

AFTER LAST YEAR'S THREAT TO NSF, MIKULSKI ISSUES ANOTHER MANIFESTO

Following last year's commanding declaration on "The Future of the NSF" in a report of the Senate Appropriations Committee, the same committee issued a report (103-311) on 17 July on the bill (HR 4524) to fund the Departments of Veterans Affairs and Housing and Urban Development and independent agencies. The section on NSF was prepared at the direction of Senator Barbara Mikulski, the Maryland Democrat who chairs the appropriations subcommittee that rules over the foundation, and was adopted by the full committee. In last year's report, Mikulski threatened to reduce the foundation's budget if it did not heed her committee's command to broaden its mission to do more "strategic and applied" research (see *PHYSICS TODAY*, October 1993, page 109). The language in her latest report was blunt but less bombastic. Following is an excerpt on research universities:

"With the national focus on deficit reduction, research universities will be under increasing pressure throughout the next decade to reassess their priorities and to allocate resources judiciously. Federal funding cannot be expected to compensate decreases in private-sector research investments. Growth in the number of graduating PhD students educated in narrow disciplines cannot be sustained, while dramatic improvements in science, math, engineering and technical education at all levels will be necessary to build the broadly competent work force the nation will need to support a strong and productive economy. Industry will look to universities more and more to deliver capable, well-educated graduates as well as to make research advances that will improve their products and processes over the long term. Universities expect and need leadership from the National Science Foundation to help them design and implement a new agenda for the future of research and education. The foundation's leadership must be exercised within the context of an inte-

grated Federal investment strategy for research and development that is designed to stimulate the creation of new knowledge and new technologies that in turn lead to new employment opportunities, greater economic security and an improved quality of life for all of our citizens."

In the House-Senate conference report (103-715) issued 2 December on the same appropriations bill, the panel had other recommendations that bore the imprint of Mikulski and her House appropriations subcommittee counterpart, Representative Louis Stokes, an Ohio Democrat. Here is a section from that report:

"The committee of conference recognizes that NSF has actively supported education activities to encourage participation of women and minorities who are underrepresented in science, engineering and mathematics and persons with disabilities. NSF is encouraged to continue emphasizing this area. Further, the conferees urge NSF to coordinate its programs with related programs in other Federal agencies to ensure that Federal resources achieve the maximum

beneficial effect. . . .

"The conferees join in support of the Administration's commitment to investment in science and technology and concur with the belief that our nation's economy and future well-being are dependent upon these essential investments. Consistent with the Administration's position to invest in science and technology as part of its agenda to build a prosperous economy, the conferees direct each agency under its jurisdiction [NSF, NASA, the Environmental Protection Agency, the Office of Science and Technology Policy and others that are not engaged in R&D activities] to establish an interagency economic impact and diversity council to provide guidance and advice with respect to issues in the areas of science and technology as they impact racial and ethnic minorities, women and persons with disabilities who are underrepresented in these fields. OSTP is to monitor and report back to the committees on the creation of these councils by 31 October 1994."

— IRWIN GOODWIN

WASHINGTON INS & OUTS

OSTP GETS THREE MORE PHYSICISTS; FAMILY EISENSTEIN SETTLES AT NSF

Ever since the White House enlisted scientists to work on military technologies during World War II, physicists have been on the front line. As advisers and staffers, physicists were dominant in science and technology circles at the Old and New Executive Office Buildings into the Reagan and Bush years. The Clinton Administration has made a calculated decision to diversify the backgrounds and experience of its scientific and technical people. Even so, a tiny team of physicists operates in today's Office of Science and Technology Policy under its director, John H. Gibbons, who not

only trained and practiced as a physicist but continues to think like one (see *PHYSICS TODAY*, August, page 41).

While there are no physicists in the positions of associate directors, several physicists occupy the ranks just below. They include **Frank von Hippel**, on leave from Princeton University, who is assistant director for national affairs, and **Henry C. Kelly**, lured from the Office of Technology Assessment, a think tank established to advise Congress and headed for nearly 14 years by Gibbons, to be assistant director for technology. (For more on von Hippel and Kelly,

see PHYSICS TODAY, September 1993, page 51.) OSTP's associate director for science, M. R. C. ("Marci") Greenwood, trained as a physiologist and known as a prominent nutritionist, recognized early on that she needed physicists on her staff and engaged two highly regarded practitioners—though her budget only allowed them to be around part time.

The first to join Greenwood's office was **Ernest J. Moniz**, who was director of MIT's Bates Linear Accelerator Center for a decade and now is head of MIT's physics department. For the first three months this year, Moniz spent half-time as a consultant to OSTP, mainly helping organize the Forum on Science in the National Interest, held on 31 January and 1 February at the National Academy of Sciences (see PHYSICS TODAY, March, page 41). Moniz used the papers and discussions presented at the forum to draft the White House's science policy paper, released in August (see PHYSICS TODAY, September, page 79). In fact, he is credited as the principal author of the white paper.

