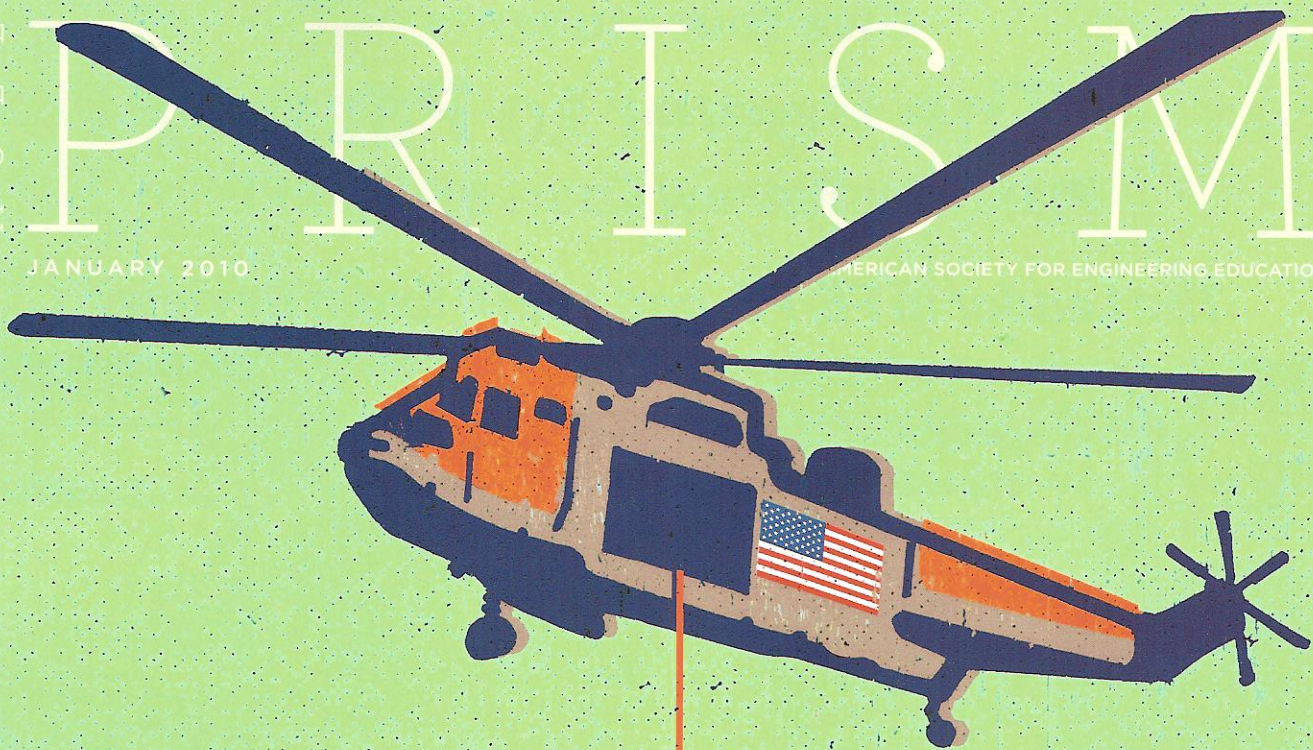


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JANUARY 2010

AMERICAN SOCIETY FOR ENGINEERING EDUCATION



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or repairing sports facilities; or maintaining equipment,” explained J. Christopher Mihm, managing director for strategic issues at the Government Accountability Office (GAO), in congressional testimony in September. An additional \$8 billion can pay to repair and renovate facilities at public and private colleges and universities to meet what the law calls “recognized green building” standards.

So what has ARRA actually produced thus far? By October 10, all recipients of stimulus money had to file the first of required quarterly reports. The data soon began to appear in searchable form at www.recovery.gov, which tracks stimulus grants, contracts, and loans down to the level of ZIP Codes and street addresses and aims to be “easy to use” by all Americans, according to the site. Other agencies such as NSF and NIH also have posted their stimulus projects in their online grants databases.

“This is the first time the federal government has attempted to provide such expansive accountability and transparency,” claims www.recovery.gov. Not surprisingly, however, these vast data dumps garnered criticism for errors, inaccuracies, mind-numbing detail, and imperfect selection of topics and categories. Although the sites provide very finely grained information on particular recipients, projects, and localities, using them to draw more general conclusions about what is happening can be dauntingly laborious. “What the First Round of Recipient Reported Stimulus Data Tells Us: Not Much,” commented Jennifer Cohen, a policy analyst at the New America Foundation, a Washington think tank, in the title of an entry on its Ed Money Watch blog.

A rather vague picture also emerges from a report, “Educational Impact of the Ameri-

can Recovery and Reinvestment Act” issued in late October by the White House Domestic Policy Council and the Education Department. In addition to the national SFSF totals, it lists state-level data. At \$305,757,000, for instance, Florida led the reported SFSF higher education expenditures for 2009, while California, which reported no expenditure for that year, plans to spend a nation-leading \$9,500,000,000 of SFSF money for higher education in 2010. But the report gives no specifics on where and how states would use the money. “Most of the states’ applications show that they plan to provide the majority



PROJECT 4

CLEVER CONCRETE

Someday, thanks to nanotechnology, roads may be paved with cement that’s “smart” enough to monitor traffic flows — including the speed and weight of vehicles — as well as its own structural health, detecting cracks well before they’re obvious to the naked eye. That could also help make bridges and “sensitive buildings,” like nuclear power plants, safer. Xun Yu, an assistant professor of mechanical engineering at the University of Minnesota, Duluth, has been working with piezoresistive multi-walled carbon nanotubes mixed into concrete. The electrical resistance of the composite concrete is highly sensitive to stress and emits a detectable response. To continue that research, Yu applied for an NSF grant and got an award of \$125,000 in stimulus money over two years.

Previous research proved the feasibility of his concept, Yu says. “Now, with this grant, we can continue to work on that, to understand the fundamental properties.” He’ll focus on “getting the mix right and (determining) the best fabrication methods.” The composite concrete has to prove it can withstand extremes in temperatures and weather and won’t lose its self-monitoring properties due to changes in humidity.

Yu’s grant also has an education element to it. He will be able to hire some undergraduate researchers and use the project to interest area high school students in technology. “We want to show them how technology can change their daily lives,” he says.

