

COVID-19 RESPONSE FUNDING UPDATE

May 29-June 4, 2020

FACTS

\$87,688,699

Funds Mobilized

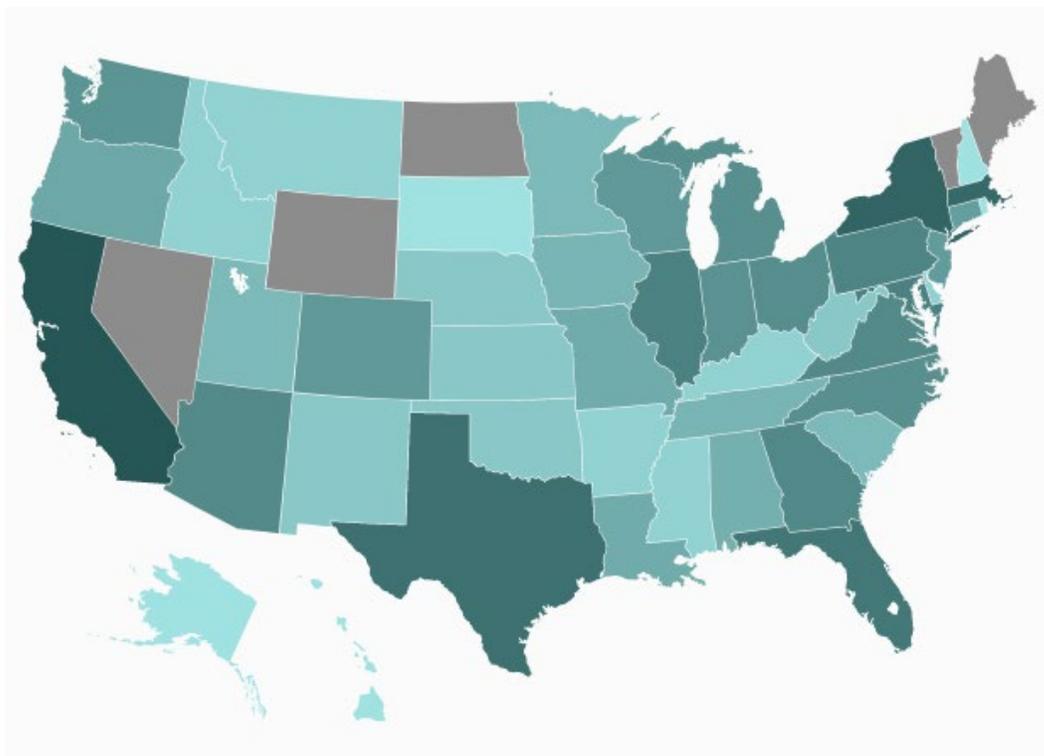
623 Grants Funded



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	442	623
Funding Deployed	\$64,099,216	\$87,688,699

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 ENVIRONMENTAL BIOLOGY

CARES Act \$199,999

- Title** RAPID: Collaborative Research: Metapopulation Modeling to Develop Strategies to Reduce COVID-19 Transmission in Public Spaces
- Institution** CUNY Queens College; Queens, NY
The New School; New York, NY
- What** This project will use a recently developed computational model to pursue understanding on how SARS-CoV-2 spreads in built environments.
- Why** Little guidance exists on how to safely reopen shared public spaces. Insight from this study could help establish a code akin to building or fire codes, a “COVID Code” that can be generalized for use during future outbreaks.

DIVISION OF BEHAVIORAL AND COGNITIVE SCIENCES

CARES Act \$199,923

- Title** RAPID: Responding to extreme heat in the time of COVID-19
- Institution** National Center for Atmospheric Research; Boulder, CO
- What** Extreme heat conditions during the COVID-19 pandemic may expose vulnerable populations to further risk. This research will draw on behavioral science and a wide range of data sources to better understand how communities and individuals cope with and adapt to multiple evolving hazards.
- Why** The project will contribute to broader efforts to reduce public health risks from extreme weather events during a global pandemic. The project's findings will be broadly disseminated to researchers, public health officials, emergency management practitioners and the public.

