NSF Recommendations for the Second Trump Administration

The Coalition for National Science Funding (CNSF) is an alliance of more than 140 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 to address the scientific, technological, and economic challenges facing the United States. CNSF appreciates the opportunity to submit the following policy recommendations to President-elect Trump and the transition team.

NSF plays a key role in advancing American competitiveness, sparking innovation, building our talent, and showcasing American technological dominance through awe-inspiring infrastructure projects that enable world-leading discoveries. NSF is supporting critical emerging technologies such as artificial intelligence, quantum information sciences, advanced wireless research, manufacturing, and biotechnology. It is also an exemplar among federal agencies for its efficiency and rigorous merit review system, enabling NSF to wisely spend federal funding reaching the American people for maximal impact. CNSF looks forward to working with the Administration to build on this strong foundation, unleash American innovation, and advance your science and technology priorities.

Recommendations

Dramatically Expand NSF Funding to Unleash Scientific Breakthroughs and Ensure American Technological Dominance

NSF's research and educational programs are the bedrock of the U.S. innovation economy, and impact hundreds of thousands of Americans through cutting-edge research and workforce investments in every state and territory. NSF funds fundamental research, sparking discoveries and supporting scientists in every discipline. However, the U.S.'s position as the world's leading innovator is under threat due to aggressive investments from the People's Republic of China (PRC) and other competitors.

At the same time, NSF funding has stagnated, and it dropped in fiscal year (FY) 2024, which has led to billions of dollars in unfunded worthy proposals in critical areas such as artificial intelligence. Notably, in 2020 the PRC surpassed the U.S. and became the largest producer of science and engineering Ph.D. workers in the world. It is imperative for the strength of our nation that your administration make it a priority to reverse the negative impact of several years of unpredictable and decreased funding for NSF and ensure it has sufficient resources to address key infrastructure needs, scale its investment in critical technologies, and innovate new programs and mechanisms to propel American innovation.

Increase NSF Investments in Artificial Intelligence

NSF is the key federal supporter of innovation in AI, including research in foundational AI efforts, development of applications for scientific and engineering discovery, and investments to build the future AI workforce. Furthermore, NSF was an early investor in AI, powering the discoveries that have now unleashed neural networks and the methods underlying generative AI. NSF's investments remain critical today to discovering the next AI innovations beyond the more near-term industry approaches and addressing major science and engineering challenges. NSF has partnered with industry, other federal agencies, and foundations to fund the NSF AI Research Institutes, which are enabling U.S. leadership in AI and impact in national security, agriculture, education, wireless technologies, materials science, and many other areas. The Trump Administration should look to further scale these investments and expand NSF's AI infrastructure through building the full National AI Research Resource, which will further unleash AI innovation.

Bolster NSF Research Infrastructure to Advance New Discoveries

Whether through constructing groundbreaking telescopes, delivering the future of high-performance computing infrastructure, or pioneering fundamental physics experiments, NSF's facilities are the bedrock of many scientific disciplines. These investments enable giant leaps forward in the U.S.'s ability to maintain dominance in strategic locations such as in Polar areas and across key fields. In the coming years, NSF faces a challenge to fund high priority infrastructure in several areas that are overwhelming NSF's construction account. If we do not fund this infrastructure, we will sacrifice American greatness that keeps us at the forefront of discovery. CNSF encourages the new Administration to address major research facility needs as well as fund small and mid-scale infrastructure that spur innovation across the United States.

Continued Support for the Nascent Technology, Innovation, and Partnerships Directorate

The new TIP Directorate is a promising example of government innovation that is driving new partnerships, unleashing discovery, and enabling translation of NSF research results to the benefit of the American people. TIP has launched new programs such as the Regional Innovation Engines that are catalyzing major investments in American communities, enhancing efficiencies to enable new partnerships and best leverage NSF resources, and working across the Foundation to translate NSF discoveries in new ways. TIP is just getting started, and it needs growth to sustain its new programming and fully enable it to meet its mission.

Enabling the Innovation Workforce

NSF education research and workforce programs are critical for ensuring that our nation's workers have the skills they need to thrive in emerging technologies and the economy of the future. These programs build our domestic STEM workforce to enable our competitiveness and advance research that enables innovation in education in early childhood, K-12, undergraduate, graduate, and lifelong learning to empower schools, parents, and other educators with information and tools to pursue excellent STEM education. We urge your Administration to continue NSF's efforts to partner with foundations, states, and others to scale new education innovations and ensure robust continuation of NSF's critical education and workforce programs.