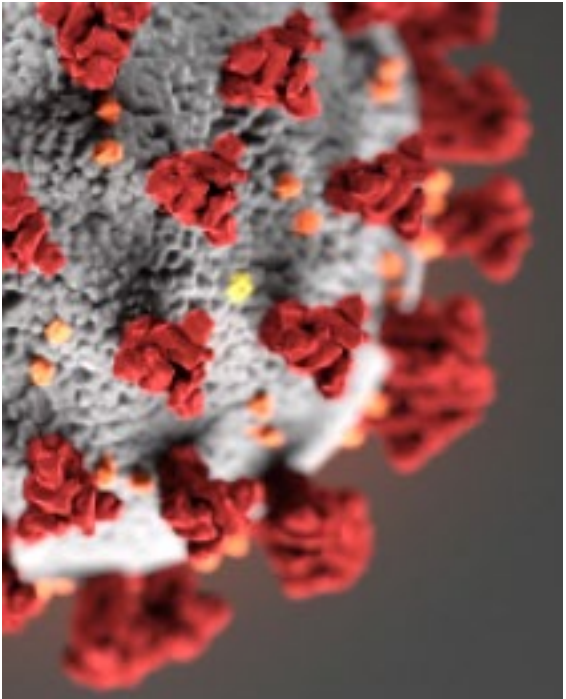


COVID-19 RESPONSE FUNDING UPDATE

May 15-21, 2020

FACTS

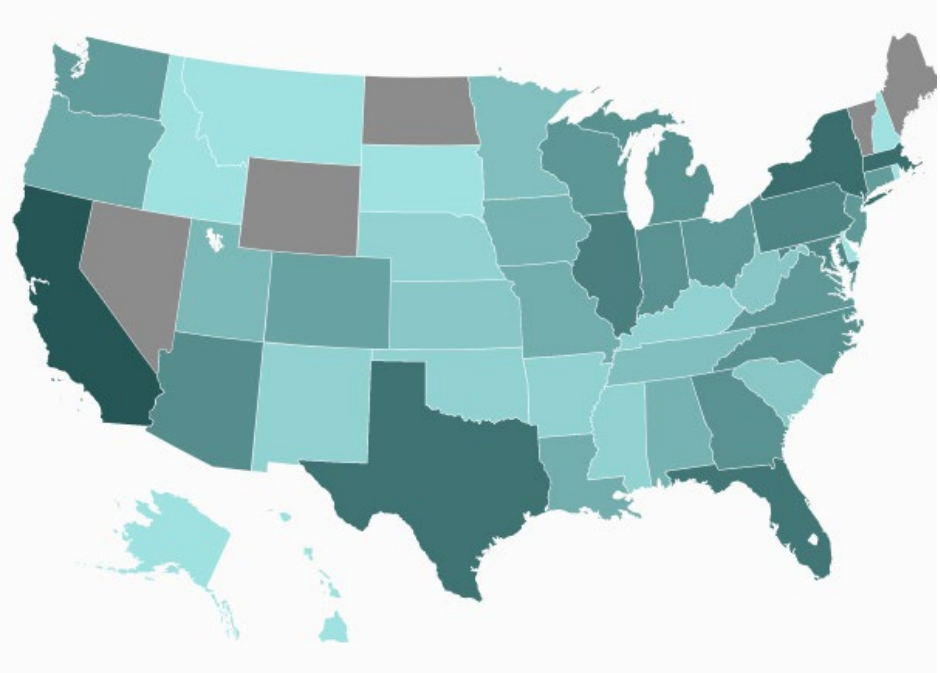
$73,046,395
Funds Mobilized

513 Grants Funded

OVERVIEW

In response to the COVID-19 virus, the National Science Foundation (NSF) is mobilizing funding from the FY2020 budget and supplemental appropriations through the Coronavirus Aid, Relief, and Economic Security (CARES) Act. CARES Act funding supports a wide range of research areas to help the country fight and recover from the COVID-19 crisis through several research funding mechanisms, including Rapid Response Research (RAPID), a fast-tracked grant process to accelerate critical discoveries.

AWARDS



COVID-19 related awards by state, shade of blue correlates to number of awards.

	CARES Act	All COVID-19
Number of Awards	370	513
Funding Deployed	$54,546,933	$73,046,395

This update spotlights several recent awards, just a snapshot of the essential work NSF is funding through the CARES Act and FY2020 appropriations. You can explore all of the COVID-19 related research grants awarded through the National Science Foundation at this link.

DIVISION OF MOLECULAR AND CELLULAR BIOSCIENCES
CARES Act $299,577

Title	EAGER: Structural Basis for Assembly and Replication of Coronavirus
Institution	University of Wisconsin–Madison; Madison, WI
What	Researchers will interrogate the structure and flexibility of key proteins in the COVID-19 virus using nuclear magnetic resonance (NMR) experiments. Findings from these experiments will directly benefit the global effort to model the virus, specifically its 29 proteins.
Why	Molecular models can reveal weakness and vulnerabilities in viral structures. Modeling proteins in this pathogenic foe can inform therapeutic strategies targeted to thwart its infection and reproduction.

