November 5, 2021

Ms. Shalanda D. Young   Dr. Eric S. Lander
Acting Director   Director
Office of Management and Budget   Office of Science and Technology Policy

Dear Ms. Young and Dr. Lander,

The Coalition for National Science Funding (CNSF) appreciates the opportunity to submit policy recommendations in response to the Biden Administration's FY 2023 multi-agency R&D priorities to the Office of Management and Budget (OMB) and the Office of Science and Technology Policy (OSTP).

CNSF is an alliance of more than 130 professional organizations, scientific societies, universities, and businesses united in our advocacy for the National Science Foundation (NSF). CNSF supports the goal of increasing the national investment in NSF's research and educational programs in response to the scientific, technological, and economic challenges facing the United States. NSF plays a critical role in advancing our nation's competitiveness and addressing research and education challenges related to many Biden Administration priorities. We hope that you will use the FY 2023 budget request to propose growth to NSF that enables progress on these priorities, as well as steady expansion to the agency's core activities that form the backbone of the U.S. science and technology innovation ecosystem.

Pandemic readiness and prevention

The COVID-19 pandemic has touched every sector of the economy and requires research across disciplines to tackle the numerous societal, medical, public health, forecasting, logistics, education, and manufacturing challenges facing our nation. NSF funding has helped to advance the development of early warning systems, diagnostics, tools for virtual learning, and public health innovations. In addition, NSF has addressed the challenges facing the academic and research communities that have been disrupted through the pandemic, supporting the next generation of scientists and engineers. Now is the time to set a trajectory that will put the nation back on a path that ensures not only economic recovery from the pandemic, but also builds a capable workforce, and develops the science and technologies necessary to best prepare our nation for future pandemics and other natural disasters. NSF is leading the way through programs such as Predictive Intelligence for Pandemic Prevention. **NSF's sustained**

funding for pandemic preparedness will ensure that we continue to bring engineering, social, behavioral, ecological, computing, and other approaches to this enormous challenge. NSF should also continue to rebuild the research enterprise for recovery from pandemic-related losses, especially focusing on those most at risk in the scientific community and our next generation of scientists.

Tackling climate change and spurring energy innovation

Climate change is one of the most challenging and complex issues facing our nation and the world, requiring deep understanding of multifaceted and interdependent biological, geological, social, and behavioral systems, equity, and urgent technological innovation to enhance our resilience. NSF has been instrumental across these fields, advancing our foundational understanding of climate change, challenges facing specific regions and communities such as the Arctic and coasts, training the climate and energy workforce of the future, and developing innovations in environmental engineering, energy, and resilience. There is enormous opportunity for NSF to grow its convergent research, innovation, and partnership activities to address climate change. *The Administration should enable NSF to play a key role in national climate and energy initiatives. Additional funding for NSF is necessary to truly meet the challenge ahead while at the same time ensuring that we do not jeopardize the foundational science and engineering ecosystem that will be critical for our future competitiveness and resilience.*

Catalyze research and innovation in critical and emerging technologies

Funding for research and innovation in several areas, including artificial intelligence, quantum information science and high-performance computing, among others, is critical for maintaining our nation's global competitiveness. NSF support is essential for expanding these technologies, for training a diverse workforce of future innovators, and for developing new research ideas. Fundamental research supported by the NSF often lays the groundwork for developing new technologies. *CNSF encourages the Administration to support NSF-funded technological innovations that ensure our nation's global competitiveness, in addition to fundamental research which drives our nation forward in science and technology.*

STEM education, engagement, and innovation for equity

Equity and access to federal funding opportunities and programs are critical for our nation's prosperity and can only be achieved through increasing capacity building and expanding participation in training programs. NSF supports implementing programs to promote excellence in STEM education at all levels and in all settings, as well as research aimed at developing and identifying successful education and training models. These investments, in turn, help STEM educators reach the "missing millions" and support a diverse and well-prepared workforce. Talent development for those underserved and underrepresented in STEM through equitable

education and training can greatly strengthen our nation's workforce. ***CNSF encourages the Administration to invest in NSF-funded workforce, education, and education research activities, to develop a diverse and inclusive STEM workforce.***

