



April 13, 2020

Dear Chairwoman Johnson, Ranking Member Lucas and staff of the House Science, Space, and Technology Committee,

The Coalition for National Science Funding (CNSF) appreciates the opportunity to respond to the Committee's request for ideas to be included in any future near-term response and longer-term economic stimulus package(s) developed by the House to address and mitigate the impacts of the current COVID-19 crisis. CNSF is an alliance of professional organizations, universities and businesses united by a concern for the future vitality of the national science, mathematics, and engineering enterprise.

CNSF suggests a series of recommendations for your consideration for the National Science Foundation (NSF).

NSF Opportunities for Additional R&D and Related Activities Specific to COVID-19 Response and Recovery

Currently, NSF has multiple efforts related to COVID-19 response and recovery, including researching the emergence and transmission dynamics of pathogens, pandemic modeling, supply chain and logistics, manufacturing, telehealth security and privacy, societal impact and behavior, testbeds for digital health technologies development, wireless technology advancement, and STEM workforce needs (please see the appendix for specific programmatic examples). In just the last few weeks, NSF has funded more than \$10m in coronavirus related work, including studying human behavioral response to different approaches to stopping the spread of the virus – data that could be key to informing future pandemic response. NSF is also partnering with other agencies and industry to pool access to [high performance computing power](#) in an effort to understand COVID-19 and assist rapid drug development and manufacturing.

NSF's Education and Human Resources (EHR) directorate presents a multitude of opportunities for research on education and public engagement with science. All types of education – K-12, trade schools, undergraduate research experiences, informal learning, etc. – are quickly pivoting to distance learning, and we must ensure that security, privacy, and equity issues are addressed. Further, the public's ability to evaluate scientific information is critical to ensuring our nation is prepared for future global crises. EHR's existing expertise in connecting science and society can be leveraged to grow and deepen NSF's public engagement efforts around the new discoveries that result from COVID-19 scientific research.

Another area of response for NSF could be to establish a national or international research network for pandemics, natural disasters, and climate change, which would encompass physical, biological, behavioral and social scientists working together to identify and address major issues underlying those topics. Funding to develop these collaborations might be through existing NSF mechanisms, including NSF's Research Coordination Networks and the Ecology and Evolution of Infectious Diseases Program.



While NSF received \$75 million to support COVID-related projects in the CARES Act, we respectfully request additional funding be provided for NSF to fund additional COVID-19 research. There is great potential for NSF to further support COVID-19 related research through RAPID, EAGER, and base programs. Furthermore, NSF should temporarily raise the \$200k cap on RAPID grants to allow for consideration of more robust proposals.

Near-Term Response to COVID Impacts on the Larger Research Enterprise

NSF will need additional funding to support research grants, students and post-docs, early career faculty, and scientific facilities. Many active NSF grants have been impacted by changes due to COVID-19; whether it be access to laboratories, human subjects, or field experiments, there are many situations that will require both ramp-up costs to restart research and supplemental funds to cover the support of personnel that could not fully conduct the proposed work. CNSF recommends that the Committee encourage NSF to raise the acceptable ceiling for research supplements in recognition of the anticipated greater need. Larger supplements will be needed for active grants impacted by the pandemic. To alleviate significant administrative burden, Congress should also consider advancing flexibilities to grant extensions and reporting requirements.

We anticipate a need for extended support – separate from grants – for students, such as graduate fellowships and traineeships, including NSF’s Graduate Research Fellowship and National Research Traineeship, in order to recognize the significant taxpayer investment already made in these students, sustain support for post-docs who will likely face a bleak job market, and acknowledge their importance to fields critical to national innovation. NSF should find temporary grant mechanisms and creative partnerships with scientific societies and industry to allow post-docs one or two extra years of support to get through this unprecedented economic crisis. One previously used mechanism in 2009 was the [Computing Innovation Fellows](#), or CIFellows, a NSF-Computing Research Association (CRA) partnership created to support post-docs in computer science for several years. This may serve as a model for supporting post-docs in need of temporary bridge funding due to COVID-19’s impact on the entire economy.

To continue to build diverse human infrastructure, NSF should bolster existing programs to support under-represented populations in STEM. CNSF recommends additional funding for ADVANCE, LSAMP, INCLUDES, CREST and other established programs designed to broaden participation in STEM.

Scientific research facilities are also facing significant challenges. In many cases, there are sharply reduced user fees (provided in part by direct charges to NSF grants) flowing to support core facilities and institutional research services. Staff salaries for these facilities must continue even when income is minimal; otherwise this essential infrastructure may become unsustainable.

Many of these concerns are also captured in the April 7 [research relief letter](#) to Congress from several higher education associations.

NSF “Shovel-Ready” Research Infrastructure



Members of CNSF will likely have specific proposed infrastructure projects to share with you directly. On a broader level, the unmet demand for mid-scale projects (both track I and II) is very high. Following the COVID-19 crisis it may be even higher due to the need for upgrades and repairs on research infrastructure that was not able to be maintained as needed during the shutdown of many facilities. Consequently, we recommend at least a one-time infusion of support for the mid-scale program. Further, as part of an economic stimulus package, NSF should establish a grant program to support modernization and enhancement of university research labs and addressing maintenance backlogs.

