

## Science Education at AAAS

The programs of the AAAS Office of Science Education (OSE) aim at enhancing the quality of science education at both the precollege and college levels. In order to serve a wide range of needs, these programs vary according to focus and intended audience.

The Chautauqua-type short course program for college teachers, funded by the National Science Foundation and administered by the OSE, is designed to bring important new scientific knowledge quickly to the classroom. A grant of \$357,900 will provide places for 2400 college teachers in more than 40 courses on a wide range of topics in the natural and social sciences, mathematics, and engineering. Each course meets for 2 days in the fall and 2 days in the spring. Participants work on independent projects in the interim period. To reach a larger audience than just the course participants, some of the course directors prepare study guides and test them in their courses. Six guides that were tested during 1974-1975 are being revised and prepared for publication for an audience of college teachers and students.

A brochure describing the 1975-1976 Chautauqua-type short courses may be obtained from the OSE.

Another important OSE program is "Science for Society," an annotated bibliography prepared for persons interested in science-society issues—students and teachers in the natural and social sciences at both secondary and college levels and lay persons. The largely noncumulative bibliography has been published annually for the last 5 years. The fifth (1974) edition has approximately 2500 references, both books and periodicals.

The basic aim of the bibliography is to help individuals cope with the large amount of information on science and its relation to society that is being published and is in the media today. Its goal is to assist them in gaining efficient access to information and ideas of this nature which will be of benefit to their inquiries. Since the bibliography's inception, various improvements have been incorporated. A topic index has been developed, expanded references have been marked according to interest group (secondary, college, and lay), and increasing attention has been

paid to periodicals available to high school students. Surveys of users have guided these changes.

The chaos of science-and-society-related information confronting people today is not due merely to the large amounts of such information, but also to their interrelatedness. In order to provide individual users with better access to the interrelatedness of science-society information, the organization of the sixth edition (1975) of the bibliography, in preparation now, will be modified. It will maintain the spirit and aims of previous editions, but will be arranged according to 11 subject areas in the field of science and society. These issues, which represent broad areas of human concern, reflect current and future interrelationships of science and society. They are: aging and death; conflict; energy; environmental manipulation; ethics, values, responsibility and science; natural resources; health care; pollution; population; technology and humankind; and transportation.

Each of these issues has been further organized into a framework which interrelates the components of man's environment—humankind, natural resources, products of technology—in the context of that particular issue. The frameworks provide ideas for course study outlines. Portions of them may serve as outlines for minicourses, learning modules, or as

guides for independent study. Their structure is flexible, allowing the user to modify them to suit his or her particular endeavor.

Another program of the OSE is aimed at assisting school systems to develop in-service science training programs for their elementary school teachers. During 1975-1976, the OSE is working with 11 school systems with large number of minority students. These in-service programs focus on the curriculum *Science—A Process Approach*, which was developed by the OSE. Emphasis in the in-service programs will be on identifying curriculum modifications and implementation methods that are successful with minority students. An anticipated publication from this project is a guide for implementing elementary science curriculum materials in schools with large minority populations.

The quality of science education is also a function of the quality of the preservice training teachers receive. To stimulate improvement of preservice science education, the OSE has published guidelines and standards for the education of elementary and secondary school teachers of science and mathematics. These publications, prepared in cooperation with the National Association of State Directors of Teacher Education and Certification, and with the advice and assistance of several hundred teacher educators and scientists, were distributed to all teacher training institutions in the United States. To assess the impact of the guidelines on teacher education, the OSE is currently conducting a survey of the use of the secondary guidelines both by teacher training institutions and by

### Gerald Holton Selected as AAAS Representative to UNESCO Commission

Gerald Holton, professor of physics at Harvard University, has been confirmed as the AAAS representative to the U.S. National Commission for UNESCO, for a term expiring in 1977. The 100-member commission was created by Congress in 1946 to advise the government in matters relating to UNESCO and to further the policies and programs of UNESCO within the United States. It also serves as a liaison to other U.S. organizations, institutions, and individuals interested in UNESCO activities. Forty of the commission's members are representatives of educational, scientific, and cultural interests of federal and local governments and as members at large. The remaining 60 are from national nongovernmental organizations. Professor Holton has long been active in AAAS affairs. He is a former member of the Board of Directors and is currently a member of the Committee on Public Understanding of Science.

## Call for Nominations

Upon completion of the 1975 AAAS elections, the Committee on Nominations will meet to select candidates for the 1976 general election. For consideration at that meeting, the committee invites members of the Association to submit nominations, including self-nominations, for the positions of president-elect and members of the Board of Directors. Two members of the Board are elected each year.

