



March 8, 2016

Dear Members of the U.S. Congress:

You've no doubt seen the recent headlines: Scientists have discovered the first direct evidence of gravitational waves, validating a century-old prediction by Albert Einstein. This is a breakthrough – one that would not have been possible without the longstanding support of our nation's premier fundamental research agency, the National Science Foundation. For Fiscal Year 2017, the Coalition for National Science Funding (CNSF) – comprising 142 professional organizations, universities and businesses – recommends a mark of \$8 billion for NSF and asks Congress to maintain its longstanding commitment to the only federal research agency that supports all disciplines of science. Especially in tight times, the nation must invest in scientific research to grow our economy for years to come.

Simply put, NSF is vital to our country's economy, security, and innovation. But since 2010, the agency has lost ground in real dollars. As other nations invest heavily in research and development, the United States must do the same if we want to remain at the forefront of scientific and technological progress.

Last year CNSF joined leaders of major U.S. corporations and more than 300 organizations from American industry, higher education, science and engineering to sign *Innovation: An American Imperative* (attached), a call to action urging Congress to enact policies and make investments to ensure that the United States remains the global innovation leader. The Imperative highlights the need for steady and sustained real growth for NSF and other research agencies.

NSF funds research in important fields – including the physical sciences, biology, mathematics, computer science, geoscience, social and behavioral science, and engineering. Among the many recent examples of NSF-supported successes are a [collaborative effort to secure cloud systems](#); [new sensing technology](#) that could improve the detection of diseases, chemical weapons and even fraudulent art; and successful startups including [Emotient](#), recently purchased by Apple, which uses artificial intelligence to analyze facial expressions, and [Neon Labs](#), which tests the visual appeal of images and was started by an [I-Corps](#) awardee.

From pre-K through high school, the innovative teaching strategies developed through NSF prepare students for success in advanced science, technology, engineering and math (STEM) studies. Through original research, undergraduates as well as graduate students work with leading scientists to develop the knowledge and skills to attain STEM degrees, transition effectively to the workplace, and make the discoveries that fuel job creation.

To foster potentially transformative research, NSF should continue to support research across all science and engineering disciplines, use its world-renowned peer review system to identify the best science, and maintain flexibility to take advantage of unanticipated discoveries and insights. We ask Congress to support NSF's existing practice of setting priorities for research investments through engagement with the scientific community, The National Academies, National Science Board, and other advisory bodies.

Today, it's gravitational waves. What will our next leap forward be? We thank you for your support and urge Congress to continue this progress by supporting NSF in FY17. We stand ready to work with you.

The Coalition for National Science Funding (CNSF) is an alliance of over 140 professional organizations, universities, and businesses advocating support for the National Science Foundation.