

# OPINION

## Physicists and Politics: Strategies for the Real World

Bo Hammer

Congress watchers like to say that legislation is a lot like making sausage: What comes out of the grinder is a highly seasoned mixture of things—some good, some not so good—and the process is not especially appetizing. In December I completed a year as an American Physical Society Congressional Science Fellow, working primarily on high-energy physics policy for the Science, Space and Technology Committee of the US House of Representatives. Having been immersed in the workings of science and technology policy, I can provide some insight into the relative legislative success of high-energy physics and suggest strategies for the physics community as a whole.

The following comments will be of particular importance to physicists who are concerned about science and technology policy in the 104th Congress. Overnight last November, the dynamics among Congress, the Administration and interest groups (physicists included) changed dramatically. Not only did the Republicans gain a majority in both houses, but they also added to the ranks of one of the most inexperienced Congresses in recent history: Over 45% of House members are now freshmen or sophomores, and committee structure and staffing have been completely overhauled.

Thus to influence science and technology policy, the physics community will have to rebuild its ties to Congress and amplify its message above the noise. Furthermore, physicists need to understand that members of Congress and their staffs are obsessed with accountability: Every vote must be justifiable in terms of what it does for the good of one's district and the country. The burden of justification thus falls on the physics community if it desires Congressional support. Convincing Congress of the

importance and relevance of a broad-based program of physics research will be one of the biggest challenges.

During my year on Capitol Hill, high-energy physicists lost their beloved Superconducting Super Collider, yet revealed themselves to be quite adept at making sausage. Consider the DOE budget: In fiscal year 1995 the budget for the Department of Energy's high-energy physics program increased by 5%, while Basic Energy Sciences, which funds research in materials science, energy and geosciences, chemistry, and applied math, decreased by 3%. This occurred during a time of increasing pressure to link research funding to strategic national goals.

One explanation for these budget numbers is that members of the high-energy physics community have influenced science policy by engaging in three interrelated activities: First, they assessed the relevance of their work to society. Second, they built consensus within their community. Third, they strategically communicated this relevance and consensus to Congress.

Many in the physics community disparage decision makers who call for fundamental research to be more strategic and relevant. These pressures may be unfamiliar or unwelcome, but they are a political and fiscal reality in this time of budget-deficit politics. And while there is some indication that the 104th Congress feels otherwise, one should also be mindful that the Clinton Administration continues to link research to national goals.

### The key questions

With this in mind, there are four key questions physicists should answer in attempting to place their research within the context of strategic relevance to the nation:

- ▷ "What are the missions and goals of the agency that is funding me?"
- ▷ "Why does my funding program exist?"
- ▷ "How does my research fit into

those missions and goals?"

▷ "Can I articulate the answers to those questions clearly, both in speech and in writing?"

These are the types of questions Congress asks, and they expect answers from the interest groups seeking Federal support. As a physicist, I was embarrassed to hear a staffer in our office remark, "Boy, is that guy out of touch!" after speaking to a physicist who had not considered these points. Equally bad was to hear scientists justify projects such as the space station as a weapon in the war against cancer. Disingenuousness is often transparent, and the price paid is credibility.

Relative to other physics subfields, the high-energy physics community has been generally successful at obtaining funding because it has made a convincing case that its research is vitally important to the nation and must be supported. For example, in response to the SSC's termination, a subpanel of the Department of Energy's High Energy Physics Advisory Panel drafted a document (the so-called Drell report) outlining its vision of the future for high-energy physics. (See *PHYSICS TODAY*, July 1994, page 51.) When the report appeared within half a year of the subpanel's inception, it was enthusiastically received by the House Science Committee, including lead SSC terminator Sherwood Boehlert, a Republican from New York. Members of the Science Committee converted many of the report's recommendations into an authorization bill (H. R. 4908), which passed the House. Despite this victory, there was not enough time for the Senate to take it up, leaving the bill to die as the 103rd Congress adjourned for the last time. However, President Clinton's 1996 budget request for high-energy physics does reflect some of the subpanel's funding recommendations.

