edited by CYNTHIA LOLLAR

AAAS Organizes More Meetings of the Mind

Since its inception in 1848, the primary purpose of the American Association for the Advancement of Science (AAAS) has been to improve communication among scientists of all disciplines—to facilitate a meeting of minds. The weekly journal *Science* pursues this goal as fervently as any of the Association's myriad programs, from professional ethics to global change.

But nowhere is this purpose more evident than at one of the Association's scientific meetings. In 1992, AAAS will launch two new major meetings and take an established one abroad as part of a rejuvenated effort to "broaden our base of activities for members," says Robin Woo, AAAS Meetings director since 1991.

Science Innovation, an annual conference on new scientific techniques and instruments, will meet for the first time on 21 to 25 July in San Francisco. On 12 to 15 September in Chantilly, Virginia, Ion Channels in the Cardiovascular System will gather many of the nation's top researchers at work in this rapidly growing field. And 1992's annual Human Genome meeting will take place 14 to 17 October in Nice, France, in collaboration with the Human Genome Organisation (HUGO).

"These new meetings will allow AAAS to expand its effort to attract and serve members and to advance the work of science," says Woo, a developmental biologist with undergraduate training in anthropology and a master's degree in business administration. Woo came to AAAS after six years at UCLA, where she organized the programs for the UCLA Symposia on Molecular and Cellular Biology.

The 1992 Ion Channels meeting will bring together basic, clinical, and pharmaceutical scientists seeking synthesis of the latest information on how ion channels work in the cardiovascular system. Issues under consideration include subunit function, modulation and control, mutagenesis and amino acid replacement studies, and channel involvement in disease processes such as arrhythmias and sudden death.

Among the many scientists slated to present their work at the Ion Channels conference are Arthur M. Brown of the Baylor College of Medicine, William A. Catterall of the University of Washington, and Rod MacKinnon of Harvard Medical School.

Ion Channels is the first of what Woo hopes will be a whole string of annual topical conferences sponsored by AAAS.

"The idea behind topical conferences is for AAAS to help develop fields that are in their infancy or are having trouble getting organized," says Woo. "AAAS provides the financial and organizational resources; researchers provide the science."

For example, slated for the 1993 annual meeting in Boston are two seminars that Woo hopes eventually to spin off into their own conferences. The topics: mapping the human brain, and phosphatases and kinases.

Science Innovation '92, sponsored by AAAS and *Science*, is the Association's most ambitious new meetings effort. The focus of this year's meeting will be new techniques and instruments in biomedical research. Woo hopes to attract bench scientists from academia and industry, as well as government.

Morning plenary sessions will provide overviews of new technologies, followed by informal afternoon workshops in which attendees can explore how new tools relate to specific projects. Workshop topics include: brain research, DNA forensics, gene therapy, high-speed liquid chromatography, field flow fractionation, laser tweezers, and more.

"Science Innovation should directly improve the way scientists do research."

–Robin Woo, Director, AAAS Meetings

In addition, industry representatives will present exhibits of their products and services throughout the conference, and hold evening workshops, as well. Paul Berg of Stanford University will give the keynote address. Among the many presenters will be Leroy Hood of the California Institute of Technology, Julian Gordon of Abbott Labs, Helen Donis-Keller of Washington University, and Curtis Harris of the National Institutes of Health.

"Science Innovation should directly improve the way scientists do research," says Woo. "They'll learn what's working and what's not working, and they'll be introduced to powerful technologies that are relatively unknown or underutilized."

The fourth annual Human Genome meeting in 1992, cosponsored by *Science* and HUGO, will leave its traditional San Diego site and visit France in an effort to streamline the proliferating number of human genome gatherings, and coordinate the international research effort. Although individual AAAS programs have sponsored workshops and conferences abroad, Human Genome '92 will mark the Association's first major meeting overseas.

Odd years will find the genome conference focusing on mapping, while meetings in even years will concentrate on the broader issues, technologies, and results associated with the effort.

Along with advancing scientific knowledge in a practical way for scientists, says Woo, the Meetings office wants AAAS gatherings to be enjoyable. "We want to help put the joy back into science," she says. "That's why we all got into science in the first place." ■

AAAS Meetings Want *YOU*

AAAS Meetings director Robin Woo says she is on the lookout "all the time for suggestions for new meetings, in any of the sciences." Scientists may submit their proposals for new meetings to Woo by writing her at AAAS, Meetings Office, 1333 H Street, NW, Washington, DC 20005.

Science Innovation '92 registration: The deadline for the discounted early registration is 15 May; final deadline for advance registration is 10 July. Fees vary depending on AAAS member status and other factors; there is a discounted rate for students. For more information on any AAAS meeting, call 202-326-6461, or fax 202-289-4021.

Environmental Rights?

Does the concept of human rights include the right to a healthy environment? This and other related questions were the subject of a three-day conference in April cosponsored by AAAS on "Earth Rights and Responsibilities: Human Rights and Environmental Protection."

