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Congress Likes Innovation, but Will Biology Get Its Due?

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Innovation is the order of the day in Washington, DC. While scientists have been pleased by the attention and by the budget increase that Congress voted to give the National Science Foundation (NSF) for fiscal year 2006, some biologists fear they are at risk of being left behind.

The good news for scientists is that certain members of Congress, after a brutal hurricane season and amid the continuing conflict in Iraq, fought hard to support increased science funding; consequently, the NSF budget rose to $5.65 billion in a conference committee.

Around the same time Congress was considering the budget came the release of "Rising above the Gathering Storm," a report from the National Academies. Though it was not the first to discuss the risks of government failure to encourage scientific innovation, this report gained traction on Capitol Hill. Promptly after its release, two congressional hearings considered the subject.

The report, requested by Senators Lamar Alexander (R–TN) and Jeff Bingaman (D–NM), laments "the abruptness with which a lead in science and technology can be lost" and describes the continued creation of high-quality jobs and the need for clean, affordable, reliable energy as the key US challenges. It goes on to recommend steps to help achieve four broad goals: improving science and math education, strengthening the national commitment to long-term fundamental research and development, recruiting and retaining the best students and researchers from around the globe, and encouraging innovation through investments and policies.

House Minority Leader Nancy Pelosi (D–CA) responded by announcing a broad Democratic "innovation agenda" encompassing many of the same themes found in the National Academies report. The Democratic plan follows other similar efforts to address the topic. Last spring, Rep. Frank R. Wolf (R–VA), along with Rep. Vernon J. Ehlers (R–MI) and House Science Committee Chairman Sherwood L. Boehlert (R–NY), announced an "innovation summit," which took place in December.

Even with these seemingly positive developments, biologists are reluctant to embrace any initiative that implies the physical sciences are the only disciplines in need. "This is a simplistic message that fails to acknowledge the broad spectrum of the nation's science portfolio," says Nadine Lymn, public affairs director at the Ecological Society of America. "By focusing only on physical versus life sciences, the message ignores other valuable sciences, including the earth sciences, the social sciences, and the many other fields of life sciences that are not medically focused."

While many researchers, including those from the physical sciences, benefited from the budget doubling for the National Institutes of Health (NIH), biologists who study botany, zoology, ecology, basic molecular and cellular biology, taxonomy, and agricultural science have not been so lucky. Sixty-five percent of federal grant monies to those fields come from NSF, according to Lymn. But this reality for nonmedical biologists has not always entered into federal budget discussions.

Indeed, the National Academies report recommends giving special attention to the physical sciences, engineering, mathematics, and information sciences. To be fair, it also discourages shifting funds away from the life or social sciences, but in doing so may perpetuate the idea that life sciences have already received their due.

The new president of the National Academy of Sciences, Ralph J. Cicerone, stated this idea more directly in a July 2005 *Science* interview: "I think it was necessary to increase the portfolio for biological and health sciences, and I'm really glad we've done it. But the physical sciences have fallen too far behind." And in a July 2005 report on how to double science, technology, engineering, and mathematics graduates, an association of corporate CEOs called the Business Roundtable recommended boosting funding "especially in the physical sciences and engineering."

The Democrats' innovation agenda follows the same basic text. In a speech at the National Press Club, Pelosi said the blueprint includes a call to "double federal funding for basic research and development in the physical sciences."

The issue of competition for funding between the physical and life sciences is not a new one. A *BioScience* editorial in May 2002, written by Adrienne Froelich Sponberg, pointed to some of the challenges that face advocates pushing for biology funding: "Little did we know how much the success of the 'other' biology, biomedical studies, would complicate that task. Congressional appropriators have repeatedly heard about the imbalance in federal funding between the life and physical sciences. There is a sense that the life sciences have received their fair share through the NIH budget increase."

Lymn and other biology supporters hope to help Congress see the importance of biology in the push for innovation. After all, she says, "most of the life sciences face the same funding challenges as do the other science disciplines."

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