



FASEB

Federation of American Societies
for Experimental Biology

Representing Over 130,000 Researchers

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9650 Rockville Pike
Bethesda, MD 20814

July 6, 2021

The Honorable Charles Schumer
Majority Leader
United States Senate
S-221, United States Capitol
Washington, DC 20510

The Honorable Mitch McConnell
Minority Leader
United States Senate
S-230, United States Capitol
Washington, DC 20510

The Honorable Nancy Pelosi
Speaker
United States House of Representatives
H-232, United States Capitol
Washington, DC 20515

The Honorable Kevin McCarthy
Majority Leader
United States House of Representatives
H-204, United States Capitol
Washington, DC 20515

Dear Majority Leader Schumer, Minority Leader McConnell, Speaker Pelosi, and Leader McCarthy:

The Federation of American Societies for Experimental Biology (FASEB) comprised of 30 scientific societies which collectively represent over 130,000 biological and biomedical researchers – many of whom receive federal research grants – writes to provide its comments regarding competing bills setting up programmatic and policy changes for the National Science Foundation (NSF).

FASEB commends congressional efforts to strengthen our country's global competitiveness with a special emphasis regarding the legislative work of the House Committee on Science, Space and Technology on H.R. 2225, National Science Foundation for the Future Act (NSF for the Future Act), and of the Senate Commerce, Space and Transportation Committee on S. 1260, the United States Innovation and Competition Act of 2021 (USICA), which includes the Endless Frontier Act. Both bills have now passed their respective chambers.

FASEB supports the intent of both bills to reauthorize NSF to promote fundamental research in support of the nation's scientific enterprise. NSF provides approximately 25 percent of the federal support for basic research conducted at academic institutions and works to address our national challenges. We also support efforts to significantly invest in the United States science and technology research enterprise; to expand NSF's impact to advance innovation, the economy and national security; and to broaden the size, diversity, capability, and flexibility of the STEM workforce. Most importantly for our researchers, these bills set NSF on a path that will significantly increase the funding for additional highly meritorious basic research grants, which currently cannot be supported.

With the understanding that there is still work to be done to potentially reconcile these bills, FASEB would like to offer the following recommendations to the leadership and conferees for consideration.

NSF Authorization Levels FY 22-FY 26

FASEB supports at least a minimum \$2 billion increase for FY 22 to the NSF base and at least a minimum 6 percent average annual increase for NSF year-to-year (minus the new Directorate). Significant increases to its base will allow NSF to fund more proposals that receive “Very Good”, or higher, ratings in the merit review process. Unfunded projects represent an enormous untapped potential to create new knowledge and to spur innovations that can create new industries, thereby expanding the economic impact of NSF supported research.

Establishing a New Directorate at NSF

The directorates specified in the Senate and House bill are different but have in common the goal to use Foundation-supported fundamental research to advance technologies, to support use-inspired research to facilitate commercialization, and to expand the scientific workforce pipeline. FASEB has not developed an official position on the creation of the proposed new Directorate. However, the Federation generally supports efforts that allow NSF to accelerate the translation and application of applied research and to develop and promote a culture of supporting interdisciplinary science within and across the agency. With respect to the new Directorate, FASEB stands by the principle that basic fundamental research – the lifeblood of research – should remain a top priority for NSF and have its own dedicated funding. Additionally, any funds for the new Directorate should come from additional appropriations over and above the total amount of funding for the other Directorates within NSF.

Capacity Building Program for Developing Universities Through Institutions Partnering

FASEB supports institutional partnering that enhances university capacity building. In USICA, eligible institutions, such as historically black colleges or universities; minority-serving institutions; or institutions of higher education with established science, technology, education and math (STEM) capacity building programs focused on traditionally underrepresented STEM populations such as Native Hawaiians, Alaska Native and Indians and not having more than \$50 million in annual federally-funded research and development expenditures for science and engineering, would be eligible for grants. These grants would be used to support partnerships with other entities, including eligible institutions. NSF for the Future Act also provides grants for capacity building to institutions that are not among the top 100 institutions in Federal R&D expenditures during the 3-year period prior to the year of the award encouraging institutions to partner with each other. Such partnerships would bolster institutional research competitiveness.

Research Reproducibility and Replicability

FASEB is pleased to see in the NSF for the Future Act the development of a set of criteria for trusted open repositories and providing support for the development of open data repositories to address any gaps. We also support the requirement to establish a single web-based point of access for data,

software, and code resulting from NSF funded projects; directing the Foundation to ensure that data resulting from Foundation-funded projects is made available in trusted open repositories; and supporting research and development of tools and infrastructure to support research reproducibility. In the NSF for Future Act there is additional support for educating and training of faculty, researchers, and students on computational methods, tools, and techniques to improve the quality and sharing of data, code, and supporting metadata to ensure reproducible research. FASEB would like to see such language remain in the final conferenced bill.

Training for Faculty to Support Student Success

A focus on attracting and retaining a more diverse population into STEM requires a sharper focus on the training and professional development of faculty at institutions, especially those who are junior faculty. Faculty are the instructors, role models and mentors with networks that help their students succeed. Aligning faculty professional training and development to meet the changing student demographics anticipated by this legislation can bring more equity and diversity into the sciences. A trained and diverse faculty will help to recruit and retain students from diverse backgrounds and is a key to student success. USICA provides for faculty training and resources under the “Emerging Research Institution Pilot Program” where NSF will award grants to eligible partnerships, led by 1 or more emerging research institutions to build research and education capacity at emerging research institutions to enable such institutions to contribute to programs run by the Directorate. An eligible partnership that receives such a grant may use the funds for increasing research, education, and innovation capacity for faculty training. FASEB encourages such capacity building.

