

# CCST PARTNER INSTITUTIONS in Action Against COVID-19

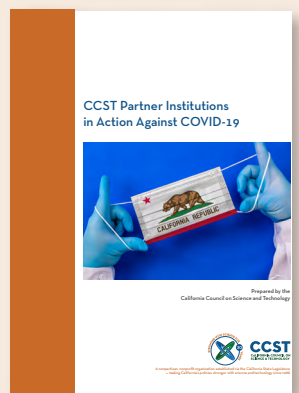


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## OVERVIEW

In 2020, the global COVID-19 pandemic disrupted nearly every aspect of society. As California began to adapt to the new normal, many of its educational and research institutions moved quickly to action. Institutions, campuses, and even individuals, eager to leverage their expertise to respond to the emerging pandemic, rapidly mobilized. This report collects a small sample of the many stories of CCST's Partner Institutions engaging on different aspects of the pandemic, from new research insights to local community response efforts.



**CCST**  
CALIFORNIA COUNCIL ON  
SCIENCE & TECHNOLOGY

## CCST PARTNER INSTITUTIONS

### CALIFORNIA COMMUNITY COLLEGES (CCC)

[www.cccco.edu](http://www.cccco.edu)

### CALIFORNIA INSTITUTE OF TECHNOLOGY (CALTECH)

[www.caltech.edu](http://www.caltech.edu)

### CALIFORNIA STATE UNIVERSITY (CSU)

[www2.calstate.edu](http://www2.calstate.edu)

### LAWRENCE BERKELEY NATIONAL LABORATORY (BERKELEY LAB)

[www.lbl.gov](http://www.lbl.gov)

### LAWRENCE LIVERMORE NATIONAL LABORATORY (LLNL)

[www.llnl.gov](http://www.llnl.gov)

### NASA AMES RESEARCH CENTER (NASA AMES)

[www.nasa.gov/ames](http://www.nasa.gov/ames)

### NASA JET PROPULSION LABORATORY (NASA JPL)

[www.jpl.nasa.gov](http://www.jpl.nasa.gov)

### SANDIA NATIONAL LABORATORIES (SANDIA)

[www.sandia.gov](http://www.sandia.gov)

### SLAC NATIONAL ACCELERATOR LABORATORY (SLAC)

[www.slac.stanford.edu](http://www.slac.stanford.edu)

### STANFORD UNIVERSITY

[www.stanford.edu](http://www.stanford.edu)

### UNIVERSITY OF CALIFORNIA (UC)

[www.universityofcalifornia.edu](http://www.universityofcalifornia.edu)

## MEDICINE, VIROLOGY, & VACCINES

Research institutions quickly mobilized their resources to expand our knowledge of how the virus behaves and spreads and develop treatments for infected individuals.

- **SLAC** scientists used x-ray radiation to probe the fundamental structure of the SARS-CoV-2 virus.
- **Berkeley Lab** created a ten-year plan for COVID-19 research and the development of capabilities to fight future pandemics.

## STUDENTS & EDUCATION

As the pandemic forced educational institutions to suspend in person learning, our partners were challenged to reimagine what the classroom might look like in a virtual world.

- **Caltech** is reimaging what freshman mentorship looks like in a remote learning environment.

## ECONOMY & EMPLOYMENT

The economic impacts of the pandemic have been devastating. As researchers continue to assess these impacts, institutions are using their resources to support struggling businesses and train tomorrow's workforce.

- **Sandia** assisted struggling businesses by providing free commercial licenses for some of its most impactful technologies.

## ENGINEERING

Faced with challenges in the manufacturing of protective equipment and supplies, engineers eager to help developed innovative solutions to these challenges and novel medical devices.

- **NASA JPL** developed a wearable device to prevent behaviors that facilitate disease spread, such as touching one's face.
- **LLNL** developed 3D printing techniques to address shortages in the supply chain early in the pandemic.

## ENVIRONMENT & AIR QUALITY

Scientists are studying how the pandemic affects and interacts with the environment, while using the unique aspects of the pandemic to gain new insights into the environment.

- **NASA Ames** researchers are using the conditions created by stay-at-home orders to study environmental effects, such as extreme heat.

## SOCIAL & BEHAVIORAL SCIENCE

With individual behavior playing such an important role in the effectiveness of disaster response, social and behavioral scientists are providing insight into the factors that influence our decision making and the best ways to communicate uncertainty in emerging disasters.

- **Stanford** researchers are exploring how messaging around mask usage influences individual behavior.

## PUBLIC HEALTH & EPIDEMIOLOGY

While state and county public health offices coordinated pandemic response on the front lines, research institutions supplemented these efforts by designing interventions to reduce disease spread, modelling and predicting infection outbreaks in different environments, and identifying social determinants of health.

- **CSU** is working to address health equity and systemic racism in the context of the COVID-19 pandemic.

## COMMUNITY ORGANIZATION

Our Partner Institutions exist as important parts of a larger ecosystem and recognize the importance of leveraging their resources to directly help local communities where those resources are most needed.

- **Community Colleges** repurposed their maker spaces to address PPE shortages in their local communities.

## PUBLIC POLICY

Scientists at our Partner Institutions are committed to translating their work into policies that will have a positive impact on millions of people.

- **UC** doctors are directly informing national COVID-19 policy in the Biden administration.

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