AAAS NEWS AND NOTES

edited by Coimbra Sirica

SCIENCE POLICY

President's R&D Budget Sets Stage for Colloquium

Big funding increases for the National Institutes of Health (NIH) and the Department of Defense could boost overall federal R&D spending in fiscal year 2002, but most other R&D agencies would feel the sting of spending cuts, according to a preliminary analysis of the recently released Bush budget.

The FY 2002 budget will be a main focus of the 26th Annual AAAS Colloquium on Science and Technology Policy, which takes place 3 and 4 May 2001 at the Omni Shoreham Hotel in Washington, DC. But the science policy community got a sneak peek at the new Administration's priorities for R&D spending at a forum on the proposed FY 2002 budget, sponsored by the Washington Science Policy Alliance and held at AAAS Headquarters on 12 April.

Speakers Marcus Peacock of the Office of Management and Budget, Kei Koizumi of AAAS, and David Goldston of the House Science Committee each offered his take on the proposal and fielded questions in an overflowing auditorium.

With the large increases allotted to NIH and defense, the total federal R&D budget would increase by nearly 6 percent in FY 2002, said Peacock, Associate Director for Natural Resources, Energy, and Science at OMB. He noted that the emphasis on health and defense, and an expansion of science and technology education funding all reflect priorities laid out during the Bush campaign. Peacock pointed to NIH especially as a "flagship research area," comparable to the space program in the 1960s, energy in the 1970s, and defense in the 1980s.

But the outlook for the rest of the federal R&D agencies is not so rosy, warns Kei Koizumi, Director of the AAAS R&D Budget and Policy Program. His analysis finds that 7 out of the 10 major agencies, including the National Science Foundation (NSF), the Environmental Protection Agency (EPA), NASA, and the departments of Energy, Commerce, Interior, and Agriculture, will have funding cut under the Bush plan. Discretionary spending, which includes R&D spending, has been squeezed by the Administration's proposed $1.6-trillion tax cut, leaving "little to no margin for error," said Koizumi.

The news for agencies like NSF and the Department of Energy could get a little better after Congress has a chance to compare its priorities with those of the Administration. "We think these science and technology numbers are too low," said Goldston, of the House Science Committee.

Further details on the proposed Bush budget, including a breakdown of spending by agency and the budgetary context for Administration spending on R&D, can be found on the AAAS R&D Web site at www.aaas.org/spp/R&D. Registration for the AAAS Colloquium on Science and Technology Policy may be completed on-line at www.aaas.org/spp/dspp/rd/colloqu.htm.

AAAS began publishing federal budget numbers for R&D in 1976. Every year, the AAAS R&D Budget and Policy Program publishes three major reports. The first report examines the President's budget proposals for R&D for key departments and disciplines in collaboration with contributors from other scientific, engineering, and higher education societies. After Congress completes the appropriations process for the coming fiscal year (usually late fall), the Program prepares a second report that estimates and analyzes R&D funding in the final appropriations. Each year, the Program also publishes a Science and Technology Policy Yearbook of writings on major issues in science and technology policy for that year. –BECKY HAM

SCIENCE AND THE ARTS

AAAS Displays Art of Dale Haven Loy

Visitors to the AAAS building at 12th and G streets, NW, may now enter the remarkable world of artist Dale Haven Loy, whose collages and paintings are hanging on the walls of the first floor of the building.

In a description of Loy's work, curator Shirley Koller writes: "The subject matter reflects [the artist's] love of nature and concern for the Earth. Fragments of printed paper and text are incorporated in the collages; they are reminders of places of promise and of destructive disregard of the Earth and its inhabitants, ranging from the Berlin Wall to Afghanistan."

Untitled, 1980, acrylic and paper on 100 percent rag.

The art chosen for the Loy retrospective at AAAS is on loan from local collectors and will be on display through 30 June. Loy, a resident of Washington, DC, is the latest in a series of artists invited to participate in the AAAS Art of Science and Technology Program. The program was established in 1985 to display work that illustrates the centuries-old interaction of art and science. Exhibitions span the range of scientific inquiry.

Viewing hours are Monday through Friday, 9 a.m. to 5 p.m. For more information, please e-mail vstern@aaas.org, or call Virginia Stern at 202-326-6672.

SCIENCE AND THE LAW

Strategies to Address Alleged Misconduct

The courts of law and of public opinion can deal harshly with institutions that have not prepared themselves to address allegations of research misconduct.

This message will be the subtext of a conference convened by the AAAS and the U.S. Office of Research Integrity on 30 and 31 May entitled "Legal Issues and Strategies for Responding to Allegations of Research Misconduct."

The conference will focus to a great extent on the new Federal Policy on Research Misconduct, which was published on 6 December 2000 by the Office of Science and Technology Policy in the Executive Office. Scheduled to be implemented by all federal research agencies by the end of 2001, the new policy revises the definition of research misconduct and places the responsibility for investigating such allegations in the hands of the institutions that receive federal funds for their research activities. The conference will also examine a number of relevant legal issues that have arisen in lawsuits brought by various parties involved in allegations of misconduct. The event is being co-sponsored by Howard University in Washington, DC, and Johns Hopkins University in Baltimore.