In USICA there are “Post Secondary STEM Pathways Grants” to support equitable access to postsecondary STEM pathways to increase the number of students exposed to STEM coursework. It also provides for an entity receiving a grant to use the grant funds to provide training and professional development for faculty who teach courses included in postsecondary STEM pathways to improve access to such pathways for particular subgroups of students as defined in the legislation. USICA provides under “Professional and Technical Education for Global Competitiveness” development opportunities and fellowships for faculty or junior faculty (includes faculty of minority serving institutions) to acquire or strengthen their global skills and perspectives. FASEB supports faculty training that will in turn support researchers’ success in areas such as research security risk and research misconduct training. However, due care must be taken to ensure that there is a balance in the administrative burden created through such research security and integrity training in consultation with stakeholders.

Foreign Talent Recruitment

USICA mandates the Office of Science Technology Policy to coordinate with an interagency working group to distribute uniform policy for agencies regarding foreign government talent recruitment programs and prohibits awards from being used by any individuals participating in a foreign government

talent recruitment program of the People's Republic of China, the Democratic People's Republic of Korea, the Russian Federation, or the Islamic Republic of Iran. FASEB cautions that USICA provisions naming particular countries of concern could be a moving target and could negatively impact students from these countries studying in the U.S. Therefore, ensuring equitable treatment of individuals, regardless of their national origin, is essential.

Graduate Research Fellowship and Education

FASEB supports these provisions in NSF for the Future Act related to graduate education and would like to see them included in the final legislation.

- Annual project reports for awards that support graduate students and postdoctoral scholars including certification by the Principal Investigator that each graduate student and postdoctoral scholar receiving substantial support from such award has developed and annually updated an Individual Development Plan to map educational goals, career exploration, and professional development.
- Professional development supplements that award up to 2,500 administrative supplements to support professional development for graduate students who receive a substantial portion of their support from an NSF grant.
- Sense of Congress statement that NSF should increase the number of new Graduate Research Fellowships supported annually over the next five years to no less than 3,000 fellows.

Combatting Sexual Harassment in Science

FASEB previously submitted comments to the House Science Committee regarding sexual harassment in science. We are pleased to see the House provision dealing with sexual and gender harassment in the scientific community. The Senate is also addressing this critical issue in USICA through "Combatting Sexual Harassment in Science" provisions. We are especially supportive of the NSF for the Future Act provision instructing NSF to award grants to expand research efforts to better understand factors related to sexual and gender harassment and to examine promising practices for preventing, addressing and mitigating the negative impact of sexual and gender harassment.

FASEB also supports the directive in both bills that NSF shall enter into an agreement with the National Academies of Sciences, Engineering, and Medicine to update "On Being a Scientist: A Guide to Responsible Conduct in Research."

Administrative Burden on Researchers

FASEB requests that the NSF for the Future Act's Sense of Congress that the NSF Director shall continue to identify opportunities to reduce the administrative burden on researchers be kept in conferenced legislation.

Data Management Plan

FASEB is in favor of keeping the requirement in the NSF for the Future Act that every NSF-funded grant proposal include a data management plan that includes a description of how the awardee will archive and preserve access to data, software, and code developed as part of the proposed project in NSF for the Future Act. We also support language encouraging program officers and merit review panels to treat data management plans as essential elements of grant proposals, where appropriate. In addition, FASEB appreciates the language in the bill that requires NSF to establish an action center for biological collections to facilitate coordination and data sharing among communities of practice for research, education, workforce training, evaluation, and business model development.

Chief of Diversity at NSF

With an emphasis on improving diversity and inclusion throughout the scientific enterprise, FASEB notes the differences in the level of a newly created Chief Diversity Officer at NSF. The NSF for the Future bill calls for NSF to appoint a senior agency official within the Office of the Director with experience pertaining to civil rights, harassment, equal employment opportunity, and disabilities. This position in USICA is appointed by the President with consent of the Senate with the same level of expertise. Given that both approaches have merits, FASEB supports the efforts to create a Chief Diversity position within NSF.

Supporting Early Careers Researchers Act

In USICA the NSF pilot program to support early career researchers was included. It would award grants to highly qualified early-career investigators to carry out an independent research program at an institution of higher education or participating Federal research facility chosen by an investigator, to last for a period not greater than 2 years and give priority to those from underrepresented populations in STEM. FASEB has previously endorsed the Supporting Early Careers Researcher Act as a stand-alone bill in the House, [H.R. 144](#), and the companion [S. 637](#) and applauds its inclusion in USICA. However, FASEB would like to see the \$250 million authorized appropriation amount for each of fiscal years 2021 through 2022 included in the conferenced version.

Research Investment to Spark the Economy Act of 2021 (RISE Act of 2021)

FASEB also seeks full inclusion of the authorized amounts in the RISE Act in any final bill to provide supplemental funding to extend the duration of a grant to a research institution, national laboratory, or individual that provides flexibility on awards to account for facility closures or other limitations during the COVID-19 public health emergency. As a member of the Ad Hoc Group for Medical Research Steering Committee, FASEB also joined a May [letter](#) urging Congress to provide emergency funding for NSF and National Institutes of Health (NIH). USICA did not provide authorized funding levels in the

Senate engrossed bill where the [stand alone bill](#) H.R. 869 and [S. 289](#) provided the Department of Health and Human Services \$10 billion for the NIH and \$3 billion for the NSF.

FASEB encourages decisionmakers to thoughtfully consider how best to incorporate these evidence and broad scientific community-based suggestions into a final bill.

Sincerely,

A handwritten signature in black ink that reads "Patricia L. Morris". The signature is written in a cursive, flowing style.

Patricia L. Morris, MS, PhD
President

cc: The Honorable Maria Cantwell
The Honorable Roger Wicker
The Honorable Eddie Bernice Johnson
The Honorable Frank Lucas