

# United States Senate

June 16, 2021

The Honorable Jeanne Shaheen  
Chair  
Subcommittee on Commerce, Justice,  
Science, and Related Agencies  
U.S. Senate Committee on Appropriations  
Washington, D.C. 20510

The Honorable Jerry Moran  
Ranking Member  
Subcommittee on Commerce, Justice,  
Science, and Related Agencies  
U.S. Senate Committee on Appropriations  
Washington, D.C. 20510

Dear Chair Shaheen and Ranking Member Moran:

We write to respectfully request that the National Science Foundation (NSF) receive an appropriation of at least **\$10.2 billion** in the Fiscal Year (FY) 2022 Commerce, Justice, Science, and Related Agencies Appropriations bill.

The NSF is an independent federal agency created by Congress to promote the progress of science, secure the national defense, and advance the nation's health, prosperity, and welfare. It is also the only federal research agency that supports fundamental research in these important fields – biology, computer science, economics, engineering, educational research, geosciences, mathematics, and social and behavioral sciences. The scientific research and educational programs supported by NSF are integral to the continued success of America's innovation enterprise.

Over one year has passed since the beginning of the COVID-19 pandemic. During the COVID-19 pandemic, the NSF has worked to find innovative solutions that help communities, businesses, and individuals navigate the challenges of the pandemic. Importantly, the NSF played a crucial role in funding research behind critical diagnostic tools and medical devices used to combat the pandemic. For example, the NSF-funded discovery of bacteria that contains thermostable enzymes that allow for the rapid copying of genetic material through a process called Polymerase Chain Reaction (PCR). This process was integral to manufacturing a widely used test that identifies whether a patient has been infected with SARS-CoV-2 with only a small amount of genetic material through a nasal swab. This example clearly demonstrates the importance of investing significantly in the NSF.

Additionally, NSF-funded research has supported technological advancements in artificial intelligence, advanced manufacturing, quantum information sciences, wireless broadband connectivity, and engineering biology. It has also funded research that addresses the challenges in Science, Technology, Engineering, and Math (STEM) education to ensure that students can adapt to meet future workforce needs.

For the United States to remain a global leader in scientific research, engineering, and technology development, the nation must provide greater investment in its people, including women and racial and ethnic minorities, through NSF support programs such as NSF INCLUDES and Established Program to Stimulate Competitive Research (EPSCoR). Based on

U.S. Census and Bureau of Labor and Statistics (BLS), the number of women and ethnic minorities must more than double the 2020 U.S. science & engineering workforce to be representative of the nation's population in 2030. It is essential for the United States to continue to invest in NSF's education programs, including K-12 STEM education, undergraduate and graduate education and training, and informal education programs for us to meet this goal. NSF also must prioritize investment in Research & Development (R&D). According to the National Science Board (NSB) Vision 2030 report, competitor nations continue to make great advancements in science and technology due to their significant investment in R&D where the United States share of global R&D spending has decreased from 37% to 25% between 2000 and 2017. The NSB expects China to surpass the United States in R&D investments in the near future. To remain globally competitive, the United States must continue to invest in fundamental scientific research, like the research that NSF funds, across the scientific disciplines.


One out of every four basic research projects at higher learning institutions across the United States is supported by the NSF. All NSF grant proposals are critically reviewed to ensure they meet the intellectual merit and broader impacts criteria. The NSF's expert merit review process is the international gold-standard for the review and evaluation of grant proposals and relies upon the expertise and knowledge of leading scientists and engineers to ensure that the best research is being funded across the scientific disciplines. Full funding of the NSF will enable an additional 44,000 researchers, including teachers and students nationwide, to address some of our society's most pressing concerns through almost 11,000 competitive awards and 8,100 research grant awards.

For these reasons, we respectfully request your support to ensure that the National Science Foundation receive **\$10.2 billion** for Fiscal Year (FY) 2022. Strong funding is needed to ensure future generations of Americans are prepared to help our nation remain the world economic leader.

Thank you for your consideration of this request.

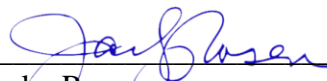
Sincerely,

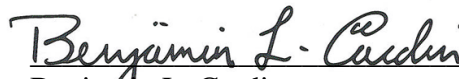
  
\_\_\_\_\_  
Edward J. Markey  
United States Senator


  
\_\_\_\_\_  
Tim Kaine  
United States Senator


  
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Senator Catherine Cortez Masto  
United States Senator

  
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Gary C. Peters  
United States Senator

  
Jacky Rosen  
United States Senator


  
Benjamin L. Cardin  
United States Senator


  
Sherrod Brown  
United States Senator

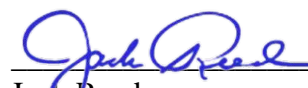
  
Margaret Wood Hassan  
United States Senator


/s/ **Tammy Baldwin**  
Tammy Baldwin  
United States Senator

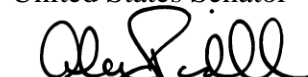
/s/ **Christopher A. Coons**  
Christopher A. Coons  
United States Senator

  
Robert Menendez  
United States Senator


  
Mazie K. Hirono  
United States Senator

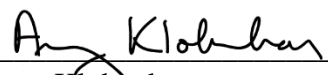
  
Jack Reed  
United States Senator

  
Sheldon Whitehouse  
United States Senator

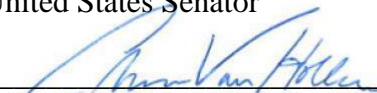
  
Alex Padilla  
United States Senator

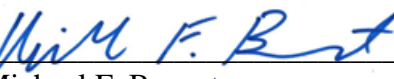
  
Debbie Stabenow  
United States Senator

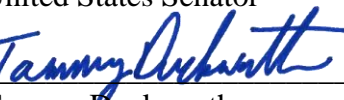
  
Richard Blumenthal  
United States Senator

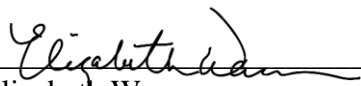
  
Amy Klobuchar  
United States Senator

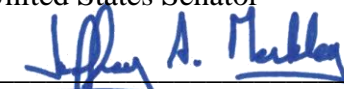
  
Ron Wyden  
United States Senator

  
Chris Van Hollen  
United States Senator


  
Michael F. Bennet  
United States Senator

  
Tammy Duckworth  
United States Senator

  
Elizabeth Warren  
United States Senator

  
Jeff A. Merkley  
United States Senator

/s/ **Thomas R. Carper**  
Thomas R. Carper  
United States Senator

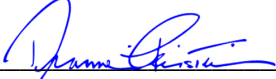
  
Cory A. Booker  
United States Senator



Bernard Sanders  
United States Senator



Tina Smith  
United States Senator



Dianne Feinstein  
United States Senator



Mark Kelly  
United States Senator

/s/ **Robert P. Casey, Jr.**

Robert P. Casey, Jr.  
United States Senator



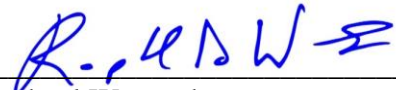
Kyrsten Sinema  
United States Senator



John Hickenlooper  
United States Senator



Chris Murphy  
United States Senator



Raphael Warnock  
United States Senator

/s/ **Martin Heinrich**

Martin Heinrich  
United States Senator



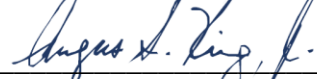
Kirsten Gillibrand  
United States Senator



Richard J. Durbin  
United States Senator



Mark R. Warner  
United States Senator



Angus S. King Jr.  
United States Senator



Jon Ossoff  
United States Senator