*; Richard D. DeLauer, *under secretary*, Research and Engineering; Robert S. Cooper, *director*, Defense Advanced Research Projects Agency.

U.S. Department of Education
Terrel H. Bell, *secretary*.

U.S. Department of Energy
James B. Edwards, *secretary*; Alvin W. Trivelpiece, *director*, Energy Research.

U.S. Department of Health and Human Services
Richard S. Schweiker, *secretary*; Dorcas R. Hardy, *assistant secretary*, Human Development Services; Edward N. Brandt, Jr., *assistant secretary*, Health; C. Everett Koop, *surgeon general*; Lennie Marie Tolliver, *commissioner*, Administration on Aging; William E. Mayer, *administrator*, Alcohol, Drug Abuse, and Mental Health Administration; William H. Foege, *director*, Centers for Disease Control (Atlanta); Arthur H. Hayes, Jr., *commissioner*, Food and Drug Administration; Thomas E. Malone, *director*, National Institutes of Health.

U.S. Department of Housing and Urban Development
Samuel R. Pierce, Jr., *secretary*.

U.S. Department of the Interior
James G. Watt, *secretary*; Robert Carlton Horton, *director*, Bureau of the Mines; Robert Adams, *acting director*, Office of Minerals Policy and Research Analysis; Dallas Lynn Peck, *director*, U.S. Geological Survey; Robert A. Jantzen, *director*, U.S. Fish and Wildlife Service.

U.S. Department of Justice
William French Smith, *attorney general*.

U.S. Department of Labor
Raymond J. Donovan, *secretary*; Janet L. Norwood, *commissioner*, Bureau of Labor Statistics.

U.S. Department of State
Alexander M. Haig, Jr., *secretary*; James L. Buckley, *under secretary*, Security Assistance, Science, and Technology; James L. Malone, *assistant secretary*, Oceans and International Environmental and Scientific Affairs.

U.S. Department of Transportation
Andrew L. Lewis, Jr., *secretary*.

U.S. Department of the Treasury
Donald T. Regan, *secretary*.

Environmental Protection Agency
Anne M. Gorsuch, *administrator*.

National Aeronautics and Space Administration
James M. Beggs, *administrator*; John E. Naugle, *chief scientist*; Walter C. Williams, *chief engineer*.

National Science Foundation
John B. Slaughter, *director*; Francis S. Johnson, *assistant director*, Astronomical/Atmospheric/Earth and Ocean Science; Eloise E. Clark, *assistant director*, Biological Behavioral Social Sciences; Jack T. Sanderson, *assistant director*, Engineering; Ronald E. Kagarise, *acting assistant director*, Mathematical and Physical Sciences; Walter L. Gillespie, *acting assistant director*, Science and Engineering Education; Harvey A. Averch, *assistant director*, Scientific/Technological/International Affairs.

Nuclear Regulatory Commission
Nunzio J. Palladino, *chairman*; Robert B. Minogue, *director*, nuclear regulatory research.

Legislative Branch

Congressional Agencies

Congressional Budget Office
Alice M. Rivlin, *director*.

Library of Congress
Daniel J. Boorstin, *librarian*; Gilbert Gude, *director*, Congressional Research Service.

Office of Technology Assessment
John H. Gibbons, *director*.

cus on specific issues of interest to minority scientists and engineers. The Resource Room also provided a useful service to young people interested in exploring career opportunities. In addition to material assembled by the AAAS Office of Opportunities in Science, these young people were able to meet and talk to practicing scientists and engineers. Several reporters used the Minority Scientists' Resource Room to make contacts and pursue news stories emphasizing concerns of minority scientists.

Eight foreign graduate students attended the Meeting under the auspices of AAAS. The students were from Bangladesh, Chile, Egypt, India, Kenya, Malaysia, Pakistan, and the People's Republic of China. Their fields of study include political science, rural sociology, fuel science, pharmacy, neuropsychology, atmospheric sciences, and agronomy.

Youth Symposium filled Washington Hilton Ballroom at January meeting.

Sumant Nigam of India, a student in the Geophysical Fluid Dynamics Program at Princeton University, reported after the Meeting that attending had ". . . greatly facilitated my efforts to

U.S. Senate

Committee on **Agriculture, Nutrition, and Forestry**
Jesse A. Helms (R–N.C.), *chairman*; subcommittee chairs: Agricultural Research and General Legislation, Richard Lugar (R–Ind.); Forestry, Water Resources, and Environment, S. I. Hayakawa (R–Calif.); Nutrition, Robert J. Dole (R–Kan.); Soil and Water Conservation, Roger Jepsen (R–Iowa).

Committee on **Appropriations**
Mark O. Hatfield (R–Ore.), *chairman*; subcommittee chairs: Agriculture and Related Agencies, Thad Cochran (R–Miss.); Energy and Water Development, Mark O. Hatfield; Labor, Health and Human Services, and Education, Harrison H. Schmitt (R–N.M.).

Committee on the **Armed Services**
John G. Tower (R–Texas), *chairman*.