"We'll have the government officials at the conference who are responsible for both developing and implementing the new federal policies," says Mark S. Frankel, director of the Scientific Freedom, Responsibility and Law Program of the AAAS Directorate for Science and Policy Programs. "Our main goal is to increase the understanding of individual institutions so people go home with a higher level of knowledge about the policies and court cases that may have a bearing on them. This will be an opportunity to buttonhole the experts and get some answers."

The new federal policy defines research misconduct as "fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results." It notes that a finding of research misconduct requires that there be a significant departure from accepted practices of the relevant research community; that the misconduct be committed intentionally, or knowingly, or recklessly; and that the allegation be proven by a preponderance of evidence.

"The big difference is in the definition of research misconduct," says Chris Pascal, Director of the Office of Research Integrity, a branch of the Department of Health and Human Services. "The current definition was seen as too vague. Also, this new policy will have to be incorporated into the guidelines of all the funding agencies." Until now, most agencies had no misconduct guidelines and there was no uniformity among those agencies that did have guidelines.

The organizers of the conference hope to impress on institutions and their representatives the importance of developing a thorough and competent system for addressing allegations of research misconduct.

"It's important to have a well-thought-out process that is followed when situations arise, and this is where institutions get themselves into trouble," says Pascal. "We call it a rare event with a big impact. It can be very uncomfortable, and there may not be a lot of expertise, especially among the smaller institutions."

In developing their internal policies, institutions must consider the rights of the scientists accused of misconduct, the rights of the whistleblowers who may be risking their careers to report their concerns, and the importance of making sure that the process is a fair one. They should also be prepared to take steps to protect themselves and their employees from possible legal challenges, says Pascal.

"The conference should help administrators understand that when an allegation is made, one of the first things they should do is call legal counsel," says Pascal.

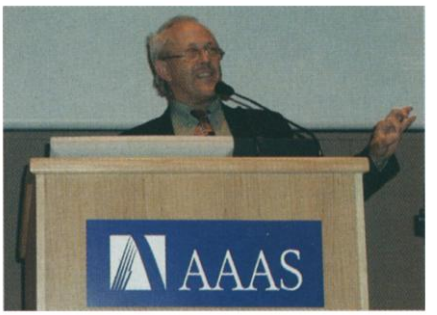
For information on how to register for the legal issues conference, please visit the following Web site: www.aaas.org/spp/legal.

SCIENCE AND RELIGION

Scientist Seeks to Link Science to Breadth of Human Experience

The origin of the universe, the firebombing of Dresden, and a mother's love were all featured in a rainy March night's discussion of "Physics, Metaphysics, and Meaning," the latest installment in the public lecture series presented by AAAS's Program of Dialogue on Science, Ethics, and Religion (DoSER). The talk, delivered by keynote speaker George Ellis of the University of Cape Town, South Africa, outlined a sweeping world view that joins current scientific paradigms with ethics and the search for meaning in human life.

Ellis, a Professor of Applied Mathematics, has written over 200 technical papers in the area of cosmology, and is a colleague of well-known cosmologist Stephen Hawking, with whom he co-authored the book *The Large Scale Structure of Space-Time*. Not content to focus his efforts solely in science, however, Ellis is also active in developmental and peace projects in South Africa, and



George Ellis

PHOTO: REBECCA HAM

was awarded the Star of South Africa medal in 1999 by President Nelson Mandela.

In his talk, Ellis discussed the hierarchy of reality experienced by humans, from the world of matter and forces probed by elementary physics and chemistry, to the world of ideas and feelings that were behind events such as World War II. The next steps in the hierarchy include the world of Aristotelian possibilities and the Platonic world of mathematical equations.

A fifth and final world in this series would contain metaphysical and ethical realities—such as the initial conditions at the start of the universe and the nature of beauty—that are above scientific investigation but are linked together by theology, suggested Ellis.

Although science can't provide justifications for morality and ethics, he cautioned that these values are necessary for applied science. "A purely technological view does horrendous things in practice," said Ellis, citing instances such as the development of napalm, computer viruses, and biological weapons.

A. Karim Ahmed, Director of the International Program at the National Council for Science and the Environment and President of the Global Children's Health and Environment Fund, responded to Ellis' remarks. Ahmed and Ellis both concluded that the ultimate basis of morality should be a "transforming" doctrine of love and self-sacrifice, beginning with a mother's devotion to her children and culminating in the approach towards social justice practiced by individuals like Gandhi and Martin Luther King, Jr..

A second DoSER lecture in this series, "Evolution and the Quest for Purpose," was held 26 April. Future lecture topics include robotics and artificial intelligence and the human genome project.

The AAAS Directorate for Science and Policy Programs initiated the DoSER program, originally the Program of Dialogue Between Science and Religion, in 1995. For more information, e-mail DoSER@aaas.org, visit the Web site at www.aaas.org/spp/dspp/dbsr, or call Program Director Audrey Chapman at 202-326-6795. **–BECKY HAM**