A diverse, international group of about 300 human rights advocates, environmental activists, scientists, lawyers, philosophers, and theologians gathered at Yale Law School the weekend of 3 to 5 April for what AAAS Human Rights Program director Audrey Chapman describes as the first conference of its kind.

"Only one of the international human rights covenants refers to the environment; most of them were written before the current level of environmental concern," says Chapman. "One goal of the conference was to discuss what, if any, environmental rights exist."

Presentations at the conference explored the question in three ways, says Chapman: the rights of humans to a healthy environment; the rights of future generations to a certain standard of environmental vitality; and the rights of the ecosystem, independent of its utility to humans.

Attendees also discussed the issues involved in measuring and implementing environmental rights, and whether environmental concerns should be woven into the professional ethics statements of scientists and engineers.

The idea of environmental rights is still considered "fringe by the human rights community," says Chapman, "but there's a growing realization that a certain minimum standard of environmental quality is a precondition for the implementation of many human rights."

Just what that minimum is needs to be worked out, says Chapman. Her staff at AAAS has begun efforts to create two working groups. One would bring together scientists and ethicists to develop the scientific basis for the right to a healthy environment, and create methods of measuring whether that right is being achieved, says Chapman. The second group would consist of environmental and human rights specialists, who would "try to develop and operationalize concepts of environmental rights."

In addition, Chapman hopes to organize a two-part symposium on environmental rights for the 1993 AAAS annual meeting.

AAAS is not the only group to be moving ahead in this new field. Human Rights Watch and the Natural Resources Defense Council, a cosponsor of the Yale conference, will publish case studies of government harassment of environmental advocates worldwide.

Proceedings from the conference will be published in a special issue of the *Yale Journal of International Law* this fall. For more information about the conference, contact the AAAS Human Rights Program at 202-326-6600. ■

■

Ethics, Law, and the Human Genome

So far, more than 2000 genes have been cloned and described by scientists working to map the entire human genome. Progress of this kind raises as many questions as it answers, not all of them strictly scientific. Recognizing this, AAAS embarked on a series of three conferences concerning the ethical and legal implications of genetic testing.

The report from the first conference, held on 14 to 16 June 1991 in Berkeley Springs, West Virginia, is now available. (The second conference was held in March 1992; the final session will take place in June 1992.)

The Genome, Ethics, and the Law offers a synthesis of discussions that took place among 40 or so invited leaders in the fields of science, health care, law, insurance, science policy, ethics, and religion, according to AAAS program director Mark Frankel. In addition, the report offers three background papers on the scientific basis of genetic testing, the ethical implications of recent and anticipated advances, and the legal issues raised by these advances.

Genetic tests come in three basic forms today: one for "carriers," those people who aren't sick but risk passing along a disease to their children; one for prenatal diagnosis of such genetic conditions as Down syndrome; and one for susceptibility to a disease, before symptoms have appeared.

One problem is that tests like these can allow physicians to diagnose illnesses whose nature and probable course aren't yet fully understood, according to the report. What's more, a simple diagnosis won't predict how the gene will affect every person; there is great variety in how each gene is expressed.

Genetic testing also raises questions of privacy, say the report's authors. Who will control the information that widespread genetic testing might provide? Can confidentiality be assured through new ways of collecting and storing this information?

Genetic testing's impressive commercial potential has also affected the openness with which science is traditionally practiced. What's more, say the report's authors, "with profits at stake, developers may be even more inclined to describe a new test in undeservedly glowing terms, leading to its premature introduction." Patent litigation has become a major factor, as well, adding greatly to the confusion that already surrounds issues of intellectual property.

Based on the 1991 conference, AAAS and its advisory committee set agendas for the subsequent meetings in March and June 1992. The second conference, which met in Charleston, South Carolina, focused on ethical and legal aspects of research efforts to track genetic diseases such as fragile-X syndrome and manic-depressive disorder through families. U.S. researchers working in these and other areas described their studies and discussed how they handled the attendant ethical and legal issues.

The third and final conference in Los Alamos, New Mexico, will offer in-depth analysis of the implications of genetic testing for family relationships, privacy and confidentiality, links among genetics, behavior, and responsibility, and intellectual property. Reports from both conferences will be available from AAAS.

The genetic testing conference series is co-organized by the National Conference of Lawyers and Scientists (a joint committee of AAAS and the American Bar

Association) and the AAAS Committee on Scientific Freedom and Responsibility. Funding for the series comes from the National Institutes of Health.

For more information about the conferences, or to order a copy of the first report, contact the AAAS Science and Policy Programs at 202-326-6600. ■

■

President's R&D Budget Analyzed

On 29 January, President Bush released his proposed budget for fiscal year 1993. Not much more than six weeks later, AAAS's annual analysis of the budget's scientific R&D allotment was printed, bound, and ready for distribution.

Such timeliness is crucial to the report's credibility, says AAAS program director Stephen Nelson, who oversees the project, as is the involvement of the 23 professional associations known collectively as the Intersociety Working Group, which collaborates on the report.