Committee on the **Budget**
Pete V. Domenici (R–N.M.), *chairman*.

Committee on **Commerce, Science, and Transportation**
Bob Packwood (R–Ore.), *chairman*; subcommittee chairs: Aviation, Nancy L. Kassebaum (R–Kan.); Communications, Barry M. Goldwater (R–Ariz.); Science, Technology, and Space, Harrison H. Schmitt (R–N.M.).

Committee on **Energy and Natural Resources**
James A. McClure (R–Idaho), *chairman*; subcommittee chairs: Energy Conservation and Supply, Lowell P. Weicker (R–Conn.); Energy and Mineral Resources, John W. Warner (R–Va.); Energy Research and Development, Pete V. Domenici (R–N.M.).

Committee on **Environment and Public Works**
Robert T. Stafford (R–Vt.), *chairman*; subcommittee chairs: Environmental Pollution, John H. Chafee (R–R.I.); Nuclear Regulation, Alan K. Simpson (R–Wyo.); Toxic Substances and Environmental Oversight, Slade Gorton (R–Wash.); Water Resources, James Abdnor (R–S.D.).

Committee on **Labor and Human Resources**
Orrin G. Hatch (R–Utah), *chairman*; subcommittee chairs: Aging, Family, and Human Services, Jeremiah Denton (R–Ala.); Alcoholism and Drug Abuse, Gordon J. Humphrey (R–N.H.); Education, Arts, and Humanities, Robert T. Stafford (R–Vt.); Employment and Productivity, Dan Quayle (R–Ind.); Handicapped, Lowell P. Weicker (R–Conn.).

Special Committee on **Aging**
John Heinz (R–Pa.), *chairman*.

U.S. House of Representatives

Committee on **Agriculture**
E. (Kika) de la Garza (D–Texas), *chairman*; subcommittee chairs: Department Operations, Research, and Foreign Agriculture, George E. Brown, Jr. (D–Calif.).

Committee on **Appropriations**
Jamie L. Whitten (D–Miss.), *chairman*; subcommittee chairs: Agriculture, Jamie L. Whitten; Defense, Joseph P. Addabbo (D–N.Y.); Energy and Water Development, Thomas Bevill (D–Ala.); HUD–Independent Agencies, Edward P. Boland, (D–Mass.); Interior, Sidney R. Yates (D–Ill.); Labor, Health, and Human Services, William H. Natcher (D–Ky.); Transportation, Adam Benjamin, Jr. (D–Ind.).

Committee on the **Budget**
James R. Jones (D–Okla.), *chairman*.

Committee on **Education and Labor**
Carl D. Perkins (D–Ky.), *chairman*; subcommittee chairs: Elementary, Secondary, and Vocational Education, Carl D. Perkins; Employment Opportunities, Augustus F. Hawkins (D–Calif.); Health and Safety, Joseph M. Gaydos (D–Pa.); Human Resources, Ike F. Andrews (D–N.C.); Postsecondary Education, Paul Simon (D–Ill.); Select Education, Austin J. Murphy (D–Pa.).

Committee on **Energy and Commerce**
John D. Dingell (D–Mich.), *chairman*; subcommittee chairs: Energy Conservation and Power, Richard L. Ottinger (D–N.Y.); Fossil and Synthetic Fuels, Philip R. Sharp (D–Ind.); Health and the Environment, Henry A. Waxman (D–Calif.).

Committee on **Foreign Affairs**
Clement J. Zablocki (D–Wis.), *chairman*; subcommittee chairs: Human Rights and International Organizations, Don L. Bonker (D–Wash.); International Security and Scientific Affairs, Clement J. Zablocki.

Committee on **Interior and Insular Affairs**
Morris K. Udall (D–Ariz.), *chairman*; subcommittee chairs: Energy and the Environment, Morris K. Udall; Water and Power Resources, Abraham Kazen, Jr. (D–Texas).

Committee on **Merchant Marine and Fisheries**
Walter B. Jones (D–N.C.), *chairman*; subcommittee chairs: Oceanography, Norman E. D'Amours (D–N.H.); Fisheries, Wildlife, and Environment, John B. Breaux (D–La.).

Committee on **Public Works and Transportation**
James J. Howard (D–N.J.), *chairman*; subcommittee chairs: Aviation, Norman Y. Mineta (D–Calif.); Surface Transportation, Glenn M. Anderson (D–Calif.); Water Resources, Robert A. Roe (D–N.J.).

Committee on **Science and Technology**
Don Fuqua (D–Fla.), *chairman*; subcommittee chairs: Energy Development and Applications, Don Fuqua; Energy Research and Production, Marilyn L. Bouquard (D–Tenn.); Investigations and Oversight, Albert Gore, Jr. (D–Tenn.); Natural Resources, Agricultural Research, and Environment, James H. Scheuer (D–N.Y.); Science, Research, and Technology, George E. Brown, Jr. (D–Calif.); Space Science and Applications, Ronnie G. Flippo (D–Ala.); Transportation, Aviation, and Materials, Dan R. Glickman (D–Kan.).