DIVISION OF BEHAVIORAL AND COGNITIVE SCIENCES
CARES Act $200,000

Title	RAPID: Impacts of COVID-19 Out-of-School Stressors on Executive Function and E- Learning
Institution	University of California, Irvine; Irvine, CA
What	This research will focus on the experiences of undergraduates at a diverse, minority-serving public college. It will examine how challenges and stresses brought about by COVID-19, such as increased reliance on technology, possible financial hardships and others, affect students' ability to learn.
Why	Gathering this information now, as the pandemic continues, is crucial to supporting students. The project will test theoretical approaches to mitigate the negative effects of stress. Results will have broad impacts on improving our educational infrastructure and developing new practices and strategies to support student learning in stressful times.

DIVISION OF ELECTRICAL, COMMUNICATIONS AND CYBER SYSTEMS
CARES Act $154,550

Title Collaborative Research: RAPID: Understanding and Facilitating Remote Triage and Rehabilitation During Pandemics via Visual Based Patient Physiologic Sensing

Institutions University of Maryland, College Park; College Park, MD
University of Maryland, Baltimore; Baltimore, MD
North Carolina State University; Raleigh, NC

What In a first-of-its-kind data collection, low-cost video cameras will track physiological conditions such as respiration rate, heart rate, and blood oxygen saturation levels. The video data will be incorporated with data from healthcare collaborators to gain insights on the relationship of different biosensing methods and inform telehealth technology designs.

Why Contact-free video monitoring supports a growing need for remote triage and rehabilitation. Visual physiological sensing will facilitate contact-free interaction between healthcare providers and patients. It will contribute to early detection, prevention and management of future epidemics.

OFFICE OF INTEGRATIVE ACTIVITIES
FY2020 $199,114

Title RAPID: Bridging the Health Care Skill Gap

Institution Eduworks; Corvallis, OR

What This project aims to fill gaps in the healthcare workforce by providing a suite of tools for workers that have adjacent skill sets. Healthcare-related workers and employers can use these web-based tools to explore competency frameworks, self-identify skill gaps, and find credentials and training to bridge those gaps.

Why There's a need for more healthcare workers. Convergence research will develop tools that will aid in the upskilling of workers to fill open healthcare positions. For broad reach, these tools will be accessible on desktop and mobile devices.

DIVISION OF GRADUATE EDUCATION

CARES Act $153,899

Title RAPID: Challenges and e-Mentoring in Engineering Graduate Programs during the Coronavirus Disease 2019 (COVID-19) Outbreak

Institutions University of Texas at San Antonio; San Antonio, TX
University of Kansas; Lawrence, KS

What Researchers will explore how electronic mentoring (e-mentoring) affects graduate engineering students as they face work and life challenges due to the COVID viral pandemic. This study will consider student academic, career, and mental health outcomes.

Why This is an important topic for faculty who are mentoring and supporting students through computer-mediated communication technology. Research results will offer actionable guidance for offering effective mentorship and support.

DIVISION OF INDUSTRIAL INNOVATION AND PARTNERSHIPS

CARES Act $256,000

Title SBIR Phase I: Large Scale Production of Antiviral Interferons for the Treatment of COVID-19

Institution PhylloTech; Middleton, WI

What Interferons are a protein the body releases in response to viral infections. They could be used as therapies for COVID-19 viral infections and for immune system regulation. This project is developing a novel system to produce and purify interferons using specially-designed plants.

Why There's tremendous strain on supply chains for protein and antibody therapeutics and research products. The rapid scalability of this plant-based system could enable faster production of COVID-19 therapeutics at lower cost and in greater amounts than current systems.

DIVISION OF COMPUTER AND NETWORK SYSTEMS

CARES Act $200,000

Title	RAPID: Social un-distancing: Understanding self-privacy violations in online communities during the Coronavirus pandemic
Institution	Pennsylvania State University; State College, PA
What	Building on early evidence that suggests expanded online activity could pose new privacy risks, this project will investigate how increased personal information disclosure creates risks, vulnerabilities, and exacerbates the current global health crisis.
Why	Consequent of the pandemic, online social media interaction has increased to unprecedented scale and scope. There's an urgent need to understand such online connectedness through the lens of privacy risks so as to help devise interventions to better manage the health crisis such as the COVID-19 pandemic.

DIVISION OF COMPUTER AND NETWORK SYSTEMS

CARES Act $187,477

Title	RAPID: Visual Analytics Approach to Real-Time Tracking of COVID-19
Institution	University of Louisiana at Lafayette; Lafayette, LA
What	This project will integrate multisource data to create interactive, visual decision-making tools to help track COVID-19 and assess containment strategies.
Why	Generating data is not enough. It is important to use data related to COVID-19 to make assessments and inform decisions. These tools use data on infection rates, at-risk populations, mobility, and community dynamics to enable public health and community leaders with an interactive, visual tools to do just that.

Related NSF Research News

- NSF Science Matters Blog: RAPID responders: How NSF support is enabling the fight against COVID-19 in real time
- Los Angeles Times: Doorknobs, trash cans, gas pumps: Citizen scientists search for coronavirus on everyday surfaces
- KDVR FOX 31 News: Covid-19 App Developed by Colorado School of Mines
- News 4 Jax: UF researchers aim to improve safety of PPE for health care workers
- Newsweek: Antiviral Mask to Kill Coronavirus on Contact in Development by Researchers