

# Federal Research Funding: Robust Investments Essential to US Readiness & Global Competitiveness



## ACTION

Members of Congress must ensure the vitality of the US scientific ecosystem by:

1. including at least \$26 billion in relief funding for the federal science agencies, as outlined in the RISE Act, in the next COVID-19 relief bill
2. prioritize in appropriations requests robust funding increases for the DOE Office of Science, the DOD Basic Research Organizations, NIST's Scientific and Technical Research Services (STRS) and the NSF.

## Federal Science Investments Spur Discovery, Drive Economic Growth and are Critical to Crisis Response

### Economic Growth and Discovery

- More than [85% of the long-term growth](#) of the US economy is attributed to advances in science and technology.
- Nearly [one-third of all US patents](#) are linked to federally funded research despite representing approximately [one-fifth of the United States' total R&D](#) investment.
- Discoveries in fundamental research supported by the federal government have created new technologies and industries, including light-weight metals that improve car's fuel efficiency and LEDs that use 85 percent less energy than incandescent bulbs.
- The US S&E workforce is [growing at a faster pace](#) than the work-force overall, and the country faces a persistent and dramatic [shortage of STEM workers](#).

### Crisis Response

Federally funded researchers and labs quickly pivoted to help address the COVID-19 pandemic, utilizing physics tools and expertise to make critical discoveries.

- [DOE](#) facilitated the use of its light sources to determine the COVID-19 virus structure and its supercomputers to model the epidemic to determine the best strategies to tackle its effects.
- [NSF](#) RAPID COVID-19 grants were fast tracked to enable researchers to advance our understanding of this novel virus, from understanding how the virus jumps between species to how it lives on surfaces like ATM keypads.

## US Research is Falling Behind and Severely Impacted by COVID

### Comparison to other nations

The Global Innovation Index 2020 ranks the [United States 3rd](#) among other countries, and our nation now sits [8th in gross domestic expenditure](#) on R&D as a percentage of GDP, according to the OECD's Main Science and Technology Indicators.

### COVID impact

Approximately 85% of APS members in the US report a reduction in their ability to carry out research, with more than half reporting a reduction of at least 20%.

### Impact of COVID-19 pandemic on productivity of US researchers

