

May 11, 2022

The Honorable Rosa DeLauro
Chair
Committee on Appropriations
U.S. House of Representatives
Washington, DC 20515

The Honorable Kay Granger
Ranking Member
Committee on Appropriations
U.S. House of Representatives
Washington, DC 20515

The Honorable Patrick Leahy
Chair
Committee on Appropriations
U.S. Senate
Washington, DC 20510

The Honorable Richard Shelby
Vice Chair
Committee on Appropriations
U.S. Senate
Washington, DC 20510

Dear Chair DeLauro, Ranking Member Granger, Chair Leahy, and Vice Chair Shelby:

As a broad community of research organizations, professional societies, universities, and private companies, we write to urge you to provide the highest possible fiscal year (FY) 2023 302(b) allocation for the Commerce, Justice, Science, and Related Agencies (CJS) Appropriations Subcommittees to robustly fund the basic and applied research and education programs in the CJS portfolio. Significant resources are urgently needed for CJS agencies, which are vital for addressing the great challenges facing our nation, including the threat of climate change; enhancing innovation, economic growth, and prosperity; and promoting equity and justice. This important work involves many agencies and programs, including the National Science Foundation (NSF), the National Aeronautics and Space Administration (NASA), the National Oceanic and Atmospheric Administration (NOAA), the National Institute of Standards and Technology (NIST), the Office of Science and Technology Policy (OSTP), the Census Bureau, the Department of Commerce statistical agencies, and the Department of Justice (DOJ) Office of Justice Programs.

As the country's largest source of funding for basic research, the federal government has a unique role in supporting R&D crucial for our national needs and keeping the United States at the forefront of innovations that improve our health, grow our economy, and enhance our quality of life. However, relative to GDP, federal spending on R&D is at its lowest point since 1953.^{1,2} Moreover, while the U.S. was once the uncontested leader in science and technology globally, we have seen our competitive advantage erode as other nations have dramatically increased their investments in research. For example, between 2010 and 2019, R&D expenditures in China have grown by approximately 11 percent annually, nearly double the rate of the U.S.¹ If our country is to remain a leader in fields such as artificial intelligence, space exploration, quantum science,

¹ [U.S. and Global Research and Development. The State of U.S. Science and Engineering 2022. Science and Engineering Indicators, January 2022](#)

² [Research and Development: U.S. Trends and International Comparisons. Science and Engineering Indicators Report, January 2020](#)

and other critical areas, the nation must recommit to strong investments in research and technology, including CJS programs. In both the short and long term, such investments are central both to our prosperity and global leadership.

To this end, CJS agencies and programs figure prominently in the significant competitiveness legislation being debated by the House and Senate. As proposed in the U.S. Innovation and Competition Act (USICA) and the America COMPETES Act, NSF has officially announced the creation of a new Directorate for Technology, Innovation, and Partnerships (TIP) focused on use-inspired research and solutions to societal and economic challenges. The bills before Congress also would initiate new and expanded programs at the Department of Commerce to accelerate innovation and domestic manufacturing. Given the scope and ambition of these efforts, significant additional appropriations for CJS will be needed to realize the potential of these new initiatives while not diverting resources from existing R&D programs that form the foundation of the U.S. research enterprise.

Research and education programs within the CJS bill are also vital for addressing national crises. Basic and applied science programs supported by CJS agencies including NSF and NIST have been an invaluable part of the nation's efforts to address the COVID-19 pandemic. Decades of investments by federal research agencies built a public-private foundation of partnerships to advance scientific knowledge that allowed the nation to rapidly develop technologies to counter this novel disease. For example, research projects sponsored by NSF beginning in the 1980s contributed to the development of new molecular imaging techniques that were instrumental in studying the structure of SARS-CoV-2 and consequently in the development of vaccines that target the virus's spike protein.^{3,4} Moreover, as the pandemic has unfolded over the last three years, CJS agencies have funded myriad lines of research that have advanced our understanding of the virus and developed ways to protect our health, including groundbreaking research on airborne viral transmission and the development of more sensitive and accurate COVID-19 tests.^{5,6} Robust and sustained funding for the CJS research agencies remains critical to ensure that our nation has the scientific and technical capacity to address public health threats.

Agencies within the CJS portfolio have major roles in addressing the threat of climate change and other environmental challenges. NSF, NASA, and NOAA together fund over 60 percent of our nation's federal investment in environmental research, as well as funding a large portion of our civilian observational capabilities. They support research to model global warming, understand its effects on the Earth's ecosystems, advance mitigation and adaptation efforts, and develop clean energy technologies.^{7,8,9} CJS agencies also collaborate with others across the

³ [NSF Statement on Nobel Prize in Chemistry 2017](#)

⁴ [Moore, J.P. and I.A. Wilson. Decades of basic research paved the way for today's 'warp speed' Covid-19 vaccines. STAT, 5 January 2021](#)

⁵ [Lednicky, J.A. \(2020\). Viable SARS-CoV-2 in the air of a hospital room with COVID-19 patients. International Journal of Infectious Diseases, 100: 476-482. DOI: 10.1016/j.ijid.2020.09.025.](#)

⁶ [Commerce Department awards \\$54 million in American Rescue Act grants to increase access to advanced manufacturing opportunities. NIST News Release, 28 February 2022](#)

⁷ [NOAA Oceanic and Atmospheric Research](#)

⁸ [Global Climate Modeling, NASA Goddard Institute for Space Studies](#)

⁹ [NIST Alternative Energy](#)

federal government to help advance coordinated efforts to assess and address the effects of climate change on all aspects of our society and develop effective strategies to become a climate-ready nation.¹⁰ For example, disaster resilience research headed by NIST, including investment in post-disaster impact research and pre-impact mitigation, helps address threats from high-winds, fire, or flood. Research programs supported by the CJS bill are therefore central to addressing global environmental crises.

