

# United States Senate

WASHINGTON, DC 20510

March 31, 2015

The Honorable Thad Cochran  
Chairman  
Senate Committee on Appropriations  
S-128 United States Capitol  
Washington, D.C. 20510

The Honorable Barbara A. Mikulski  
Vice Chairwoman  
Senate Committee on Appropriations  
S-146A United States Capitol  
Washington, D.C. 20510

The Honorable Richard C. Shelby  
Chairman  
Senate Committee on Appropriations  
Subcommittee on Commerce, Justice  
Science, and Related Agencies  
131 Dirksen Senate Office Building  
Washington, D.C. 20510

The Honorable Barbara A. Mikulski  
Ranking Member  
Senate Committee on Appropriations  
Subcommittee on Commerce, Justice  
Science and Related Agencies  
156 Dirksen Senate Office Building  
Washington, D.C. 20510

Dear Chairman Shelby and Ranking Member Mikulski:

We are writing to request that you include at \$7.7 billion for the National Science Foundation (NSF), as included in the President's FY 2016 budget request, in the Senate Fiscal Year 2016 Commerce, Justice, Science and Related Agencies Appropriations bill. This funding is a critical investment in our national economy and education system.

America's economic success in the 20<sup>th</sup> century was due in large part to its commitment to investments in science and engineering research. Basic research is a part of every new product, every new medical device or drug, and every new technology. Unfortunately, the recent American Academy of Arts and Sciences *Restoring the Foundation* report indicates that the United States has slipped to tenth place among Organization for Economic Co-operation and Development nations in overall research and development as a percentage of Gross National Product.

If our nation does not act to shore up its scientific research expenditures, we are in danger of losing the advantage America has long held as an engine of innovation that generates new discoveries and stimulates job growth. America's economic competitors are moving aggressively to increase their own investments. For example, China's research and development investment is growing at an average annual rate of eight percent above inflation and is on a path to overtake the United States in just eight years.

A foundation and fundamental understanding of science, technology, engineering, and mathematics (STEM) is vitally important as we educate the next generation of leaders to compete in the global economy. Demand for highly educated and highly trained professionals in STEM and health care-related fields are at an all-time high. The United States must produce one million more STEM professionals in the next decade to keep up with workforce needs in

The Honorable Thad Cochran  
The Honorable Barbara A. Mikulski  
The Honorable Richard C. Shelby  
March 31, 2015  
Page 2

growing STEM fields. Our nation is ranked 26<sup>th</sup> in math and 21<sup>st</sup> in science performance. We cannot afford to continue to fall further behind in STEM education.

The NSF is the only federal agency specifically responsible for supporting essential education and research across all science and engineering fields—a role that is vital to economic competitiveness and to cultivating a workforce capable of keeping pace with the global economy. Nearly one out of every four basic research projects at colleges and universities across the United States is supported by the NSF. The NSF awards the majority of its budget on a peer-reviewed, competitive basis to individuals and small groups of researchers at public and private institutions of higher learning through approximately 11,000 new grant awards per year.

Awards from the NSF enable faculty and students to access the resources they need and support the necessary infrastructure and tools to address some of our society's most pressing concerns. Research funded by the NSF has led to discoveries as small as proteins that protect cells from freezing, to those as large as new planets. In many cases, the basic research facilitated by the NSF is then commercialized by domestic companies, benefiting the private sector and the U.S. economy. The applications of NSF research have helped many businesses create jobs by developing new products from advanced radar systems and next generation high definition videoconferencing, to more efficient and affordable solar energy materials and genetically engineered tissues for medical procedures.

We must remain committed to strengthening our workforce and competing with countries that are investing significant resources in STEM education and basic research in support of innovation. We urge you to include \$7.7 billion for the NSF in the Senate bill in support of the balanced research and education portfolio proposed in the Fiscal Year 2016 budget request.

Thank you in advance for your consideration of our request.

Sincerely,



---

Edward J. Markey



---

Benjamin L. Cardin

The Honorable Thad Cochran  
The Honorable Barbara A. Mikulski  
The Honorable Richard C. Shelby  
March 31, 2015  
Page 3



Cory A. Booker



Richard J. Durbin



Charles E. Schumer



Kirsten Gillibrand



Sherrod Brown



Debbie Stabenow



Amy Klobuchar



Gary C. Peters



Ron Wyden



Mazie K. Hirono

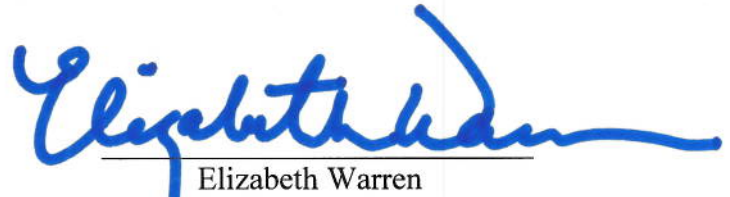


The Honorable Thad Cochran  
The Honorable Barbara A. Mikulski  
The Honorable Richard C. Shelby  
March 31, 2015  
Page 4

  
Christopher A. Coons

  
Barbara Boxer

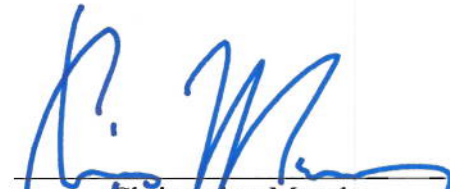
  
Robert Menendez

  
Elizabeth Warren

  
Brian Schatz

  
Dianne Feinstein

  
Tammy Baldwin

  
Christopher Murphy

  
Tim Kaine

  
Jeanne Shaheen

  
Maria Cantwell