Nominations should include the full names and addresses of proposed candidates. They should be sent to the Executive Officer, AAAS, 1776 Massachusetts Ave., NW, Washington, D.C. 20036, for receipt no later than 15 October.

state certification officials. The secondary guidelines are available from the OSE at no cost; the elementary guidelines are available at a cost of 75 cents.

During the past year the OSE, in cooperation with the American School Counselor Association, has held two conferences to consider the roles of secondary school counselors and natural and social science teachers in career guidance. Particularly stressed was the need to provide good counseling services for women and minority group students who may, because of stereotyping, be counseled out of science careers. Participants in the conferences included secondary school counselors, teachers, administrators, and students. At the first conference, held at the University of Maryland in January 1974, participants prepared a set of recommendations for promoting constructive communication and mutual awareness among counselors, science teachers, and others, and for facilitating participation in science by women and by ethnic and racial minorities. A report of the conference may be obtained from the OSE.

The second conference was held in Madison, Wisconsin, in January 1975. Participants included teams of counselors, teachers, and students from schools in Iowa, Minnesota, and Wisconsin. The teams developed "action plans" to improve career counseling and cooperation between counselors and teachers, and several of them have reported successful implementation of those plans. The OSE expects to continue its efforts in improving career guidance with particular concern for women and minorities.

—ARTHUR H. LIVERMORE

## Communications Department Holds Alabama Seminar

As part of its Public Understanding of Science program, the Communications Department joined with the Alabama Environmental Quality Association (AEQA) to cosponsor a regional seminar on "Resource Recovery and Reclamation" in Montgomery on 10 June. The seminar aimed at providing information to a group of 75 local leaders from business, industry, government, and education.

Dave Sussman from the Office of Solid Waste Management Programs, Environmental Protection Agency (EPA), opened the day's program with a slide presentation on the currently available technology and discussed the extent to which some of these approaches are under operation in several EPA demonstration projects. Stephen Lewis, director of the Resource Recovery Systems for the MITRE Corporation, which is in Bedford, Massachusetts, then spoke on the complex economic and institutional barriers to implementing such resource recovery systems and stressed the need for extensive planning.

Expressing a measure of skepticism concerning his state's need for such multimillion-dollar plants, Alfred Chipley, director of the Division of Solid Waste and Vector Control, Alabama Department of Health,

pointed out that source separation and source reduction might be more practical and economical approaches. Richard Simmons, chairman of the Florida Resource Recovery Council, and Arloe W. Paul, chairman of the Wisconsin Solid Waste Recycling Authority, presented case studies in setting up extensive resource recovery systems. Both men expressed a belief in the potential of such systems. Closing the day's discussions, David Gillespie, director of Intergovernmental Affairs for the Southern Growth Policies Board, stressed the need for cautious assessment and discussed the possibility of cooperative action in the Southeast.

This theme of "cautious assessment" was picked up at the dinner meeting attended by the day's participants and 20 invited state legislators. Following a summary of the day's proceedings presented by Ed Hudspeth, staff director of the Alabama Energy Management Board, both John Bloomer, editor of the *Birmingham News* and chairman of the Board of AEQA, and Martha McInnis, executive director of AEQA, urged the establishment of a governmental task force to study the variety of options available to Alabama in dealing with solid waste management. —ANDREA M. GOLDMAN

## Notes from Other Offices

*International Science:* American scientists and engineers interested in participating in the United States-India Exchange of Scientists may write to the above-named program at: Office of International Programs, National Science Foundation, Washington, D.C. 20550.

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*Communications:* A firm schedule for the first half of the third NOVA season has been received from WGBH in Boston, along with an outline of the second half. This schedule has been copied and sent to a mailing list of people and institutions interested in science programming on television, compiled by the Communications Office. As with the first tentative list of topics for the third season, the list is being sent out for suggestions for informed people and organizations on the various topics to be covered in the NOVA shows. It is also being sent out to all full and associate members of the Association of Science-Technology Centers, at the request of the executive director of that association.

The present reruns of the second NOVA season will continue until the end of September. At that time, NOVA will go off the air temporarily until the third season starts. There is still some question as to when it will begin, although early January 1976 is the most likely date. Regardless of the date, the weekly time-slot on PBS will be at 8 p.m. on Sundays.

### NOVA Program Schedule

5 August. *The Tuaregs*. Life in a Bedouin family eking out a precarious existence on the edge of the Sahara (Granada).

12 August. *Bird Brain—The Mystery of Bird Navigation*. The story of bird migration and how birds find their way (BBC).

19 August. *The Plutonium Connection*. Is the spread of nuclear power increasing unacceptably the risk of fissionable material being stolen or diverted for bomb-making? (WGBH).

26 August. *The Search for Life*. A look at the origin of life on earth and its likelihood of existing elsewhere in the galaxy. (WGBH).