Science Academies Offer a Variety of Programs

The academies of science throughout the country provide a range of programs, meetings, and special events that are well worth looking into. There are 46 state, city, or regional academies of science which are affiliated with the AAAS. They serve 36 states, five cities, and three regions (see map). Academies average about 1000 members, ranging from some 200 to a high of 11,000.

The aims of academies of science parallel the aims of the AAAS—to further the work of scientists, facilitate their cooperation, and increase the public understanding of science. Three academies formally embrace the arts and letters both in their programs and their names.

A number of academies have long histories. Maryland predates the AAAS by half a century, while the three youngest academies recently celebrated their 20th anniversaries.

How do the academies of science differ from the other 200+ affiliates of the AAAS? The academies are delimited by geographical boundaries rather than by specific disciplines or fields of endeavor. Their interests cut across the fields, and most are organized into sections much like the AAAS. Often an academy has its own affiliated organizations within its state. Several academies operate museums or are closely tied to science museums.

Whom do academies serve? Their programs are directed at academic and industrial scientists, students and teachers, agencies of the state government, and the general public.

Their annual meetings offer an impressive diversity of papers, lectures, discussions, workshops, and exhibits. The following list of topics was put together from recent programs of various academies' annual meetings:

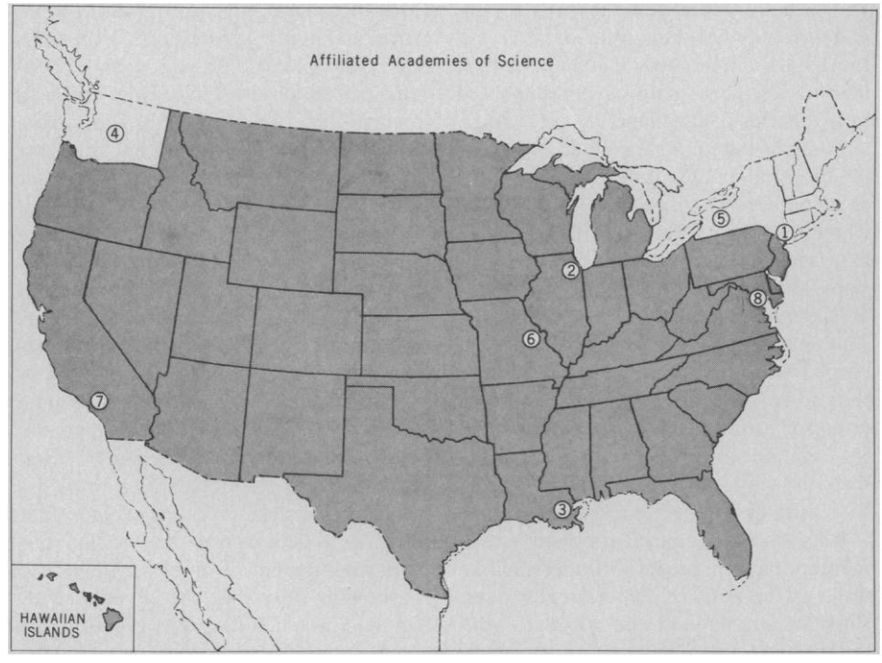
- Observing a Mushroom Grow from Space: Landsat's Unique Perspective on Center-Pivot Irrigation
- Use of Parasites for Gypsy Moth Control in Virginia
- Medicine of the Pre-European Great Plains Indian Peoples
- Biochemistry of Aging
- Computer Analysis of the Three-Dimensional Image of the Purported Burial Cloth of Christ
- The Directional Drilling Problem of Petroleum Engineering
- Environmental Effects of Tall Buildings in Coastal Cities
- The Public's Perception of Media Weather Forecast Terminology
- Sex and the Loneliness of the Rock-and-Roll Performer
- Rock Glaciers and Climate

Throughout the year academies sponsor conferences, field trips, research projects, research grants, seminars, lectures, and awards. They produce a variety of publications. Some maintain speakers' bureaus and help interpret science to the public through special lectures, exhibits, and museum programs.

One academy currently owns and operates a farm with the aim of developing an operational model of environmental quality and good farming. A midwestern academy has recently hosted ten Chinese geographers as part of the academy's exchange with the Scientific and Technical Association of the People's Republic of China. In the Great Lakes region an academy has begun a "Critical Issues Study Program," which focuses on problems within the state—energy, land use, and responsive government. Another midwestern academy, under the auspices of its committee on science and society, has published a status report on energy in the state with suggestions for policy action. Still another, in the southwest, has prepared an endangered species committee report.

A number of academies advise state governments on scientific and technical matters. Six reported on the problems and progress of such endeavors at the 1978 AAAS annual meeting.

