



May 6, 2021

The Honorable Eddie Bernice Johnson
Chairwoman
Committee on Science, Space, and Technology
House of Representatives
Washington, DC 20515

The Honorable Frank Lucas
Ranking Member
Committee on Science, Space, and Technology
House of Representatives
Washington, DC 20515

The Honorable Haley Stevens
Chairwoman
Subcommittee on Research and Technology
Committee on Science, Space, and Technology
House of Representatives
Washington, DC 20515

The Honorable Michael Waltz
Ranking Member
Subcommittee on Research and Technology
Committee on Science, Space, and Technology
House of Representatives
Washington, DC 20515

Dear Chairwomen Johnson and Stevens, and Ranking Members Lucas and Waltz,

On behalf of Penn State University, I write in support of H.R. 2225, the National Science Foundation for the Future Act. The University commends you on your bipartisan efforts on this legislation. While we have some concerns with certain provisions of the bill, we strongly support the committee's efforts to reauthorize the National Science Foundation (NSF) and look forward to working with you as this bill advances through the legislative process.

As you may know, Penn State is tied nationally for 1st place with 16 disciplines ranked in the top ten for university research expenditures, including 1st in the nation in materials sciences¹. Our research expenditures exceeded \$1 billion in FY 2020². NSF is the 3rd largest funder of research at Penn State awarding more than \$81 million in FY 2020³. We host a variety of NSF-supported research centers including a materials innovation platform, materials science and engineering centers, and several industry-university cooperative research centers. Penn State also participates in the I-Corps program, the Partnerships for Innovation program, and INCLUDES.

Penn State greatly appreciates the authorized funding levels in H.R. 2225. NSF is currently dramatically underfunded. In constant dollars, NSF's FY 2021 funding levels are below appropriations provided in 2010⁴. Additionally, the agency's research proposals funding rate is just 26%, well below the 30% overall funding rate recommended by the National Science Board (NSB)⁵. In its most recent merit review report, the NSB notes that the mean annual research award of approximately \$189,000, adjusted for inflation, is below the average dollar amount awarded in FY 2009⁶. Finally, and most concerning, NSF had to decline 4,262 proposals that received ratings of "Very Good" or higher, and worth a total of about \$2.8 billion⁷. It is clear that NSF is in need of significantly more funding, and it is our hope these authorization

¹ <https://nces.nsf.gov/pubs/nsf21314>

² <https://www.research.psu.edu/sites/default/files/Penn%20State%20Research%20Annual%20Report%202020.pdf>

³ <https://dellweb.bfa.nsf.gov/Top50Inst2/default.asp>

⁴ <https://dellweb.bfa.nsf.gov/NSFFundingbyAccountConstantDollars.pdf>

⁵ https://www.nsf.gov/nsb/publications/2020/merit_review/FY-2019/nsb202038.pdf

⁶ Ibid

⁷ Ibid

levels will ultimately translate into additional appropriations for the agency. Underfunding NSF hurts our economic and global competitiveness, particularly as competitor nations such as China continue to outpace the United States in increasing R&D investments.

We support the bill's increased funding authorizations for the Graduate Research Fellowship Program, codifying the INCLUDES program, and establishing climate change, food-energy-water, and diversity in tech research programs. The University also supports formerly establishing the Office of Research Security and Policy and appreciates the requirement that the office conduct outreach and education on potential security risks as we firmly believe that communication challenges remain the biggest obstacles to enhancing research security. Finally, Penn State supports the creation of the Directorate for Science and Engineering Solutions and its mission of supporting use-inspired research and commercialization efforts.

It is our hope that several improvements to H.R. 2225 can be made as the legislative process continues. We urge that the bill authorize research programs for developing high-quality STEM curricula, advancing critical minerals research and expanding additive manufacturing initiatives. We also support further increasing the cost of allowance for the Graduate Research Fellowship program. Penn State is concerned about potential administrative burdens related to graduate development plans, ethics statements, data management plans, open repositories, and specimen management plans. Most of our concerns can be addressed with minor changes to the legislative language.

As you likely know, Penn State is a leader in research security as our efforts have been highlighted as a model for other universities by NIH among others. Knowing this, the University is concerned with several research security provisions in H.R. 2225. We believe that the Office of Research Security and Policy should be required to operate in a more transparent manner. While well intentioned, we are concerned that the language requiring responsible conduct in research training will simply be another administrative burden for our researchers and not meet desired goals of enhancing research security until federal law enforcement and intelligence agencies can clearly articulate research security risks to universities. Finally, we oppose establishing a research security risk assessment center at NSF. Research security challenges require a federal government-wide response, and establishing one center at NSF will likely not address major challenges across the many federal sponsors with whom we work; rather, it has the potential to create further compliance burdens for universities. We support authorizing and funding a study to create an independent research security center that can serve the entire research enterprise and engage with the entire federal government.

Thank you for the opportunity to comment on H.R. 2225, the National Science Foundation for the Future Act and for your bipartisan efforts to craft the legislation. Penn State looks forward to working with you as the bill continues through the legislative process.

Sincerely,



Lora Weiss, Ph.D.
Senior Vice President for Research
The Pennsylvania State University