

May 27, 2021

The Honorable Charles Schumer
Majority Leader
United States Senate
S-221, United States Capitol
Washington, DC 20510

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

The Honorable Mitch McConnell
Minority Leader
United States Senate
S-230, United States Capitol
Washington, DC 20510

The Honorable Kevin McCarthy
Minority Leader
United States House of Representatives
H-204, United States Capitol
Washington, DC 20515

Dear Majority Leader Schumer, Minority Leader McConnell, Speaker Pelosi, and Leader McCarthy:

We, the undersigned scientific societies and associations, deeply appreciate your crucially important, bipartisan efforts to bolster our nation's scientific and technology (S&T) capacity. In that context, we are writing to express our shared priorities for federally supported scientific research and STEM education. We share the sense of urgency that both the Administration and Congress are demonstrating as you work to ensure the United States is equipped to address current and future threats and remains globally competitive across multiple scientific disciplines. We offer the recommendations below as input as you shape legislation that assures the federal government is making the investments necessary to strengthen America's economic competitiveness, ensure our national security, and allow us to tackle the significant challenges that lie ahead:

A robust U.S. scientific enterprise requires a strong National Science Foundation (NSF). NSF – established by Congress in 1950 with a mission “to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes” – is a pillar of our nation's scientific enterprise. It is unique among federal agencies in its mission to support a broad spectrum of S&T disciplines critical to our nation's fundamental research pipeline. Further, NSF has already begun the critical work of investing in new opportunities to address today's grand challenges – protecting human health, addressing climate change, understanding the food, energy, and water nexus, and exploring the universe at all scales.

Federal funding for NSF – and research and development (R&D) more broadly – should be viewed as an immutable priority. Our country is significantly lagging others when it comes to investing in the fundamental, curiosity-driven research that ultimately leads to paradigm-shifting innovations and marketplace disruptions. Since 2000, our global share of R&D spending has fallen, while competitor nations have increased their investments.¹ By methodically increasing our federal investments in R&D as a share of GDP – and then continuing that commitment with

sustained appropriations – we will amplify NSF’s capacity to meet today’s challenges, as well as those on the horizon. Such challenges will require a commitment to strong, sustained funding for NSF to provide the agency the financial predictability necessary for long-term planning. Finally, investments in NSF must continue to allow for the development of convergence research – the merging of ideas, approaches, and technologies from widely diverse fields to stimulate innovation and discovery.

In addition to increased federal support for basic research, a strong, diverse STEM workforce is central to maintaining our robust, competitive economy and is the fuel for world-changing innovations. In the United States, the STEM sector supports more than two-thirds of all jobs (67 percent), contributes to nearly 70 percent of GDP, and provides \$2.3 trillion in annual federal tax revenue.ⁱⁱ And while diverse perspectives are shown to boost innovation and productivity, the U.S. STEM workforce is not representative of our national demographics. Ensuring equity of access to underrepresented communities by committing to such priorities as quality instruction, research opportunities, apprenticeships, and workforce training programs will help grow and support our domestic STEM talent pool. Moreover, broadening participation in STEM and prioritizing equitable, welcoming research environments will help cultivate a workforce that meets the demands of emerging technologies and innovation leadership on a global scale, ensuring America remains a global S&T leader for generations to come.

Further, our nation can maximize our S&T strengths by placing a strong emphasis on supporting and encouraging collaboration and coordination across all scientific disciplines and federal science agencies. The challenges that U.S. researchers and engineers work tirelessly to solve are not bound by a single mission agency, location, or discipline, and that should be reflected in our nation’s S&T strategy.

Efforts to strengthen security across the S&T enterprise are another important facet of increasing our research capacity. Such efforts should be advanced in a manner that reflects stakeholder input, leveraging partnerships and feedback provided from the National Science and Technology Council (NSTC) initiatives led by the Office of Science and Technology Policy (OSTP).

A comprehensive U.S. S&T policy is vital to maximizing the return on investment in federally funded research. Harnessing the strength of our diverse communities and research institutions nationwide by significantly increasing and then sustaining federal S&T investment will set a standard of global leadership as we confront the challenges and opportunities that lie ahead.

We look forward to contributing to continued discussions between policymakers and community stakeholders regarding the future of our nation’s scientific funding agencies.

Respectfully Submitted,

American Chemical Society
American Institute of Physics
American Physical Society
Council on Undergraduate Research
American Association for the Advancement
of Science
Federation of American Societies for
Experimental Biology
Biophysical Society
American Institute of Biological Sciences
Natural Science Collections Alliance
Geological Society of America
American Sociological Association
OSA-The Optical Society
The Oceanography Society
Association for Psychological Science
Consortium of Social Science Associations
AV AVS - The Society for Science &
Technology of Materials, Interfaces, and
Processing
American Association of Physicists in
Medicine
American Mathematical Society

Endocrine Society
Ecological Society of America
American Anthropological Association
Global Council for Science and the
Environment
Research America!
Entomological Society of America
Consortium for Ocean Leadership
American Association of Physics Teachers
American Meteorological Society
American Physiological Society
Association of Science and Technology
Centers
American Astronomical Society
American Society for Pharmacology and
Experimental Therapeutics
Association for Research in Vision and
Ophthalmology (ARVO)
Coalition for the Life Sciences
American Psychological Association
American Crystallographic Association
North American Vascular Biology
Organization

CC: The Honorable Maria Cantwell
The Honorable Roger Wicker
The Honorable Eddie Bernice Johnson
The Honorable Frank Lucas

ⁱ <https://medium.com/@ScienceisUS/stem-and-the-american-workforce-f5c36be6874e>

ⁱⁱ <https://ncses.nsf.gov/pubs/nsb20201/>