"It's fair to say that the document is only the beginning of a process to identify the purpose and progress of science in our society and now we need to turn that into agenda items for action," says Moniz. To help do this, he serves OSTP as an occasional consultant.

With a PhD in theoretical physics and nuclear structure, earned at Stanford in 1971, Moniz spent a year as a National Science Foundation research fellow at the Center for Nuclear Research in Saclay and then taught physics at the University of Pennsylvania in 1973 before joining MIT.

Benjamin B. Snavely, who retired from Kodak in 1991 and joined NSF as program director for advanced technologies and instrumentation in the division of astronomical sciences, came to OSTP's science office last February. Though he continues to work as an NSF employee two days each week, he is the foundation's representative on OSTP's interagency review of the national labs. The study of the labs was ordered by President Clinton in a review directive early this year. When completed by 15 April 1995, the review is to be submitted to Clinton's Cabinet-level National Science and Technology Council for some sort of decision about what to do. Clinton's directive also requires the Energy and Defense Departments and NASA to conduct independent studies of the labs under their jurisdiction. Of the three agencies, only DOE has set up a special task force to examine its labs. The

others are making internal studies. DOE's review, led by Robert Galvin, former chairman and CEO of Motorola Inc, is determining "alternative futures" for the department's lab system, in particular the nuclear weapons operations.

Snavely earned a PhD in engineering physics from Cornell in 1962 and immediately joined the Kodak research laboratories where he engaged in R&D on solid-state electronic devices and lasers. During that period he led the Kodak team that invented the tunable, continuously operating dye laser. In 1973 Snavely joined the Lawrence Livermore Laboratory as associate leader of the laser division and headed the group that demonstrated the first laser isotope separation process for uranium that could be scaled to commercial size—the so-called AVLIS process. He returned to Kodak in 1975 as assistant director of two divisions—physics and image recording. In this capacity, he was responsible for developments in laser-optical disk recording systems and electronic imaging systems based on charge-coupled devices and laser scanners. At NSF he has been involved in adapting the declassified Starfire missile tracking technology developed for the Strategic Defense Initiative, now renamed the Ballistic Missile Defense Organization. Known as adaptive optics, the technology cleverly aims a laser beam through the optics of a telescope so that astronomers can observe the heavens undistorted by the Earth's turbulent atmosphere.

Sometime last spring, Gibbons and Greenwood decided that a physicist was needed as assistant director for science and gave the job to **Gerald T. Garvey**, a laboratory senior fellow at Los Alamos and former director of the Los Alamos Meson Physics Facility, known more familiarly as LAMPF.

Garvey joined OSTP right after Labor Day. After receiving his PhD in nuclear physics at Yale in 1962 he stayed on as a post-doc working with D. Allan Bromley in research on the tandem accelerator. Garvey taught physics at Yale, Princeton and the University of Chicago in the 1960s

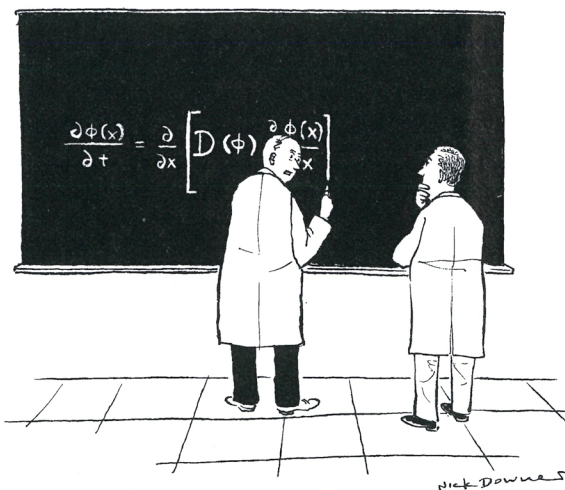
and 1970s. He was director of the physics division and senior scientist at Argonne National Lab from 1976 to 1984 and then joined Los Alamos, where he was program director for nuclear and particle physics and, from 1985 to 1990, director of LAMPF.

In October NSF will become the permanent scientific home of **Robert A. Eisenstein** and his wife **Karolyn**. They have been with the agency for somewhat more than two years—the period both agreed to be on leave from the University of Illinois. But when the day of reckoning came, they decided to remain at the foundation, where Bob is director of the physics division and Karolyn, a chemist who had worked in the education and human resources directorate, is now a program director in the chemistry division.

At Illinois, Bob directed the nuclear physics lab and taught physics; Karolyn was deputy director of the Science and Technology Center for High-Temperature Superconductivity, an alliance of Argonne, Illinois, Northwestern University and the University of Chicago. They met and married while at Yale where each collected a PhD in their respective fields.

Giving up tenure at Illinois "is not as painful as one might imagine," says Bob. "People need to move on to excite their intellects and discover their potential." There is a practical side to the decision for Eisenstein. NSF is elevating him to the Senior Executive Service of the US government, where his chance for advancement is better than at Illinois.

—IRWIN GOODWIN ■



"No, I can't dumb it down."