

WASHINGTON NEWS

FROM THE FEDERATION OF MATERIALS SOCIETIES

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CRUCIAL TIMES FOR S&T BUDGET

At our press time, the various proposals for increased federal funding for research and development and science and technology education were moving forward, but the proof will be in the numbers that emerge from the appropriations committees in the coming months. As has been the case all year, the Senate is farther along on the road to enacting the President's American Competitiveness Initiative (ACI) and the related "PACE" and "National Innovation Act" bills, with the Department of Energy portion of the PACE package already reported out of committee and awaiting floor action. In the House, the Science Committee is close to considering legislation being developed by retiring Chairman Sherwood Boehlert (R-NY). In an unusual move, Rep. Boehlert testified before the House Appropriations Subcommittee on Science, State, Justice and Commerce in April, telling the appropriators, "You have a unique opportunity this year to set the nation on a path that will keep us competitive and prosperous in the decades ahead... (F)or the United States to remain competitive, we must increase our investment in research and education. To put it more colloquially, we can pay now, or we will pay later." He called for complete funding of the ACI, including doubling the budgets for the National Science Foundation and the laboratory and construction accounts at NIST (he also supports doubling for DOE's Office of Science, but that agency does not fall under the jurisdiction of this appropriations subcommittee). "Anything less than full funding this year will make that doubling highly unlikely, both politically and fiscally," he warned. Beyond full funding for the President's initiative, Chairman Boehlert also asked for additional funds for the Education and Human Resources Directorate at NSF, the Manufacturing Extension Program at NIST, and the Science Mission Directorate at NASA.

PRESIDENT URGED TO GET INVOLVED

A large coalition of technical societies, universities, corporations and technical societies – including the Federation of Materials Societies and several of its members – has sent a letter to President Bush urging him to keep working with House Republican leaders to secure funding for his American Competitiveness Initiative. In particular, the group is concerned that the budget resolution being considered by the House does not assume full funding for the basic research called for in the ACI. "If appropriators followed this guidance it would be very difficult to support basic research in the physical sciences and engineering," the letter points out. "We believe this would be a strategic error on the part

of America. We urge you to continue your efforts to achieve full funding of the ACI's basic research and education."

COMMITTEE FOCUSES ON K-12 STEM EDUCATION

For the first time in history, the heads of five federal agencies with science, technology, engineering and math (STEM) education programs testified together before the House Science Committee on March 30, contributing to development of the Committee's legislative proposals to implement President Bush's American Competitiveness Initiative. Last year, Congress created the Academic Competitiveness Council (ACC) to "identify all federal education programs with a math or science focus, determine the effectiveness of each program, identify areas of overlap, and recommend ways to efficiently integrate and coordinate in the future." Commenting on the initial work of the ACC, Education Secretary Margaret Spellings said that while there are "a thousand flowers blooming" throughout the federal government, there are also "a few weeds." Also testifying at the hearing were the directors of the National Science Foundation, the Office of Science at the Department of Energy, NASA, and the National Oceanic and Atmospheric Administration.

The Research Subcommittee of the House Science Committee also heard testimony this spring from witnesses who said that improving undergraduate STEM education is key to improving science and math education at the K-12 level. While most of their comments and recommendations were focused on how to better prepare K-12 teachers, the witnesses also discussed the importance of educating undergraduates in STEM fields for graduate education that leads to careers as researchers and for the increasing number of employment opportunities that require expertise in science, math or technology. Dr. Carl Weiman, a Nobel laureate in physics and Distinguished Professor of Physics at the University of Colorado at Boulder, noted that "science majors are not being created in college through educating students to the utility and intellectual challenges and rewards of science. Instead, successful science majors are primarily those few students that...manage to survive their undergraduate science education."

"H-PRIZE" PROPOSED TO SPUR TRANSITION TO HYDROGEN ECONOMY

When Congress returns from the Easter recess, the House Science Committee will hold a hearing on H.R. 5143, a bill introduced by Science Research Subcommittee Chairman Bob Inglis (R-SC) which would create an "H-Prize" to provide monetary incentives to help spur the technological breakthroughs necessary for the transition to a hydrogen economy. Modeled after the Ansari X-Prize awarded for entrepreneurial space flight, the three-category H-Prize would be awarded for:

- Technological advancements – four \$1 million prizes awarded annually in the categories of hydrogen production, storage, distribution and utilization;

- Prototypes – one \$4 million prize awarded every other year for the creation of a working hydrogen vehicle prototype;
- Transformation technologies – a maximum \$100 million prize (\$10 million in cash and up to \$90 million in matching funds for private capital – awarded for changes in hydrogen technologies that meet or exceed objective criteria in production and distribution to the consumer

The bill was introduced with 14 cosponsors.

NIST TO BUILD INFRASTRUCTURE FOR NANOMANUFACTURING

With a great deal of fanfare tying into the President’s American Competitiveness Initiative, Secretary of Commerce Carlos Gutierrez announced the launch of a state-of-the-art center for collaborative nanotechnology research at NIST. The mission of the new multidisciplinary Center for Nanoscale Science and Technology (CNST) is “to enable science and industry by providing essential measurement methods, instrumentation, and standards to support all phases of nanotechnology development from discovery to production. Comprised of both a research arm and a nanofabrication facility (Nanofab), CNST aims to partner with industrial, academic, and government organizations to solve nanoscale measurement problems that impede the fruitful implementation of nanotechnology.” CNST’s first research programs will be in nanofabrication, scanning tunneling microscopy, nanomagnetism, and simulation and modeling of nanostructures in macroscopic environments. Additional research programs will be undertaken over the next two years “in response to perceived needs.” CNST’s Nanofab will make available advanced e-beam lithography tools and advanced measurement and characterization instruments, and users will have access to the measurement expertise available in the NIST laboratories. It is expected that the CNST Nanofab will be available to outside users by late this year. Further information is available at <http://cnst.nist.gov>

NSF ANNOUNCES SUBMISSION WINDOW FOR UNSOLICITED PROPOSALS

The Division of Materials Research in the Directorate for Mathematical and Physical Sciences at the National Science Foundation will accept unsolicited proposals only during a submission window beginning the third Monday in September and ending the first Friday in November. The following types of requests are not subject to the submission window restrictions:

- Small Grants for Exploratory Research or proposals for workshops or conferences may be submitted at any time during the year;
- Supplements to existing grants to fund Research Experiences for Undergraduates (REU), Research Experiences for Teachers (RET), Creativity Extensions, or

supplement requests for any other purpose, may be submitted at any time during the year;

- Proposals to the DMR National Facilities Program.

Further information is available at <http://www.nsf.gov/materials>