Select Committee on **Aging**
Claude D. Pepper (D–Fla.), *chairman*.

learn of what was going on in areas of science other than my own. After attending . . . my trust in the utility and effectiveness of appropriate science and technology in solving the problems that confront us, particularly in the developing countries, became even stronger. Even more importantly, the Meeting helped in conveying to me the difficulties and the challenges that scientists and technologists encounter in real life situations (particularly in developing countries)—obstacles that often frustrate attempts to solve the problem."

The January Exhibit was the largest at a AAAS meeting. Attendees could watch films, look at a variety of displays, munch popcorn, and talk to a robot. Among the 157 exhibit booths were those of Exxon, Philips Petroleum, the U.S. Geological Survey, the popular science magazines—*Science 82*, *Discover*, *Omni*, *Technology*, *New Scientist*, and *Science Digest*—as well as several AAAS affiliate organizations.

Proving again that the AAAS Annual Meeting is a continuous affair—the 21 disciplinary sections of the Association met during the Washington Meeting to help make plans for Detroit. Each section met to discuss its own business agenda and an important part of this was the suggesting of symposia topics for the 1983 Annual Meeting in Detroit, 26 through 31 May. *Note*: Symposia ideas should be sent to the Meetings Office at the AAAS address by 1 August 1982.

As though attending symposia, lectures, and sectional meetings was not enough, the week also included committee meetings, receptions, luncheons, and forums, among them the AAAS Women's Caucus, exhibitors' receptions, and the Society for the Advancement of Chicanos and Native Americans in Science. AAAS standing committees held meetings, and the Committees on Science, Engineering, and Public Policy and Science, Arms Control, and National Security held open forums.

A gala reception, open to all Meeting attendees, was held following Dr. Bromley's Public Lecture. Some 700 attended the event which featured the "Hot Mustard" jazz band.

As always, the Annual Meeting provided almost too much at one time. But its very diversity, confusion, and charged atmosphere helped the Meeting to convey to those who attended it and others who followed it through coverage in the mass media the excitement and challenge of science and technology.

JOAN WRATHER
Office of Communications

Note to Members

The 1982 AAAS membership recruitment campaign is under way.

Because a large, active membership is vital to maintain the diversity and credibility of the Association, the AAAS Office of Membership has sent out some 700,000 direct mail recruitment letters.

Unfortunately, if you are already a member of AAAS, you may also receive such a letter. Although we do try to ensure that our members do not receive these mailings, we are unable to computer-check all the mailing lists we use. Therefore, some duplicate mailings do occur.

Should you receive an invitation to join the Association, would you please pass it on to a colleague who might find membership in the Association, and a subscription to *Science*, useful?

Thank you for your continued support and understanding.

CAROL L. ROGERS
Office of Communications and Membership

Conference to Examine Rising Carbon Dioxide and Plants

A major international conference on Rising Atmospheric Carbon Dioxide and Plant Productivity will be held at the R. B. Russell Agricultural Research Center in Athens, Georgia, 23 to 28 May 1982.

The meeting will bring together about 100 experts on carbon metabolism, environmental physiology, whole plant growth and development, freshwater aquatic plants, microbiological effects, and plant communities. Conference participants will come from a wide variety of disciplines, including agricultural economics and plant breeding, from university, government, and industry, and from the United States and other countries.

Conference participants will consider the responses of cultivated and noncultivated plants and ecosystems to carbon dioxide levels 100 to 500 parts per million higher than at present and the interaction of possible climatic change and direct biological effects. The conference will assess the information at hand, identify gaps in the knowledge of the subject, and indicate research needed to exploit a carbon dioxide buildup so as to increase the productivity of important crop and native species.

The conference has been organized by the AAAS Climate Project, with financial support from the U.S. Departments of Agriculture and Energy, Environmental Protection Agency, and the Electric Power Research Institute. Sylvan Wittwer, director of the Agricultural Experiment Station, Michigan State University, is chairman of the organizing committee. David Gates, director of the Biological Station, University of Michigan (and a member of the AAAS Committee on Climate), is conference chairman.

The conference *Proceedings* and Executive summary will be available in the fall of 1982.

Sri Lanka Scientists Meet in Colombo

The 37th annual session of the Sri Lanka Association for the Advancement of Science (SLAAS) met in Colombo, 11 to 16 December 1981. The AAAS was represented by William C. Burnett, an oceanographer from Florida State University.

The theme of the meeting, "Strategies for Development," was the focus of a day-long seminar attended by policymakers as well as scientists. Social, economic, and investment strategies for Sri Lanka were addressed as well as the scientific and technological aspects of development. These discussions were particularly appropriate in view of the present government's pro-development philosophy. Recent governmental actions, such as the establishment of a free-trade zone outside Colombo, has greatly stimulated outside investment in Sri Lanka. One consensus of these discussions concerned the difficulty that Sri Lanka has in providing its own scientific and technical support for the new technology created by development. Better salaries for trained personnel was one suggested solution to the continued

(*Continued on page 1310*)