As the Drell report showed, building consensus demonstrates an ability

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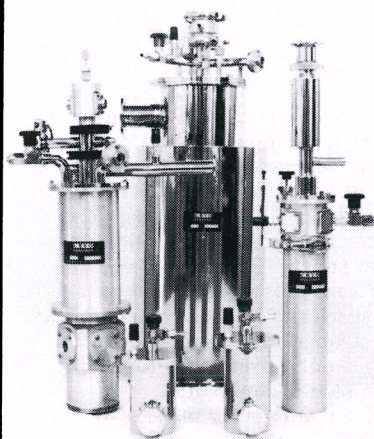
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to make difficult choices and present a unified vision. The Bahcall report on astronomy and astrophysics has been held up as another good example of consensus building. (See the April 1991 special issue of *PHYSICS TODAY*.) This 1991 report synthesized the advice of over 300 astronomers and proposed a "prioritized list of new equipment initiatives" based on scientific potential coupled to economic, technological and sociopolitical factors. Granted, consensus building is not simple, but it is a task that cannot be ignored. Most Congressional staff do not have the expertise to decide on the relative technical importance of research initiatives within or among fields of research. Without some guidance from the science community, Congress cannot be expected to set policy in a manner that is satisfactory to scientists.

### Communicating with Congress

Establishing relevance and working toward consensus are meaningless exercises if the results are not communicated strategically. This is where the high-energy physics community excels, as shown by the reception of the Drell report and the number of high-energy physicists who visited the Science Committee before and after the report's release. Congressional staff and members of Congress need reliable sources of information; many times they either do not know how to vote or do not have an opinion on certain science issues, and thus may welcome some good advice. But it is much easier for a physicist to track down a well-placed staffer than for a staffer to track down the right physicist. Thus physicists interested in influencing science policy should take the initiative in establishing relationships with Congressional staff.

The rules for doing this are simple. Physicists should first get to know the staffer who works on science and technology issues in the offices of their own representatives. It's also important to get to know the staffers who work for those Congressional committees that oversee Federal agencies such as the National Science Foundation. Committees are where bills and much policy originate, so with an ally on a committee, a physicist can proactively influence policy and legislation in their early stages.

In communicating with Congress, phone calls are the most effective way to establish rapport. Letters are also good, and some people recommend them as the best way to make initial contact, to be followed by a phone call. Faxes, on the other hand, can be counterproductive. Most of-

fices have fax machines primarily for sending and receiving urgent documents. Few things are more irritating in a Congressional office than to have the fax machine tied up receiving some unsolicited document when someone is waiting to send a last-minute amendment to a colleague in an office up the Hill. Use of e-mail is seen as less of an invasion, but one runs the risk of offending the recipient by clogging his or her mailbox with unsolicited messages. In general, if you are given an e-mail address or fax number by its owner, then it is OK to use.

The key to establishing an effective relationship with Congress is credibility—that is, one's reliability as an honest source of information and advice. One sense that Congressional staff develop early on is a keen nose for garbage. Thus, when calling a staffer, do not use your PhD as a passport to credibility on all issues—"Don't talk out of school," as they say. Stick to issues related to physics and avoid using your title to gain influence on subjects outside your expertise.

Personal relationships are as important as ever, even in this fast-changing, high-speed electronic world. In many ways science and technology policy is going to be recreated in the 104th Congress, as the new majority asserts itself and establishes its relationship to the Administration. Strategically communicating to Congress the importance of physics will therefore be especially important during the next two years. Sausage is going to taste quite different for a while; the physics community should learn to influence what goes into it. ■

### FOR FURTHER INFORMATION

There are many good sources of information for those interested in becoming more involved in science and technology policy. *Working With Congress* by William G. Wells Jr (AAAS Press, 1992) is densely packed with useful tips and references. AIP's electronic newsletter "FYI" gives timely analysis of science and technology issues in Congress and the Administration. To subscribe, send e-mail to [listserv@aip.org](mailto:listserv@aip.org); in the text field, type "add fyi." AIP and several of its member societies sponsor Congressional fellows; they too are accessible resources. And of course, the offices of your senator and representative may be helpful.