

January 9, 2009

Mr. Barack Obama
President-Elect of the United States of America
Presidential Transition Team Office
Washington, D.C. 20270

Dear President-Elect Obama,

As a part of your economic stimulus package, we ask you to consider an immediate increase in funding for scientific research. We deeply appreciate your commitment to increasing the funding that American science so desperately needs. We know that you understand how important it is for the long-term health and vitality of the American economy to keep America at the forefront of scientific research. While some might argue that the current economic crisis should push such plans into the future, we believe, to the contrary, that the stimulus package provides a vital opportunity to begin rebuilding American science, because increased science funding is an ideal economic stimulus: *it creates good jobs across the economy, there is large pent-up demand so that money can be spent immediately, and it represents an investment in the infrastructures of scientific research and higher education that are vital to our economy's future.*

Creating good jobs across the economy: As you know, basic science research in the U.S. is largely funded by grants to individual investigators or national laboratories from the National Institutes of Health (NIH), National Science Foundation (NSF), the Dept. of Energy (DOE) Office of Science, the National Institute of Science and Technology (NIST), the National Aeronautics and Space Administration (NASA), and a few other agencies. Federal money that science agencies invest in research grants, scientific infrastructure or national laboratories can be spent immediately to support large facilities already approved and awaiting funding, salaries for lab workers at all levels, purchases of supplies and equipment (much of them from small American businesses), and institutional expenses of the colleges, universities, and medical schools where researchers work. Funding for science and engineering creates good jobs throughout the local community: Families USA has estimated, for example, that each \$1 billion of NIH research grant funding creates over 15,000 jobs with an average wage of \$52,000/year and generates \$2.21 billion of new business activity, a much better "multiplier" than many other proposed parts of the stimulus package.

Money can be spent immediately: Federal funding for non-defense research has fallen in real dollars every year since 2004 for the life sciences and far longer for the physical sciences. The health and vitality of the American scientific enterprise is seriously threatened, and a large backlog of needs has been created. To take one example: real spending by NIH and NSF on investigator-initiated research grants has fallen significantly. As a result, success rates for these grants are dangerously low and the funding is often inadequate even for the best proposals. This not only threatens established, productive investigators but endangers the careers of young investigators on whom our economic future depends. Money could be spent within weeks of passage of a stimulus package

to fund many highly rated applications that have been waiting in line for support in FY 2008 and to restore dollars cut from the budgets of funded grants in recent years, with virtually no increase in administrative cost. It is estimated that NIH alone could spend up to \$5 billion immediately on funding highly rated and approved but unfunded FY 2008 proposals and as much as another \$5 billion to continue higher funding rates in FY 2009. The NSF, DOE Office of Science, NIST and NASA can be equally effective in applying funding immediately to backlogs of approved research proposals and major research facilities.

The commitment in the America COMPETES Act, passed by Congress in 2007 and signed into law, to double funding for basic research in the physical sciences over seven years has never been fulfilled. National laboratories have been operating on inadequate budgets, with projects delayed, staff cut or forced to work reduced hours, and projects and facilities in danger of being terminated during the next year without additional funding. These are further examples of the many opportunities for immediate as well as ongoing spending to shore up America's scientific infrastructure.

A vital investment in America's future: Funding scientific research serves dual purposes: it is an immediate stimulus to the economy, and it is an investment in American leadership in science, engineering, technology, and education. This leadership is vital to America's economy and prestige, as well as to success in achieving energy independence, mitigating global warming, and treating and curing disease. In addition to the immediate multiplier effect of research spending, the intellectual property created by publicly funded research leads to the creation of innumerable small companies and, ultimately, many large companies in biotechnology, energy, computer technology, and other scientific and engineering fields. In these cases, federal seed money is multiplied enormously by inflows of private capital. Federal funds also support virtually all research training and much of the academic training of those earning their Ph.D.'s in science and engineering and so train the personnel who staff, as well as create, America's scientific and engineering companies.

We know that the focus of the stimulus package is on short-term spending over 1-2 years, without long-term commitments of federal money. There are many urgent needs for short-term spending on science, such as infrastructure spending and bridge grants to allow research to continue until longer-term funding proposals are successful. Other critical needs, however, require longer-term commitments, such as an increase in success rates for investigator-initiated research grants, which typically involve commitments of continued funding over 3-5 years. Because science funding provides an excellent economic stimulus, we believe the stimulus package provides a unique opportunity not only for short-term science spending but also to initiate the increasingly urgent goal of long-term increases in science funding.

Spending on science, engineering and technology will be only a relatively small part of a larger stimulus package, yet it will make a vital contribution to America's future. Increases in science spending provide an excellent stimulus while the economy needs one. But as you must appreciate, to rebuild American science, science spending will need to be sustained even when the economy returns to

health. We know it is your goal to restore funding for science to the levels needed to maintain the vigor and leadership of American scientific research. We believe that the forthcoming economic stimulus package provides a remarkable opportunity to initiate this effort immediately, forcefully, and productively.

Respectfully submitted,

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