



July 12, 2022

The Honorable Nancy Pelosi
Speaker
U.S. House of Representatives
H-232, U.S. Capitol
Washington, DC 20515

The Honorable Chuck Schumer
Majority Leader
United States Senate
322 Hart Senate Office Building
Washington, DC 20510

The Honorable Kevin McCarthy
Minority Leader
U.S. House of Representatives
H-204, U.S. Capitol
Washington, DC 20515

The Honorable Mitch McConnell
Minority Leader
United States Senate
S-230, U.S. Capitol
Washington, DC 20515

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

On behalf of the Society for Science at User Research Facilities (SSURF) I write regarding the conference committee discussions of H.R. 4521, the America Creating Opportunities for Manufacturing, Pre-Eminence in Technology, and Economic Strength (COMPETES) Act of 2022 and S. 1260, the U.S. Innovation and Competition Act (USICA). SSURF advocates for the network of scientists, engineers, educators, and students across the nation's network of crucial Scientific User Facilities at the Department of Energy (DOE) National Laboratories, National Science Foundation-funded facilities, and the Department of Commerce (DOC) National Laboratories.

We strongly support the overall funding increases proposed in both USICA and COMPETES as our nation is in crucial need of scientific research investment as we face unprecedented global competition and threats to our scientific leadership. As Senator Maria Cantwell said at the Committee's convening, we are in a "Sputnik moment, where it is clear to Americans that we are falling behind on innovation, and we can't risk falling further behind." The potential for your decisions to usher in an historic resurgence to our country's scientific infrastructure is as urgent as it is inspiring.

We have suggestions for how to best leverage our existing world-class, taxpayer-funded scientific research assets with your legislation. We also offer our perspective on the proposals

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for new scientific research programming you are considering, with an emphasis on maximizing the potential of our country's premier User Facilities.

We perceive an urgent need for the visionary investments proposed for the National Science Foundation. We strongly support the overall proposed budget increase, as the NSF's mission is profoundly vital to our scientific status on the global stage. The NSF is nothing less than our crucial agency of fundamental scientific research shaping our country's future prosperity.

There are equally crucial investments proposed for the DOE and the DOC. Our country is the beneficiary of decades of brilliant discoveries and applied technologies from these agencies' labs and the proposed funding would help maintain our leadership in a spectrum of innovative industries driving our economy and ensuring our national security.

A key feature of both the USIACA and COMPETES legislation is to accelerate commercialization of research within the National Science Foundation; including the concept of regional Innovation Engines. However, **we strongly recommend any new NSF programs should be designed around topic areas that are not currently significant research and commercialization project areas of the DOE and the DOC.**

We envision legislation that strategically directs significant investment towards various scientific agencies and their respective missions that have proven their value over decades. This avoids a redundancy or "reinventing the wheel" scenario and ensures the country gets the most impact for taxpayer investment.

For example, the COMPETES ACT proposes the Director of the NSF appoint a Directorate for Science Engineering Solutions that advances research and development solutions that address societal and national challenges while accelerating research for technology commercialization (Sec. 10308). Similarly, the USICA proposes NSF create a Directorate for Technology and Innovation, with goals such as reducing barriers to technology transfer; providing awards under the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs, and proposing new NSF research programming in areas such as genomics and synthetic biology; in data storage, data management, and distributed edge technologies and in advanced energy and industrial efficiency technologies like batteries.

Such research and programming has already been making major strides, for years and even decades, within DOE and DOC facilities. NSF has not historically played a role in research commercialization; we suggest avoiding creating new, concurrent and duplicative research and commercialization programming and instead prioritize investing in NSF's existing crucial portfolio of projects and partnerships. *The National Science Foundation (NSF) is a vital part of our nation's S&T ecosystem in supporting fundamental research; this primary mission of NSF must be protected and robustly funded.*

A few programming proposals within the COMPETES Act for the National Science Foundation that would be beneficial to the research community include:

- Requiring the Director of the NSF to facilitate public access to research products, including data, software and code (Sec. 10306(f)).
- Communicating opportunities and proposals for social, behavioral and economic science researchers to participate in cross-cutting and interdisciplinary programs and activities (Sec. 10306(i)).
- Supporting research and development of data, models, indicators and associated analytical tools to improve understanding of the impacts of federally funded research on society, the economy and the workforce, including domestic job creation (Sec. 10306(j)).
- Supporting research to improve the use of advanced sensing systems in rural and agricultural areas; highlighting improved productivity in agriculture as a goal for activities funded under the Advanced Technological Education program; and supporting a Government Accountability Office technical assessment for precision agriculture technologies (Sec. 10306(w)).

