



NATIONAL PHOTONICS INITIATIVE



September 18, 2023

Senate Majority Leader Chuck Schumer
322 Hart Senate Office Building
Washington, D.C., 20510

Speaker of the House Kevin McCarthy
H-232, The Capitol
Washington, D.C., 20515

Senate Minority Leader Mitch
McConnell
317 Russell Senate Office Building
Washington, D.C., 20510

House Minority Leader Hakeem Jeffries
2433 Rayburn House Office Building
Washington, D.C., 20515

Dear Sirs:

As the end of the fiscal year draws near, I write to urge you to prioritize scientific research and development funding as Congress advances spending legislation. Stable, robust investments in science research and development (R&D) programs are critical to advancing our economy, healthcare innovation, national security, workforce development, and global competitiveness. In particular, federal support of optics and photonics – a field of science and engineering that enables an array of technologies – has led to the development of innovations that affect every aspect of our lives. As Steering Committee Chair of the National Photonics Initiative (NPI), which is comprised of academic and industry entities engaged in the study and development of optics and photonics, I strongly urge both the House and Senate to invest in discoveries that will yield the next generation technologies to improve healthcare, communications, security, and the U.S. economy. There are several key agencies that are dependent on consistent and reliable funding.

The National Institute of Standards and Technology (NIST) works with our nation's businesses and universities to drive American economic growth and job creation. Companies, academic institutions, and other federal agencies rely on Scientific and Technical Research and Services (STRS) programs to provide foundational research and material development for their products and programs. The National Quantum Initiative Act, which passed with overwhelming bipartisan support in 2018, includes NIST as one of three key agencies that will help ensure the U.S. remains a global leader in quantum.

The Department of Energy (DOE) Office of Science is the nation's largest funder of research in the physical sciences and plays a dominant role in underwriting engineering, mathematics, and computing research. It supports discoveries in new fields such as quantum, biotechnology, nanotechnology, AI, and supercomputing – all enabled by optics and photonics – and is critical to our nation's economy and competitiveness. The Office of Science has provided grants to researchers and facilities in all 50 states and the District of Columbia, DOE's national laboratories, and more than 300 higher education institutions. The National Quantum Initiative Act includes DOE as one of three agencies that will help ensure the U.S. remains a global leader in quantum.

The National Science Foundation (NSF) is a key funder of optics and photonics research. An example is the Laser Interferometer Gravitational-Wave Observatory (LIGO), which measured gravitational waves from a binary black hole merger. This discovery, enabled by photonics, confirms Einstein's Theory of General Relativity. Another example is work being done by researchers to make solar cells that can be used on almost any surface, including windows, walls, computer bags, and clothing.

These are just a few of the crucial federal agencies that require a reliable funding stream to build on innovations already in the pipeline. It also ensures they have the workforce needed to maximize the funding's impact.

Should you or any of your staff members have questions on the importance of these investments or their potential impact, please know that the NPI stands ready to be a resource for you.

Sincerely,

Jim McNally, PhD
Steering Committee Chair
National Photonics Initiative