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SCIENTISTS AND PUBLIC SERVICE

• Mr. AKAKA. Mr. President, I rise today to call my colleagues' attention to the work of scientists around the country who are involved in guiding the federal government in issues relating to science and technology. As the ranking Democrat on the International Security, Proliferation, and Federal Services Subcommittee, I know the importance of these men and women who support our nation's ability to make informed science policy decisions.

Throughout this Congress, the Governmental Affairs Committee has held extensive hearings on the challenges facing the federal government to ensure adequate staffing levels in the face of aggressive competition from the private sector for skilled employees. A common theme of these hearings is the shortage of information technology employees, and the federal government is taking steps to fill the critical gaps in IT personnel through enhanced recruitment, retention, and training programs. The Office of Personnel Management recently announced new pay schedules for some levels of IT employees, and a new scholarship program will offer financial assistance to undergraduate and graduate students in exchange for a two-year commitment to work for the government in information security. The program was authorized by the FY01 Defense Authorization bill.

However, in the rush to ensure adequate IT and computer information security staffing levels, we should not forget the need to make certain that the federal government continues to attract physical and natural scientists. The November 24, 2000 issue of Science discusses the difficulties and rewards facing scientists who enter public service. These "civic scientists" are employed at all levels of government, as well as serving on federal advisory panels and review groups. Their activities play a critical role in making decisions for funding priorities, new initiatives, and regulatory actions that depend increasingly on scientific expertise.

The scientific community and the federal government have a mutually beneficial relationship, which is nurtured through programs that bring scientists into policy staff positions, both as career employees and as temporary staff. I know my colleagues are well acquainted with the Sea Grant Fellowship program that offers an educational experience to graduate students in marine or aquatic studies to work in a congressional, executive branch, or association office. Nor are we strangers to the American Association for the Advancement of Science (AAAS) Fellowship program that introduces over 100 scientists and engineers from diverse fields to executive and legislative policy positions for one to two years. These fellowship programs provide unique opportunities to scientists and serve as an introduction to working for the federal government.

In addition, many professional science and engineering societies are addressing the importance of these programs to science and the value of the scientists who choose to take on these roles. The scientific community is changing its view of those who work in science policy as digressing from "real science" to instead seeing it as a respectable career path. These programs and others put scientists into staff roles at the federal level and create politically informed citizen-scientists.

Besides bringing scientific expertise and professional service into federal offices for a year or more, these programs provide scientists with a deeper understanding of policy making and the government. It is expected when these "civic scientists" return to their universities, laboratories, and companies that they will share their experiences and understanding with others and encourage their colleagues to become involved. The activities taken by citizen-scientists, both as part of formal fellowship programs, and as employees, advisors, consultants, and individual voters, demonstrate the importance their work plays in our society. I will continue to seek increased opportunities for science fellows and scientific advisors to explore opportunities in federal policymaking, and I ask that the text of the "Science" article be printed in the RECORD.

The material follows:

[From Science Magazine, Nov. 24, 2000]

STAFFING SCIENCE POLICY-MAKING

(By Daryl Chubin and Jane Maienschein)

There are repeated calls for scientists worldwide to become involved in guiding government decisions concerning science. In the United States, science policy-making positions span the gamut, from political appointees (through a melange of advisory panels, review groups, and professional associations) to consultants, all of whom provide commentary—solicited and unsolicited—on budgets, programs, and current science and technology issues. Neal Lane, Assistant to the President for Science and Technology Policy, has called for "civic scientists" to enter public service as staff in support of informed science policy-making.

Given the daily decisions affecting the directions and applications of science, the more staff members who understand science the better. Otherwise, valuable time is wasted and risks are taken in making uninformed decisions about funding priorities, new initiatives, and regulatory actions that increasingly depend on considered scientific judgments. One way to add scientific value to decision-making is to bring scientists into staff positions, either within a policy career path or as a temporary assignment. The question is how to attract more scientists to take up this public service and how to prepare them to contribute?

Overcoming the underlying problem of conflicting core values in the scientific and policy cultures presents a challenge. Working individually within a laboratory hierarchy, scientists are rewarded for originality and ownership of ideas. Even in collaborative projects, the leaders typically receive the credit. Despite periodic calls for rewarding departments, multidisciplinary teams, and broader collaborations, an individualistic ethic prevails. Researchers seek credit, and the community practices individual accountability for performance. Priority of discovery, authorship, and invention all circle around the traditional proprietary nature of scientific knowledge.

Scientists who move from the laboratory into public service, and from the foreground into the background, will experience culture shock. An outstanding speech or position paper on which the scientist's name does not appear replaces an article published in a peer-reviewed journal. Ego must fade from view; instead, satisfaction comes from being part of the process and seeing it work. This requires learning to speak for someone else, in someone else's voice, to someone else's credit. Why should any self-respecting scientist want to do this? Because there is more at stake than acclaim by one's professional community. There is a larger public and national interest. Beyond altruism, staff work allows another expression of the competitive values of science. In a high-stakes high-tempo environment, scientists can make a difference by drawing on their research and pedagogical skills while mastering new ones. Many have done so admirably, but we need more scientists who are willing to help staff science policy-making.

In the United States, a number of programs exist to provide orientation and on-the-job training for scientists willing to enter this public role. For example, ResearchAmerica connects scientists in all federal legislative districts with representatives there. The Ecological Society of America is cultivating a cohort of Aldo Leopold Fellows. The Congressional Fellows program of the American Association for the Advancement of Science introduces scientists to the policy-making process. Many U.S. universities now offer undergraduate and graduate students a semester in Washington as an intern in an agency, congressional office, or think tank. These programs and others put scientists into staff roles at the federal and local levels and create cohorts of politically informed citizen-scientists. We applaud these efforts and call for more.

In particular, we need more public discussion of what it means to serve as staff and why it is important for science that some scientists take on these roles. We need additional training at all levels to negotiate the clash of cultures. We need rewards for those who undertake staffing roles and do them well. These scientists should not be seen as digressing from "real science" but as facilitating the expanding reach of science as a respectable career path. Staffing science should be embraced as a necessary part of the scientific enterprise, as well as a form of public service that advances interest, appreciation, and understanding of a rapidly changing world.•