ADVANCING SCIENCE, SERVING SOCIETY

October 28, 2011

The Honorable Patty Murray
Co-Chair, Joint Select Committee
on Deficit Reduction
U.S. Senate
448 Russell Senate Office Building
Washington, DC 20510

The Honorable Jeb Hensarling
Co-Chair, Joint Select Committee
on Deficit Reduction
U.S. House of Representatives
129 Cannon House Office Building
Washington, DC 20515

Dear Members of the Joint Select Committee on Deficit Reduction:

We recognize that our nation's deficit poses a serious threat to our economy and our future. The Joint Committee faces a daunting challenge to lower the federal deficit by $1.5 trillion over 10 years. As you accomplish this difficult task, we urge you to keep in mind that drastic cuts to research investments in the discretionary accounts, both defense and non-defense, would set a dangerous precedent that would inhibit immediate scientific progress and threaten our international competitiveness long into the future. Indeed, the bipartisan Simpson-Bowles Debt Commission last year identified federal research and development (R&D) as an area of U.S. investment too critical to be cut. We urge you to entertain a similar conclusion.

Since World War II the partnerships and collaborations between science and society, the federal government and universities, the national laboratories, and industry have yielded new knowledge, new innovations, new products, new businesses, new jobs, and improved human well-being. Examples can be seen throughout our nation. An often-cited statistic is that approximately 50 percent of U.S. economic growth since World War II has come from advances in science and technology.

The benefits of research are clear. For example, over 250 companies have been created through the ingenuity and risk taking of researchers from the University of Washington alone. The legacy of investments made by the National Advisory Committee for Aeronautics (precursor to NASA) can be seen today in companies such as Boeing. Quantum theory and solid-state theory, fields once considered to be basic physics research, were applied by Jack Kilby at Texas Instruments and Robert Noyce at Fairchild Industries to invent the integrated circuit, the "chip" that is the brainpower behind every electronic device built today, including computers, smart phones, medical devices, and unmanned drones.

Mapping and sequencing the human genome, championed by the National Institutes of Health, has yielded new knowledge on immune disorders, kidney disease, birth defects, mental illness, obesity and much more. The National Science Foundation is helping to sequence the genome of the wheat stem rust fungus, a scourge in Asia, Africa and the Middle East that, if not understood and brought under control, may threaten North American crops. Department of Energy research

has led to the development of new composite materials for lighter weight motor vehicles and electric vehicle technologies such as the lithium-ion battery.

As representatives of U.S. science, engineering, and higher education organizations, we urge you to strongly support the federal research budget and its mission to advance a balanced portfolio of scientific and technological discovery and innovation that has fueled American economic growth and rising standards of living for decades.

Science and discovery are important aspects of the American national character. American ingenuity is still the best reason for long-term optimism about the U.S. economy and the well-being of its people. An effective path out of the current difficulties should include investments in R&D. They can fuel our future growth and prosperity.

American Association for the Advancement of Science
American Association of Physics Teachers
American Astronomical Society
American Chemical Society
American Educational Research Association
American Geophysical Union
American Institute of Biological Sciences
American Institute of Physics
American Mathematical Society
American Physical Society
American Psychological Association
American Society for Engineering Education
American Society for Microbiology
American Society of Agronomy
American Society of Civil Engineers
American Society of Mechanical Engineers (ASME)
American Society of Plant Biologists
American Society of Primatologists
Associated Universities, Inc. (AUI)
Association for Behavior Analysis International
Association for Psychological Sciences
Association for Women in Mathematics
Association of American Geographers
Association of American Universities
Association of Environmental and Engineering Geologists
Association of Independent Research Institutes
Association of Public and Land-grant Universities (APLU)
Association of Universities for Research in Astronomy
Biophysical Society
Cognitive Science Society
Consortium for Ocean Leadership
Consortium of Social Science Associations (COSSA)

Council of Energy Research and Education Leaders
Council of Environmental Deans and Directors
Crop Science Society of America
Earthquake Engineering Research Institute
Ecological Society of America
Federation of Associations in Behavioral and Brain Sciences
Geological Society of America
Incorporated Research Institutions for Seismology
International Society for Optics and Photonics (SPIE)
Linguistic Society of America
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