TOBACCO STUDIES

UC Objects to Research Restrictions

For several years, California politicians have been at odds with the University of California over who gets to spend a large research fund created by an anti-smoking tax on cigarettes. After holding back most of the money since 1994, the state legislature voted last week to release $60.4 million to the Tobacco-Related Disease Research Program (TRDRP), a unit of the University of California (UC) created in 1989 to administer the research portion of the cigarette tax. But no sooner was the plan announced than it touched off fireworks, with politicians trying to block research they branded as "partisan" and university officials seeking to protect the independence of academic research.

The fracas arose over two kinds of restrictions on the tobacco fund. California Governor Pete Wilson required that TRDRP submit its spending plan to the state Department of Finance for prior approval. And Assembly Speaker Curt Pringle (R–Garden Grove) added a ban on the funding of "research or other activities of a partisan political nature"—a move that Pringle's office says was triggered by the work of UC San Francisco Professor Stanton Glantz, who has used TRDRP funds to investigate tobacco-industry campaign contributions and legislative voting records. Accepting the money under those terms would create "a serious academic freedom issue," says UC San Diego Professor John Pierce, whose research on the effects of tobacco advertising on children has been funded by the TRDRP.

This is the latest in a series of battles over the tobacco research fund. Californians voted in 1988 to create a 25-cent-per-pack cigarette tax to pay for various smoking- and health-related projects. The law earmarked 5% of the revenues for research aimed at reducing the human and economic costs of tobacco-related disease and 20% for anti-smoking education and advertising. But for the past 2 years, the legislature has voted to divert 80% of the research funds and about a third of the education money to indigent health care. The American Lung Association and the American Cancer Society sued to prevent the diversion of funds (*Science*, 10 March 1995, p. 1411). The state lost in two separate proceedings but appealed the decisions, and the money—nearly $200 million—has been held in escrow.

In May, Governor Wilson proposed that $38.9 million of the disputed money be returned to the TRDRP. But he criticized the program for spending too much on basic research and suggested two major changes. The Department of Finance, Wilson said, should review the program's spending plan, and the Tobacco Education and Research Oversight Committee (TEROC), made up of political appointees, should hold public hearings and make recommendations on the plan prior to its approval. During debate on the budget in June, the legislature raised the figure to $60.4 million, but Assembly Speaker Pringle—one of the politicians identified as a recipient of tobacco-industry donations in Glantz's study—added the sentence prohibiting use of the funds for partisan political research.

Media reports suggested that this language gave the finance department and TEROC veto power over individual grant awards. In response, the committee on research policy of the UC academic senate voted unanimously on 28 June to urge the university not to accept the money under those conditions. But UC chose a different approach: On 1 July Cornelius Hopper, UC Vice President for Health Affairs, and Larry Hershman, Associate Vice President and director of the UC budget, sent a letter to the finance department outlining an interpretation of the budget language that they say the university can live with.

The letter outlines "how we interpret the language and intend to act," says Hopper. It states that TRDRP plans to submit for review only a draft program announcement or request for grants, not the list of actual grant finalists. And it defines partisan political activity as "activities pertinent to political parties," noting that it will not refrain from funding public policy research, provided that it passes peer review. Such research, including projects like Glantz's, is "critical to more effective tobacco control," says TRDRP director Charles Gruder. Hopper adds that that "the university unequivocally will not submit to a grant-by-grant review," which, he says, would put "the state into the intermediary position as the peer reviewer."

Representatives of the finance department reached by *Science* declined to interpret the budget language, but Pringle spokesperson Gary Foster said Pringle takes issue with the UC interpretation. "It is our understanding that TEROC and finance would have individual veto power over the grants," Foster said. And if that interpretation sticks, the fireworks are far from over.

–Marcia Barinaga

SUPERCONDUCTING WIRE

Silver Thread Boosts Current Capacity

Silver just added a bit more luster to high-temperature superconductivity (HTS). The metal has long been used as a flexible wrapper for brittle HTS ceramics, which helps transform them into pliable wires. Now researchers at Argonne National Laboratory and the University of Pittsburgh have found that adding a thread of silver to the interior of an HTS wire has another benefit: It boosts the amount of current the wire can carry without resistance more than threefold over the best commercially available HTS wire. An increase of that magnitude could lead to smaller and cheaper HTS magnets and generators.

"It's a very nice advance," says James Daley, who heads superconducting technology programs at the Department of Energy in Washington, D.C. The new Argonne-Pittsburgh wire, reported this spring in the journal *Superconductor Science and Technology*, is just 5 centimeters long. Its developers are now taking steps to scale up the technology, which they say would require only simple changes in the most common wiremaking technique. If the effort succeeds, the new wire's ability to carry more current could produce "significant cost savings," says Daley, because far less wire would be needed to build magnets and motors of the same power.

The researchers, led by Roger Poeppel at Argonne and Nicholas Eror at Pittsburgh, wanted to improve the performance of conventional HTS wires, which are made from a ceramic compound of bismuth, strontium, calcium, copper, and oxygen (BSCCO). To do so, they followed up on the recent discovery that supercurrents flowing in a BSCCO wire tend to be concentrated just below the silver sheath. Although researchers still don't completely understand the effect, it appears that the silver mechanically forces BSCCO's flat crystalline grains to align end to end and helps exclude magnetic fields—both of which ease the flow of the supercurrent, say Daley and Poeppel.

Poeppel, Eror, and their co-workers decided to put extra silver inside their wire, thereby providing greater contact area between the BSCCO grains and the silver. The result was an increase in superconducting critical current from a previous high of nearly 30,000 amperes per square centimeter of wire cross section to over 100,000—a current density more than 500 times higher than can be sustained in conventional copper conductors. To make those numbers pay off in the real world, the group is teaming up with researchers at Intermagnetics General Corp., an HTS wire manufacturer in Lantham, New York, to spin longer wires with silver hearts.

–Robert F. Service