Academy efforts extend to young people. Nearly half of the academies have formal programs for college students. All have specific activities for high school students—either through a junior academy of science or through specific



Academies of Science affiliated with the AAAS. Shading represents those states whose academies of science are affiliated with the AAAS. Other affiliated academies of science are: (1) American Institute of the City of New York, (2) Chicago Academy of Sciences, (3) New Orleans Academy of Sciences, (4) Northwest Scientific Association, (5) Rochester Academy of Science, (6) Academy of Science of St. Louis, (7) Southern California Academy of Sciences, and (8) Washington Academy of Sciences.

educational programs for youth. The academies administer small research grants from the AAAS to encourage student research in the sciences. Some 25 students from across the United States present their research papers each year at the AAAS annual meeting. Back home, several academies have ongoing visiting scientist programs for schools.

Forty-four of the academies of science are principally related to the AAAS through the National Association of Academies of Science (NAAS). The NAAS is a 50-year-old alliance of affiliated academies with a new name as of 1979, changed from the Association of Academies of Science (AAS). Its aim is to promote common aims of the various academies and the AAAS. The NAAS arranges academy-related symposia, workshops, meetings, and junior academy activities at the AAAS annual meetings and each year publishes a directory and proceedings. The staff of the AAAS Office of Science Education serves as liaison for the NAAS.

For further information write to Joseph M. Dasbach, AAAS Office of Science Education, at the AAAS address.

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Handicapped Research Agenda Completed

A 2-day workshop to develop an agenda of research on science and technology for the physically handicapped was conducted in November 1978 by the Office of Opportunities in Science. The workshop was organized under a contract from the Directorate for Applied Sciences and Research Applications (ASRA) of the National Science Foundation (NSF), and was designed to provide ASRA staff with background for planning a congressionally mandated program of research on science and technology.

The workshop was the only such agenda-planning exercise to involve large numbers of handicapped scientists and engineers and representatives of handicapped consumer organizations, as well as individuals working on research and development (R & D) for the disabled. Further input to the study was provided by members of the AAAS Resource Group of Handicapped Scientists and by manufacturers of devices for disabled consumers.

Workshop participants sent numerous recommendations to the NSF. Overall, the emphasis is on the utility and appropriateness of research (and resulting devices) to fit the needs of the consumer. Specific recommendations were categorized by disability in the areas of mobility, aural, visual, and vocal impairment with the interface between social science research and technological innovation given highest priority. Devices and their impact on people and policy cannot be logically separated, according to workshop participants, and they encourage consideration of both factors in research design.

Participants based their views on experience with the research and development process, and recommended principles for agencies operating programs of R & D for the physically handicapped. They ranked as most important funding research which has clear potential for improving the functioning of handicapped individuals and for increasing their independence and employability. This philosophical principle should guide the program even where it is not possible to determine the exact contribution of research in advance.

Workshop participants also stressed that members of the handicapped community must be involved in every stage of the research process from planning to testing. Their inclusion on research teams could eliminate situations where resources are appropriated for R & D efforts which are neither needed by nor suitable for the handicapped population.

Copies of the research agenda are available through the National Technical Information Service. For more information, write the Office of Opportunities in Science at the AAAS address, or call 202-467-5438 (voice or TTY).

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Association for Appropriate Technology Formed

The Association for the Advancement of Appropriate Technology for Developing Countries (AAATDC) recently announced its formation. The association's objective is the scientific and technological advancement of developing countries through directed action programs.

Based at the University of Michigan, AAATDC publishes a quarterly journal, *Approtech*, and will direct research, field projects, conferences, and workshops.

The AAAS has been closely involved with the formation of the association. Through a grant from the Institute of International Education, the AAAS invited a group of 10 foreign students to attend the annual meeting in Denver in 1977 and again in Washington in 1978. This group of students, working with the AAAS Office of International Science, took the lead in organizing AAATDC.

For background and membership information, write: AAATDC, 613 Haven Hall, University of Michigan, Ann Arbor, Michigan 48109.

Report of First International Rangeland Congress

The first International Rangeland Congress was held in Denver, 14–18 August 1978. The aim of the meeting was to open to international debate the problems of providing animal products for a rapidly increasing population and increasing the productivity of the world's rangelands. The congress was arranged by the Society for Range Management in the United States.

The subject matter of the congress was pastoralism as a whole and both basic and applied interests in the physical, biological, and social sciences were well represented. As a result, many differences of orientation were rendered explicit and received valuable discussion. Perhaps the most sensational difference highlighted by the congress was the contrast between the socioeconomic contexts of pastoral production in the United States on the one hand and the developing world on the other. In the United States, wild rangeland is becoming too expensive to use for grazing because the competing interests of tourism and leisure activities are forcing up land values. In the developing countries rangeland is losing value not only through desertification, but through the failure to integrate its productive systems into national economies.

Most of the world's rangelands are in semiarid zones and attention has recently been focused on their vulnerability by the United Nations Conference on Desertification. Attendance at this congress was in part the result of professional contacts facilitated by U.N. connections.

Thirty-nine countries were represented but there were some conspicuous absences, including the U.S.S.R., China, Iran, Afghanistan, Pakistan, India, and a number of African countries. Some of the latter apparently stayed away because of South African participation.