

House Breathes New Life into Tech Talent Bill

Last year's Technology Talent Act was approved by a voice vote in the House of Representatives. Renamed "The Undergraduate Science, Mathematics, Engineering, and Technology Education Improvement Act," the bill would award \$25 million to the National Science Foundation (NSF) each year, for a period of five years, to encourage more U.S. students to pursue careers in science, math, engineering, and technology. Following a March 7 hearing, the bipartisan bill was approved by the House Research Subcommittee on May 9 and by the full House Science Committee on May 22. It then moved to the full House of Representatives for consideration where it passed quickly.

The bill was first introduced last October in the House as H.R. 3130 by Reps. Sherwood Boehlert (R-N.Y.), John Larson (D-Conn.), Melissa Hart (R-Pa.), Mike Honda (D-Calif.), and Mark Udall (D-Colo.). It was introduced in the Senate as S. 1549 by Sens. Joseph Lieberman (D-Conn.), Barbara Mikulski (D-Md.), Christopher Bond (R-Mo.), Bill Frist (R-Tenn.), and Pete Domenici (R-N.M.) (see *MRS Bulletin*, November 2001, p. 866, and January 2002, p. 10). The Senate version is still awaiting action by the Senate Committee on Health, Education, Labor, and Pensions.

Unlike more traditional educational approaches, such as the establishment of fellowship programs, H.R. 3130 employs an innovative strategy of rewarding colleges and universities that succeed in increasing the numbers of science and engineering majors through programmatic changes that retain talented students. Principally, the bill would authorize NSF to award competitive grants to institutions of higher learning to increase the number and quality of graduates in these fields, as well as to encourage institutional reform to place a higher value on faculty participation in undergraduate education. It would also establish grants for undergraduate institutions to purchase research-grade equipment.

Thus far, the bill has received strong support from professional scientific societies, industry leaders, and organizations, many of which have expressed concern about sharply declining numbers of U.S.-born undergraduate and graduate stu-

dents in math, materials science, physics, and engineering. Iver Anderson, a professor at Iowa State University's Department of Materials Science and Engineering and current vice president of the Federation for Materials Societies, said that his department received 180 graduate school applications this year, nearly all of them from students born outside the United States.

"I could count the number of applications from U.S.-born students on one hand, and that number is not far off from what I hear from a number of other universities," he said. "U.S. universities do a terrific job of educating researchers, but right now we seem to be educating the world's researchers at the exclusion of U.S. citizens." Those students are needed to replace an aging work force in materials science, as well as other technical fields, according to Anderson. The number of jobs requiring technical skills is expected to increase by 51% over the next decade.

However, the bill's approval by the full House does not necessarily translate into legislation by Congress. Only about one in every hundred proposed bills is eventually signed into law, and H.R. 3130—with its comparatively small slice of the budgetary pie—may not be able to generate the necessary momentum for full Congressional approval, despite strong bipartisan support in both the House and Senate. Thus far, it has successfully ridden on the coattails of the more prominent bill H.R. 4664, "Investing in America's Future Act," which would double NSF's budget over the next five years. That bill was approved by the full House of Representatives in early June, which could bode well for the passage of H.R. 3130.

Another indicator the bill might pass is that last year, the appropriations committees included \$5 million in seed funding for the initiative in the NSF's FY2002 budget, despite the fact that authorizing legislation had not yet been passed. The FY2003 budget request includes \$2 million for a continuation of the program.

"One of the major emphases within the NSF's education portfolio is to increase the numbers and the diversity of people who go into science, technology, engineering, and math careers, as well as a more general concern that the nation as a whole needs a scientifically literate citizenry," said Mitchell Crawford, senior staff associate for budget and program analysis at NSF. Crawford said that the

agency is combining existing efforts at the undergraduate level with new programs funded by the seed money.

Ultimately, the decision lies with congressional appropriators, and to date they have not revealed their thoughts with regard to the future of the technology talent bill.

"I have no information on what constraints [the appropriators] are under in terms of total spending," said Crawford, "but there are clearly some fiscal realities to be faced, and tough choices to be made. [H.R. 3130] is part of an appropriations bill that includes so many meritorious programs, it's difficult for any one of them to obtain a huge increase at the expense of the others."

JENNIFER OUELLETTE

U.S. and Russia Sign Materials Research Funding Agreement

During a meeting in early June at the Russian Academy of Science's Shubnikov Institute for Crystallography in Moscow, Adriaan de Graaf of the U.S. National Science Foundation (NSF) and Mikhail V. Alfvimov of the Russian Federation for Basic Research (RFBR) signed an agreement that will pave the way for jointly funded research programs in the field of materials. The meeting was held in the context of the worldwide Materials Research Network being developed by NSF and its sister agencies around the world. This fall, a second joint meeting will be convened in Washington, D.C., to report on their progress.



Mikhail V. Alfvimov of the Russian Federation for Basic Research (left) and Adriaan de Graaf of the U.S. National Science Foundation (right) sign the U.S.-Russia Materials Research and Education Network agreement on June 3.

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