NSF Support for Long-term Economic Stimulus/Recovery

When considering long-term recovery, NSF can play a pivotal role in ensuring the robust U.S. innovation ecosystem that is essential to our future. Much of the basic research conducted by NSF translates to more applied work at other agencies or in the private sector, leading to numerous discoveries with real impact on long-term economic vitality.

With an overall grant award rate hovering at approximately 20 percent, there are numerous high-quality, highly rated proposals not funded by NSF. The most recent [Merit Review Digest](#) noted that 1,835 proposals, together requesting about \$1.5 billion, were rated “Very Good” or higher but did not receive funding due to lack of resources. The National Science Board states in the report that increasing NSF’s budget is warranted, writing that, “a funding rate closer to the historical average of 30% or more would be beneficial to the long-term health of the research community and to the nation as a whole.” CNSF agrees and supports additional funding be applied to both Research and Related Activities (R&RA) and Education and Human Resources (EHR) in order to stimulate economic recovery with long returns on that investment.

Finally, based on the previous ARRA experience, NSF has demonstrated responsible management of a large amount of research funding, competitively awarded in a short period of time. Within six months of the signing of the ARRA Act, the Foundation had awarded and obligated \$2.4 billion of its \$3 billion in funding – 80 percent of its total. CNSF recommends that any new support to NSF allows the agency flexibility to manage these funds similarly to existing grant mechanisms while providing appropriate peer review and oversight.

We sincerely thank the Committee for engaging in this important conversation and look forward to working with you on the shared goals across all CNSF members to support NSF programs and people.

Sincerely,

The Coalition for National Science Funding (CNSF)



American Anthropological Association
American Association for the Advancement of Science
American Association of Geographers
American Association of Physics Teachers
American Astronomical Society
American Chemical Society
American Educational Research Association
American Geophysical Union
American Institute of Biological Sciences
American Institute for Medical and Biological Engineering (AIMBE)
American Mathematical Society
American Physical Society
American Physiological Society
American Political Science Association
American Psychological Association
American Society for Microbiology
American Society of Agronomy
American Society of Civil Engineers
American Society of Plant Biologists
American Sociological Association
American Statistical Association
Association for Psychological Science
Association for Women in Mathematics
Association for Women in Science
Association of American Medical Colleges
Association of American Universities
Association of Public and Land-grant Universities
Association of Science-Technology Centers (ASTC)
Battelle
Biophysical Society
Boise State University
Boston University
Brandeis University
Brown University
California Institute of Technology
Cavarocchi Ruscio Dennis Associates
Computing Research Association
Consortium of Social Science Associations
Cornell University
Council on Undergraduate Research
Crop Science Society of America
Duke University
Eastman



Ecological Society of America
Entomological Society of America
Eversole Associates
Federation of Associations in Behavioral & Brain Sciences
Florida State University
Forge Policy Solutions
Geological Society of America
George Mason University
Georgia Institute of Technology
Harvard University
Incorporated Research Institutions for Seismology (IRIS)
Indiana University
Lehigh University
Lewis-Burke Associates LLC
Linguistic Society of America
Massachusetts Institute of Technology
Mathematical Association of America
Michigan State University
Michigan Technological University
Mineralogical Society of America
Museum of Science, Boston
National Association of Marine Laboratories
National Communication Association
National Science Teachers Association
Northern Illinois University
Northwestern University
Population Association of America/Association of Population Centers
Princeton University
Psychonomic Society
PsySiP: Psychology of Science in Policy
Purdue University
Research!America
Rutgers, The State University of New Jersey
SACNAS
SAGE Publishing
Society for American Archaeology
Society for Industrial and Organizational Psychology
Society for Neuroscience
Society for Research in Child Development
Society for the Psychological Study of Social Issues (SPSSI)
Soil Science Society of America
SPIE
St. Louis University



State University of New York System (SUNY)
Stony Brook University
The Ohio State University
The Optical Society
Tufts University
University of California System
University of Cincinnati
University of Colorado Boulder
University of Florida
University of Illinois
University of Iowa
University of Maryland, College Park
University of Michigan
University of Nebraska
University of Pennsylvania
University of Wisconsin-Madison
US Ignite
Vanderbilt University
Verizon
Washington State University
West Virginia University
Woods Hole Oceanographic Institution



Appendix: Specific Examples of NSF Programs Related to COVID-19 Response or Recovery

[Ecology and Evolution of Infectious Diseases](#)

Health IT Interoperability Research

[Platforms for Advanced Wireless Research \(PAWR\)](#)

[Spectrum Innovation](#)

[National Ecological Observatory Network \(NEON\)](#)

[Long-Term Ecological Research Network \(LTER\)](#)

[Critical Resilient Interdependent Infrastructure Systems and Processes \(CRISP\)](#)

[Advanced Manufacturing](#)

[SBIR/STTR](#)

[Quantum Information Science](#)

[Artificial Intelligence](#)

[International programs](#)

[Advanced Cyberinfrastructure](#)