



U.S. HOUSE OF REPRESENTATIVES COMMITTEE ON
SCIENCE, SPACE, & TECHNOLOGY

Floor Statement

Representative Eddie Bernice Johnson (D-TX)
on the National Science Foundation for the Future Act
March 26, 2021

Madam Speaker, today I am pleased to be joined by my colleagues on the Committee on Science, Space, and Technology, Ranking Member Frank Lucas, and the Research and Technology Subcommittee Chairwoman and Ranking Member, Haley Stevens and Michael Waltz, in introducing the *National Science Foundation for the Future Act*.

Established in 1950, the National Science Foundation (NSF) was born out of hard-earned lessons about the powerful role of science in securing an allied victory in World War II. Propelled by his wartime experience leading the Office of Scientific Research and Development, Vannevar Bush championed the creation of NSF and postwar federal support for science, making the argument that “advances in science when put to practical use mean more jobs, higher wages, shorter hours, more abundant crops, more leisure for recreation, for study, for learning how to live without the deadening drudgery which has been the burden of the common man for ages past. Advances in science will also bring higher standards of living, will lead to the prevention or cure of diseases, will promote conservation of our limited national resources, and will assure means of defense against aggression.”

That was a lofty vision. One, I am proud to say, the Foundation has largely lived up to throughout its existence. Over the past 70 years, NSF has played a critical role in supporting fundamental research, education, and infrastructure at colleges, universities, and other institutions throughout the country. NSF funding has enabled numerous breakthrough discoveries that have transformed the daily lives of the American people – from the internet, lithium batteries, and GPS to weather radar, MRI technology, and DNA analysis – just to name a few.

One of the aims of this bill is to empower the agency to do more of what it does best. Years of modest budget growth have resulted in low proposal success rates and stagnant grant sizes. Researchers and peer-reviewers alike are more conservative in this funding environment, feeling pressure to deliver results rather than take big risks. Researchers are also struggling to support graduate students and postdocs and are bogged down preparing multiple grant proposals to increase their chances of being funded. This is no way for the world’s leading scientific enterprise to function. And if we continue on this path, we will cede our scientific leadership, and with it the advantages of developing new industries and setting the global norms for emerging technologies. This bill authorizes a significant increase in the agency’s budget. Funding for the current portfolio of activities is increased by nearly \$2 billion in year one and

grows at an average annual rate of 6 percent, setting the agency on a path to double its budget in 9 years.

This bill also pushes the Foundation to continue to evolve. While it is undeniable that the Foundation has a legacy of scientific achievements that have delivered enormous benefits to society, it is important to acknowledge that those benefits have not always been widely shared. Some segments of the public have been left behind by the traditional approach to science and innovation. This bill promotes increased accountability to the public through improvements to the implementation of the Broader Impacts review criterion and a new requirement for researchers to describe the ethical and societal implications of their work. The bill also expands public access to data resulting from NSF-funded research and promotes increased vigilance against threats to research security and integrity.

The bill funds centers that will connect NSF STEM education innovations to school districts and teachers, so more students can benefit. It encourages universities to collaborate with the private sector to better align undergraduate STEM education with workforce needs. It raises the bar for mentoring and training of graduate students and postdocs and establishes a pilot program to strengthen the research capacity of emerging research institutions, including minority serving institutions.

Finally, this bill establishes a new directorate to promote a solutions-driven approach to research. A central goal of the Directorate for Science and Engineering Solutions (SES) is to be more strategic and inclusive in the nature of research collaborations, including by connecting researchers with potential users or beneficiaries of their research from the priority-setting stage through the translation of an innovation into practice. While industry has an important seat at this table, so do local governments and communities that might be affected by the research. The SES Directorate will enable the Foundation to take big risks and experiment with new approaches to accelerate use-inspired and translational research to address society's major challenges, including climate change and environmental sustainability, global competitiveness in critical technologies, cybersecurity, national security, STEM education and workforce, and social and economic inequality.

To fully realize the potential of science to benefit society, we must fund more research on the questions that matter to the American people. We also must ensure this research is, in the words of Vannevar Bush, "put to practical use." Our competitiveness with China and other nations drives much of the national discourse around innovation because our economic and national security depend on our leadership in science and technology. However, competitiveness with China will not be possible if we do not unleash our nation's STEM talent on the full range of challenges we face. Surely the COVID-19 pandemic has laid that bare for all of us. And the fact is, researchers and students are inspired by finding solutions, whether they be scientific or societal challenges. In this bill, we seek to inspire.

Over a year of bipartisan collaboration and numerous conversations with a wide range of stakeholders, thought leaders, and policy experts has resulted in the bill we are introducing today. I want to thank the many individuals who took the time to engage with Committee staff and share their perspectives. Your efforts have improved the bill immeasurably. This is a well-

vetted bill, but it is by no means the final product. I am committed to a transparent and deliberative process for moving this bill forward. I look forward to continuing to engage with the stakeholder community and with my Committee colleagues through hearings and a markup.

Finally, I want to thank Majority Leader Schumer for his leadership in championing an infusion of funding and a bold new vision for the future of NSF. While our approaches to establishing a new directorate differ, we share the same goal. We must dramatically accelerate progress in research and development in this country. I look forward to partnering with Senator Schumer and my colleagues on both sides of the aisle in this effort.