

**Congress of the United States**  
**Washington, DC 20515**

April 29, 2021

The Honorable Matt Cartwright  
Chairman  
Subcommittee on Commerce, Justice,  
Science, and Related Agencies  
H-310, The Capitol  
Washington, D.C. 20515

The Honorable Robert B. Aderholt  
Ranking Member  
Subcommittee on Commerce, Justice,  
Science, and Related Agencies  
1036 Longworth House Office Building  
Washington, D.C. 20515

Dear Chairman Cartwright and Ranking Member Aderholt:

We write to respectfully request that the National Science Foundation (NSF) receive an appropriation of at least **\$10 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 to 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. The NSF worked to find innovative solutions that have helped 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. Many more examples of the impact of NSF-funded research are available in the second edition of [Transforming the World Through Science](#).

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

projections from the 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.

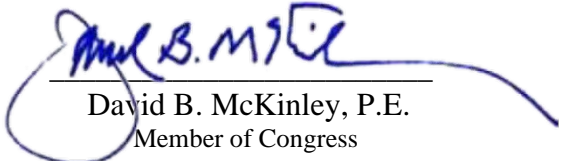
One out of every four basic research projects at higher learning institutions across the United States is supported by the NSF. All NSF grant proposals are critically reviewed to ensure they meet the intellectual merit and broader impacts criteria. The NSF's expert merit review process is the international 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 **at least \$10 billion** for Fiscal Year (FY) 2022. This amount is the minimum level of funding needed to ensure future generations of Americans are prepared to help our nation remain the world economic leader.

Thank you very much.

Very truly yours,

  
G. K. Butterfield  
Member of Congress

  
David B. McKinley, P.E.  
Member of Congress

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Member of Congress

**National Science Foundation  
FY 2022 Appropriations Letter Co-Signers**

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