A robust CJS allocation will allow the Department of Commerce to fund programs that are important to the future of the U.S. economy and society. Programs such as the American Community Survey continue to collect high quality socioeconomic and demographic data that scientists and policymakers use to inform basic, clinical, and applied research and research training activities.¹¹ The competitiveness legislation being considered by Congress seeks to stimulate innovation and strengthen the U.S. manufacturing base by directing the Department to create new regional technology hubs and expand existing manufacturing partnerships.¹² Such activities at the Department would also complement the research, innovation, and technology programs of the new NSF TIP Directorate. To fulfill their potential and benefit American workers, additional funding will be needed for these programs to stimulate new economic activity, train the future workforce, and create jobs.

CJS research programs also play an important role in advancing equity and racial justice. As our nation continues to struggle with structural and systemic racism, research supported by DOJ, including the National Institute of Justice, provides important insights on a range of topics including the study of hate crimes, prison and sentencing reform policies, and policing strategies. These research programs provide vital data and reinforce other efforts across the government to address racial prejudice and other injustices in our society. In addition, DOJ research programs are exploring other questions with important societal implications, including police response to homelessness and the prevention of school violence.¹³

In sum, we respectfully urge you and your colleagues to provide a robust CJS 302(b) allocation in fiscal year 2023. With sufficient resources, the Subcommittees will be able to make the R&D investments necessary to meet our nation's challenges and aspirations.

Sincerely,

The Census Project
Coalition for Aerospace and Science
Coalition for National Science Funding
Crime and Justice Research Alliance
Friends of NOAA
The NIST Coalition

¹⁰ [U.S. Global Change Research Program](#)

¹¹ [American Community Survey](#)

¹² [U.S. Department of Commerce: Manufacturing. Accessed March 2022](#)

¹³ [National Institute of Justice, Accessed March 2022](#)

American Anthropological Association
American Association for the Advancement of Science
American Association of Physics Teachers
American Astronomical Society
American Chemical Society
American Educational Research Association
American Geophysical Union (AGU)
American Institute of Biological Sciences
American Mathematical Society
American Physical Society
American Physiological Society
American Political Science Association
American Psychological Association
American Society for Engineering Education
American Society of Agronomy
American Society of Plant Biologists
American Sociological Association
American Statistical Association
APS/Division of Particles and Fields
ASME
Association for Psychological Science
Association of American Universities (AAU)
Association of Population Centers
Association of Public and Land-Grant Universities
Association of Public Data Users (APDU)
Binghamton University, State University of New York
Biophysical Society
Boston University
Brown University
California Institute of Technology
Carnegie Mellon University
Climate School, Columbia University
Computing Research Association
Consortium for Ocean Leadership
Consortium of Social Science Associations
Cornell University
Council of Graduate Schools
Council on Undergraduate Research
Crop Science Society of America
Duke University
Ecological Society of America
Empowering Pacific Islander Communities (EPIC)
Entomological Society of America

Eversole Associates
Federation of American Societies for Experimental Biology
Federation of Associations in Behavioral and Brain Sciences
Fermilab Users Executive Committee
Geological Society of America
Google LLC
Indiana University
Integrated Systems Solutions
International Wheat Genome Sequencing Consortium
Johns Hopkins University
Lewis-Burke Associates LLC
MACS - Minnesotans for the American Community Survey
Materials Research Society
Michigan State University
Museum of Science, Boston
National Postdoctoral Association
Northeastern University
Northern Illinois University
PA Health Funders Collaborative
Phytobiomes Alliance
Population Association of America
Research!America
Society for Industrial and Applied Mathematics
Society for Industrial and Organizational Psychology
Society for Neuroscience
Society for Research in Child Development (SRCD)
Soil Science Society of America
Stevens Institute of Technology
Stony Brook University
TAO (Tethra Advisors and Officers)- The Blue Tech and Circular Economy Consultancy
The Gerontological Society of America
The Ocean Project
The State University of New York
TMA BlueTech
Tufts University
UCLA
University at Albany, State University of New York
University of California Riverside
University of California System
University of California, Davis
University of California, Irvine
University of Colorado Boulder
University of Florida

University of Illinois System
University of Michigan
University of North Carolina Wilmington
University of Oregon
University of Pennsylvania
University of Rochester
University of Southern California
US Ignite
US Large Hadron Collider Users Association
Vanderbilt University
Woods Hole Oceanographic Institution
Yale University

cc:

Office of the Speaker of the House of Representatives
Office of the House Minority Leader
Office of the Senate Majority Leader
Office of the Senate Minority Leader
House Committee on the Budget
Senate Committee on the Budget
House Appropriations Subcommittee on Commerce, Justice, Science, and Related Agencies
Senate Appropriations Subcommittee on Commerce, Justice, Science, and Related Agencies
House Committee on Science, Space, and Technology
Senate Committee on Commerce, Science, and Transportation