DIVISION OF INDUSTRIAL INNOVATION AND PARTNERSHIPS

CARES Act \$256,000

- Title** STTR Phase I: Autonomous Disinfecting Robot for Crowded Spaces
- Institution** EarthSense; Champaign, IL
- What** This project will create new autonomous robots to perform faster, more efficient, and targeted sanitization with UV-light in hospitals and other areas with high surface-borne pathogen transmission risk.
- Why** This autonomous sanitizing system would improve hospitals' ability to ensure high-touch and high-traffic spaces are sanitized during the evolving COVID-19 crisis.

DIVISION OF SOCIAL AND ECONOMIC SCIENCES

CARES Act \$199,479

Title	RAPID: Tuskegee University COVID Aware Program
Institution	Tuskegee University; Tuskegee, AL
What	Researchers are studying the best ways to keep minority communities, including rural African Americans and other vulnerable populations, informed about COVID-19, disease prevention, and other public health initiatives.
Why	Minority communities in the South may benefit from health advice that considers situations such as existing health conditions, financial hardship and lack of local access to health care. This research will help public health officials tailor information to specific communities to help ensure broader participation in current and future public health efforts.

DIVISION OF ELECTRICAL, COMMUNICATIONS AND CYBER SYSTEMS

FY2020 \$199,000

Title	RAPID: COVID-19: New Handheld Gas Sensors for Airborne SARS-CoV-2 Virus: Instant COVID-19 Diagnosis from Exhaled Breath
Institution	Northeastern University; Boston, MA University of Massachusetts Medical School; Worcester, MA
What	Researchers are developing a handheld sensor that can detect the COVID-19 virus in air samples. Combining novel approaches to electrochemical engineering with expertise on viral biochemistry, the sensor will be more sensitive, lower-cost, and faster than current approaches.
Why	Rapid detection of the COVID-19 virus in the air will help medical professionals and public health officials limit exposure, track the spread of the disease, and create safer environments for both healthcare settings and public environments.

DIVISION OF CHEMISTRY

CARES Act \$300,000

- Title** EAGER: Collaborative Research: Design of Inhibitors for ORF7a and ORF7b Oligomerization in COVID-19
- Institution** University of Virginia; Charlottesville, VA
University of Maryland, College Park; College Park, MD
- What** Researchers are studying the structure of two specific proteins of the COVID-19 virus to understand how they enable the infection of human cells and alter a person's immune response. The models they develop of these proteins will be freely available to the research community.
- Why** This research will increase our knowledge of the biochemistry of the COVID-19 virus and how it interacts on a sub-cellular level, allowing researchers to better understand at a molecular level how to design vaccines and other treatments.

DIVISION OF HUMAN RESOURCE DEVELOPMENT

CARES Act \$200,000

- Title** RAPID: Student and Instructor Perceptions, Attitudes, and Emotions Surrounding Online Spaces and Institutional Supports during a Pandemic (COVID-19)
- Institution** University of Arizona; Tucson, Arizona
- What** This project will explore how students and instructors cope with the challenges of moving to online formats due to the COVID-19 outbreak. The study will also examine how course experiences are impacted by this move and how findings differ for students and instructors from underrepresented and underserved Latinx and Native American communities.
- Why** College and minority stress exacerbated by the current pandemic can lead to depression and reduce persistence, especially as resources for success are not always accessible to underserved communities. The study will help identify resources and the most helpful supports for students and instructors, as well as catalog needed resources.

DIVISION OF COMPUTER AND NETWORK SYSTEMS

CARES Act \$99,857

Title	Collaborative Research: RAPID: Addressing Transit Accessibility and Public Health Challenges due to COVID-19
Institution	Vanderbilt University; Nashville, TN University of Houston; Houston, TX
What	In partnership with transit agencies, this project will develop integrated algorithms for optimizing transit operations. A camera-based ridership detection method will preserve privacy but provide commuters with real-time information on seats available within social-distancing constraints.
Why	Public transit agencies face exigent operational and scheduling challenges. This project will enable proactive scheduling and vehicle allocation.

Related NSF Research News

- Spectrum News: [Binghamton Professor Researching New Way to Kill COVID-19](#)
- Chicago Tribune: [Stick-on medical device, worn on the neck, streams COVID-19 symptom data to docs](#)
- WISHTV: [Notre Dame to create antimicrobial mask material](#)
- [Professor Developing Medical Equipment Decontamination System to Battle COVID-19](#)