Among proposals for the DOE within COMPETES we support:

- Authorization through FY26 for construction, maintenance and repairs on facilities of the six main research program areas within the Office of Science, including:
 1. Basic Energy Sciences: a new Computational Materials and Chemicals Sciences research program and construction upgrades to at various facilities including the Advanced Photon Source, Spallation Neutron Source Proton Power, Advanced Light Source and Linac Coherent Light Source II High Energy, and the Nanoscale Science Research Center Recapitalization Project (Sec. 10102)
 2. Biological and Environmental Research: proposal includes the establishment of up to six bioenergy research centers to conduct fundamental research in those areas (Sec. 10103).
 3. Advanced Scientific Computing Research Program: proposal for a high-end computing program to support the development of advanced computer architecture and algorithms, and expanding the Computational Science Graduate Fellowship (Sec. 10104)
 4. Fusion Energy Research: proposal for a fusion materials program and a High-Performance Computing for Fusion Innovation Center (Sec. 10105)
 5. High Energy Physics: proposal directs continued U.S. participation in the Large Hadron Collider and authorizes funding for upgrades to certain specified research facilities (Sec. 10106)
 6. Nuclear Physics Program: proposal includes construction of a facility for rare isotope beams and an electron ion collider (Sec. 10107).

Other proposals we consider beneficial to the country's scientific community include:

Quadrennial Science and Technology Review

We support the proposal to direct the Office of Science and Technology policy to review the science and technology enterprise of the United States every four years. The section also describes the scope and requirements of the review (Sec. 10612).

Diversity Efforts

We support significant research capacity development at Historically Black Colleges and Universities and Minority Serving Institutions. While NSF has current programs in this area, investments in these institutions have been woefully inadequate.

We support an update to the report “On Being a Scientist: A Guide to Responsible Conduct in Research” to include new professional standards of conduct, evidence-based practices for fostering an inclusive work environment, methods to identify and address incidents of sexual and gender harassment, and professional standards for mentorship and teaching (Sec. 10546).

Research Security

We support the proposal to study the feasibility of establishing an independent, non-profit entity to further protect the United States research enterprise against foreign interference, theft, and espionage.

EPSCoR

We endorse the spirit of the proposed Innovation Engines concept and the Established Program for Competitive Research (EPSCoR) jurisdictions within the DOE Office of Science which supports early stage research across a wide range of DOE program areas.

However we suggest removal of provisions in the USICA that would require 20 percent of the total NSF budget for EPSCoR states as well as 20 percent of funds authorized for DOE and the NSF Directorate for Technology and Innovation. Such prescriptive funding requirements could negatively impact or otherwise preclude emerging research institutions’ funding opportunities in non-EPSCoR states. Additionally we are concerned that these provisions would fundamentally reduce the research profiles and the scientific capacity at existing institutions, instead of continuing to leverage the crucial investments that have been made over decades at these remarkable facilities. We urge you to articulate legislation that provides our world-class research ecosystem with pragmatic funding across EPSCoR and non-EPSCoR states alike.

The Society for Science at User Research Facilities is proud to highlight the crucial, brilliant research across America’s User Facilities network, and we applaud the House and Senate for taking actions to strengthen our nation’s competitiveness through increased investments in

federal scientific research infrastructure, and innovation programs. We commend the bipartisan efforts to date to craft legislation to support our scientific enterprise.

Sincerely,

Dan Powers, Executive Director
Jason Benedict, Board Chair
Society for Science at User Research Facilities Board of Directors

About SSURF:

The Society for Science at User Research Facilities is a 501(c)3 non-profit with a mission is to provide a consolidated voice and be a unique resource for best practices and support to those who are engaged in research at one or more of our nation's federal research laboratory User Facilities. SSURF member research facilities are located throughout the U.S. and include laboratories of the Dept. of Energy, Dept. of Commerce and National Science Foundation-funded entities, with a combine network of more than 100,000 scientists & researchers ("users").

SSURF's primary efforts are:

- 1) Supporting federal User Facility communities and research networks by sharing best practices and facilitating professional development, and
- 2) Promoting public awareness about the benefits and significance of User Facility research.

See more about SSURF at www.ssurf.org