



President

Philip H. Bucksbaum

Stanford University and
SLAC National Accelerator
Laboratory

President-Elect

Sylvester James Gates, Jr.

Brown University

Vice President

Frances Hellman

University of California,
Berkeley
Lawrence Berkeley National
Laboratory

Past President

David J. Gross

Kavli Institute for
Theoretical Physics
University of California,
Santa Barbara

Chief Executive Officer

Kate P. Kirby

American Physical Society

July 23, 2020

The Honorable Nancy Pelosi
Speaker
U.S. House of Representatives
H-232, United States Capitol
Washington, DC 20515

The Honorable Mitch McConnell
Majority Leader
U.S. Senate
S-226, United States Capitol
Washington, DC 20510

The Honorable Kevin McCarthy
Republican Leader
U.S. House of Representatives
H-204, United States Capitol
Washington, DC 20515

The Honorable Charles Schumer
Democratic Leader
U.S. Senate
S-255, United States Capitol
Washington, DC 20510

Dear Speaker Pelosi, Majority Leader McConnell, Democratic Leader Schumer
and Republican Leader McCarthy:

On behalf of the American Physical Society (APS) – the nation’s largest
physics organization with more than 54,000 members in academia, the private
sector and national labs – I want to thank you for your efforts to swiftly
respond to this pandemic and bring crucial, short-term relief to the American
people and our economy.

As Congress considers the next phase of COVID-19 response legislation, I
want to bring to your attention the measures our international competitors are
taking to not only ensure their scientific enterprises are quickly restored after
the pandemic ends, but in fact bolster them. Given these strong actions, the US
must take the necessary steps to fully restore our research and development
(R&D) capabilities, which are essential both to maintain our global leadership
and grow our innovation-based economy.

APS recently hosted a roundtable of leading scientists at academic institutions
and national laboratories from seven countries – Brazil, Canada, China, Italy,
Japan, Rwanda and the United Kingdom – for a candid discussion on how their
nations are responding to the pandemic, specifically as related to their R&D
ecosystems. While the process and timing of reopening varies by country, two
common themes emerged from our conversations that demonstrate our
competitors’ commitment to the complete recovery of their scientific
enterprises.

- **Increased and/or supplemental funding for scientific research:** The majority of the countries represented at the roundtable reported new funding efforts that go beyond short-term relief. We heard that Canada and Japan, for example, are already providing grantees funding extensions to ensure that work is not lost due to the pandemic, and others are strongly considering similar actions. Chinese universities and research institutions are being encouraged to expand the number of research positions and the UK is developing fellowships for recent graduates who could face difficulty finding employment as a result of hiring freezes. Additionally, the UK plans to double its R&D investment to put the country in a strong position coming out of the pandemic.
- **Increased competition for international talent:** Recent APS surveys of physics department chairs and international graduate students reveal that the US is losing its ability to attract and retain talented international students. This situation is expected to worsen in light of the current pandemic due to both students who are more reluctant to study abroad and other nations increasing their recruiting efforts. Japan's roundtable participants, for example, indicated that Japanese students are less likely to study abroad, and the Chinese participants stated that Chinese students believe they will have difficulty traveling to the US to study or conduct research. The UK anticipates a sharp decrease in international student enrolment in the coming years. Meanwhile, Canada has identified this situation as an opportunity to attract international talent and believes it is well-positioned to attract even more international talent in the future. For example, Vancouver is working to position itself to take students and researchers who are unable to travel to Seattle due to visa issues.

Our competitors' efforts highlight the need for Congress to act now to provide the supplemental funding necessary to restore a competitive US R&D capacity and to demonstrate that our nation welcomes talented international students and researchers to study and work here.

Fortunately, there are current pieces of legislation in Congress that would help address each issue. The RISE Act, a bipartisan bill with more than 80 cosponsors and supported by more than 300 professional organizations and universities, would authorize approximately \$26 billion in research relief funding to the federal science agencies. This supplemental funding would allow agencies to extend grant funding awarded prior to the COVID-19 pandemic, support training extensions for graduate students and postdoctoral researchers to alleviate the disruption to the R&D job market, and enable the refurbishment or replacement of equipment damaged because of the COVID-19 disruption.

Including this funding in the next COVID-response legislation is critical to putting our research enterprise – and our economy – on the trajectory necessary to fully and quickly recover from this pandemic. Failing to do so could result in the loss of several years of research investment, slow down the innovations that would result from the research, and would enable our competitors to surge past us.

In addition to supplemental funding, we need to have the 21st century workforce available to power our innovation-based economy toward a quick recovery. To do so, the US must continue to attract the best and brightest students from around the world to our colleges and universities. With the competition for international talent increasing, passing the Keep STEM Talent Act – which would allow F-1 visa students to express their intent to stay in the US after graduation and provide those who secure job offers from US employers a clear path to a green card – would help the US in the global talent race. And international students could then aid American companies in our rebound from COVID-19 by meeting unmet STEM workforce needs, rather than taking their skills elsewhere.

Thank you for your consideration. If you have questions concerning the roundtable or would like to discuss these issues further, please do not hesitate to contact APS Associate Director of Government Affairs Mark Elsesser (elsesser@aps.org; 202.662.8710).

Sincerely,

A handwritten signature in blue ink that reads "Philip H. Bucksbaum". The signature is written in a cursive style with a large initial 'P'.

Philip H. Bucksbaum
President, American Physical Society