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Protect U.S. Science Funding

THE RECENT POWER SHIFT IN THE U.S. CONGRESS REFLECTS IN PART THE PUBLIC'S DESIRE to get the U.S. economy quickly back on track and the federal budget under better control. In recognition, both the Obama Administration and the Republican Party leadership are considering significant budget reductions. These could result in 5 to 10% (or greater) cuts in R&D allocations for fiscal years 2011 and 2012. The consequences would be severe. Federal agencies, which often commit their funds years in advance but only pay them out in later years, would have little left for new and competing renewal grants. Agencies could see funding success rates fall to below 1 in 10 applications, and new investigators—the seeds of the future—could be hit even harder. These kinds of budget cuts work against the ultimate national goals of restoring the U.S. economy and its international prowess. It is well documented that science, engineering, and technology fuel innovation and economic growth. That is why virtually all competitor countries, including India, China, and Korea, are increasing investments in science and engineering research, development, and education. U.S. funding looks like it could be heading in the opposite direction.

The science and engineering community must mobilize now to stave off these funding cuts, which could be decided very soon. Scientists and engineers need to reach out and engage with the public and policy-makers about science's role in solving societal problems, particularly in fostering employment and economic growth. Policy-makers do respond to public perceptions and priorities. A similar educational approach helped to ensure the inclusion of research, development, and education in the American Recovery and Reinvestment Act (known as the Stimulus Bill) and in the America COMPETES Act. Both of these resulted in significant increases over the past few years in science and engineering research and education funding, but both are due to expire this year. More recently, the same kind of vigorous engagement helped to stave off potentially draconian science budget cuts in the United Kingdom, although not completely.

What would be most effective for the science and engineering community to do right now? They should reach out and speak to the public and policy-makers at both ends of the spectrum, from their local communities, local government leaders, and congressional representatives, to local and national media outlets and leaders of the Executive Branch. Policy-makers should be invited to visit laboratories and meet with scientists and engineers at all career stages and get a sense of their research programs and future goals. Research institutes should hold forums to educate the public on how science, engineering, and technology development are critical to solving almost every societal problem. Local industry leaders could help convey the message that research is critically important to innovation and economic growth. The case was laid out extremely well in two reports by the U.S. National Academies: *Rising Above the Gathering Storm* and its recent update, *Rapidly Approaching Category 5*. They provide a series of critical recommendations for exploiting the full power of science, engineering, and technology now and for the future, and they include a wealth of clearly stated information that can be used as talking points.*

Many scientists and engineers are reluctant to speak about their work to their neighbors and their policy-makers, fearing that they won't be understood or that it won't have an impact. But this is not a time for reticence, complacency, or helplessness. If scientists and engineers want public support and if they want to contribute fully to the betterment of humankind, they need to reach out to the public right now as a united community. It is critical that no single discipline or research agenda attempt to promote itself at the expense of another. Society can't achieve a better future if scientists, engineers, and the public sit back and allow short-sighted decisions to starve the engines of future problem-solving and innovation.

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*www.nap.edu/catalog.php?record_id=12999

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