National security and economic resilience

Investments in research and technology underpin our resilience and national security. NSF partners with the Department of Defense in many areas to ensure that foundational advances in science and engineering address national security challenges, and to establish and maintain the development of a diverse future workforce that will underpin our economic competitiveness and national security enterprise. For example, NSF funds efforts to understand social and behavioral systems that improve decision making, training, and collaboration. NSF also supports research that enhances cybersecurity and protects against online threats that have been exacerbated during the pandemic. Research collaborations with international partners help maintain an open and engaging research environment and drive progress in science and technology. ***CNSF encourages the Administration to support NSF research and technological innovations, including social and behavioral research, to ensure our national security while maintaining a collaborative global research environment.***

We look forward to working with you to support NSF funding in FY 2023. If CNSF can be a resource for you in this endeavor, please don't hesitate to contact us.

Sincerely,

The Coalition for National Science Funding

American Anthropological Association

American Association for the Advancement of Science

American Association of Geographers

American Association of Physicists in Medicine (AAPM)

American Association of Physics Teachers

American Astronomical Society

American Chemical Society

American Crystallographic Association

American Educational Research Association

American Geophysical Union

American Institute of Biological Sciences

American Institute for Medical and Biological Engineering (AIMBE)

American Mathematical Society

American Physical Society

American Physiological Society

American Political Science Association

American Psychological Association

American Society of Agronomy

American Society of Civil Engineers

American Society for Engineering Education

American Society of Mechanical Engineers

American Society for Microbiology

American Society for Pharmacology and Experimental Therapeutics

American Society of Plant Biologists

American Sociological Association

American Statistical Association

Arizona State University

Association for Psychological Science

Association for Women in Mathematics

Association of American Medical Colleges

Association of American Universities

Association of Public and Land-grant Universities

Association of Science and Technology Centers (ASTC)

Atlanta University Center Consortium

Battelle

Biophysical Society

Boise State University

Boston University

Brandeis University

Brown University

Caltech

Cavarocchi Ruscio Dennis Associates

Coalition for Academic Scientific Computation

Columbia University

Computing Research Association

Consortium of Social Science Associations

Cornell University

Council of Graduate Schools

Council of Scientific Society Presidents

Council on Undergraduate Research

Crop Science Society of America

Dartmouth College

Duke University

Ecological Society of America

Entomological Society of America

Eversole Associates

Federal Science Partners

Federation of Associations in Behavioral & Brain Sciences

Federation of American Societies for Experimental Biology

Florida State University

Forge Policy Solutions

Geological Society of America

George Mason University

Georgia Institute of Technology

Harvard University

IEEE-USA

Incorporated Research Institutions for Seismology (IRIS)

Indiana University

Lehigh University

Lewis-Burke Associates LLC

Linguistic Society of America

Massachusetts Institute of Technology

Mathematical Association of America

Materials Research Society

Michigan State University

Michigan Technological University

Mineralogical Society of America

Museum of Science, Boston

National Association of Marine Laboratories

National Communication Association

National Postdoctoral Association

Natural Science Collections Alliance

New York University
Northeastern University
Northern Illinois University
Optica (formerly OSA), Advancing Optics and
        Photonics Worldwide
Pennsylvania State University
Population Association of America
Princeton University
PsySiP: Psychology of Science in Policy
Research!America
Rutgers, The State University of New Jersey
SACNAS
SAGE Publishing
Saint Louis University
Silicon Valley Leadership Group
Society for American Archaeology
Society for Industrial and Applied
    Mathematics
Society for Industrial and Organizational Psychology
Society for Neuroscience
Society for Research in Child Development
Society for the Psychological Study of Social Issues
    (SPSSI)
Soil Science Society of America
SPIE
Stevens Institute of Technology
Stony Brook University

The Bagley Group
Tufts University
UCLA
UNAVCO
University of California System
University of Cincinnati
University of Colorado Boulder
University of Florida
University of Illinois System
University of Iowa
University of Michigan
University of Notre Dame
University of Oklahoma
University of Oregon
University of Pennsylvania
University of Pittsburgh
University of Vermont
University of Washington
University of Wisconsin-Madison
US Ignite
Vanderbilt University
Virginia Commonwealth University
Washington State University
West Virginia University
Woods Hole Oceanographic Institution
Worcester Polytechnic Institute (WPI)
Yale University