Stephen Nelson

"It's unique. We look at the R&D budget objectively, in a timely way, across the board," says Nelson.

Highlights from the *AAAS Report XVII: Research and Development FY 1993* include:

■ Overall, the President has asked that the government invest $75.7 billion in scientific R&D, which amounts to 3.3 percent more than was appropriated in 1992—just enough to match inflation.

■ Funding for defense R&D in general would rise just 1.3 percent. However, the Department of Defense would gain $925 million over last year, a rise of 2.4 percent.

■ Other big winners include: the National Aeronautics and Space Administration, up $747 million, or 8.7 percent; the National Institutes of Health, up $437 million, or 5.1 percent; and the National Science Foundation, up $443 million, or a whopping 21.5 percent.

■ Virtually all of the $2.4 billion increase proposed by the President represents gains made by three "big science" projects [the space station, the superconducting supercollider, and the Strategic Defense Initiative (SDI)], plus four initiatives of the Federal Coordinating Council on Science, Engineering, and Technology (FCCSET): global change; biotechnology; advanced material and processing; and high performance computing and communications. SDI alone accounts for nearly half the total proposed R&D increase.

How likely is it that Congress will approve these proposals? Given that the R&D increases sit alongside cuts in housing, transportation, rural development, and other needs in the President's budget, "few are likely to agree with all of the trade-offs," say the authors of the AAAS report. "It is likely that Congress will reopen the debate about...high-profile R&D investments."

The AAAS report is background for the 17th annual AAAS Colloquium on Science and Technology Policy, held in Washington, D.C., on 16 to 17 April. The meeting allows for top policymakers to outline the nation's future course in scientific R&D. Speakers this year included D. Allan Bromley of the White House Office of Science and Technology Policy; Frank Press of the National Academy of Sciences; Bernadine Healy of the National Institutes of Health; and the chief financial officers of such agencies as the Department of Energy and the National Science Foundation.

Copies of the report are available from Tasco. Call 301-645-5643, or write: AAAS Books, Department A32, P.O. Box 753, Waldorf, Maryland 20604. ■

IN BRIEF

■ **The creative interplay of science and art** is present in the works of two artists recently on display at AAAS headquarters in Washington, D.C. Gary Gaffney started as a mathematician before branching out into visual art. His "Works on Paper" give an arithmetical edge to drawing. Lila Snow's colorful collages and paintings also reflect her scientific roots; her undergraduate chemistry degree was followed by training at the Corcoran School of Art in Washington, D.C. The two artists appear as part of the AAAS Art of Science and Technology program. Contact Virginia Stern at 202-326-6672 for more information.

■ **The AAAS Forum on Science in Africa: Innovations in Higher Education**, supported by the Carnegie Corporation of New York, is slated for 20 May 1992, at AAAS headquarters in Washington, D.C. Donald Ekong, Secretary General of the Association of African Universities, will give the keynote address on regenerating the sciences and engineering through regional cooperation. Nine other African presenters will discuss sustainable, marketable strategies for conducting high-quality training and research within Africa. There is no fee to attend the forum, but space is limited and registration is required. For more information, contact the AAAS Sub-Saharan Africa Program at 202-326-6730.

■ **Meeting the needs of science students or practitioners with disabilities** is the subject of four new booklets offered by the AAAS Project on Science, Technology, and Disability. The *Barrier-Free in Brief* series offers practical guidance to improving accessibility to scientific meetings, laboratories, classrooms, and out-of-school science programs. There is also a section on appropriate behavior and terminology regarding those with disabilities. For more information, contact Beth Goodrich at 202-326-6630 (Voice/TDD).

■ **The 9th Annual Benjamin Franklin Event** is scheduled for 28 April in Washington, D.C., as part of National Science and Technology Week. Mathematician Arthur Benjamin demonstrates "mathemagics," the art of high-speed mental calculation, during Family Science Night at the National Air and Space Museum. For more information, contact Patricia Curlin at 202-326-6602.

■ ***Scientist to Scientist*** is a new newsletter from AAAS's International Directorate. The first issue in April describes the publication as seeking to be a clearinghouse of information on "actions being taken by scientific and engineering societies in the United States to assist colleagues in the former Soviet Union." For information, contact Sandra Burns or Beth Boswell at 202-326-6650.

■ ***Good Science and Responsible Scientists***, a AAAS report on scientific fraud and misconduct, is now available. The report is a product of the National Conference of Lawyers and Scientists (NCLS), a joint committee of AAAS and the American Bar Association. The report includes a brief policy history of the fraud and misconduct controversy, and a review of how the scientific community has responded to such incidents. It concludes with an examination of four issues that will require more effective responses by all involved parties. For more information about the report, contact AAAS Science & Policy Programs at 202-326-6600.

■ **The AAAS Southwestern and Rocky Mountain Division's annual meeting** is slated for 17 to 21 May 1992 in Tucson, Arizona. The theme is "Beauty in Science." For more information, contact SWARM at Colorado Mountain College, 215 Ninth Street, Glenwood Springs, Colorado 81601.