



FASEB

Federation of American Societies
for Experimental Biology

Representing Over 130,000 Researchers

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Testimony of the

Federation of American Societies for Experimental Biology

Prepared for the

**House Committee on Appropriations
Subcommittee on Commerce, Justice, Science, and Related Agencies**

Representative José Serrano, Chair
Representative Robert Aderholt, Ranking Member

On

FY 2020 Appropriations for the National Science Foundation

The Federation of American Societies for Experimental Biology (FASEB) respectfully requests a minimum of \$9.0 billion in fiscal year (FY) 2020 for the National Science Foundation.

With its broad mandate to support fundamental research across all fields of science, engineering, and mathematics, the National Science Foundation (NSF) is the cornerstone of our nation's scientific enterprise.¹ NSF investments in discovery-based research at institutions nationwide generate new knowledge, which in turn leads to transformative innovations that enhance quality of life.

Web browsers, modern weather forecasting, and magnetic resonance imaging (MRI) are just a few of the tangible benefits enabled by NSF-funded research.^{2,3}

Many of these advances result from NSF's relationship to other scientific agencies such as the National Institutes of Health (NIH). For example, in the biological sciences, NSF supports research that expands our understanding of life at multiple scales of time and space, from molecules to ecosystems.³ This fundamental knowledge is then applied to advance medicine, enhance agriculture, stimulate new technologies, and protect our health and environment. For example, NSF supported 2018 Nobel-prize winning research that led to the development of directed enzyme evolution, a revolutionary technology now used to produce pharmaceuticals, biofuels, and pesticide alternatives.⁴

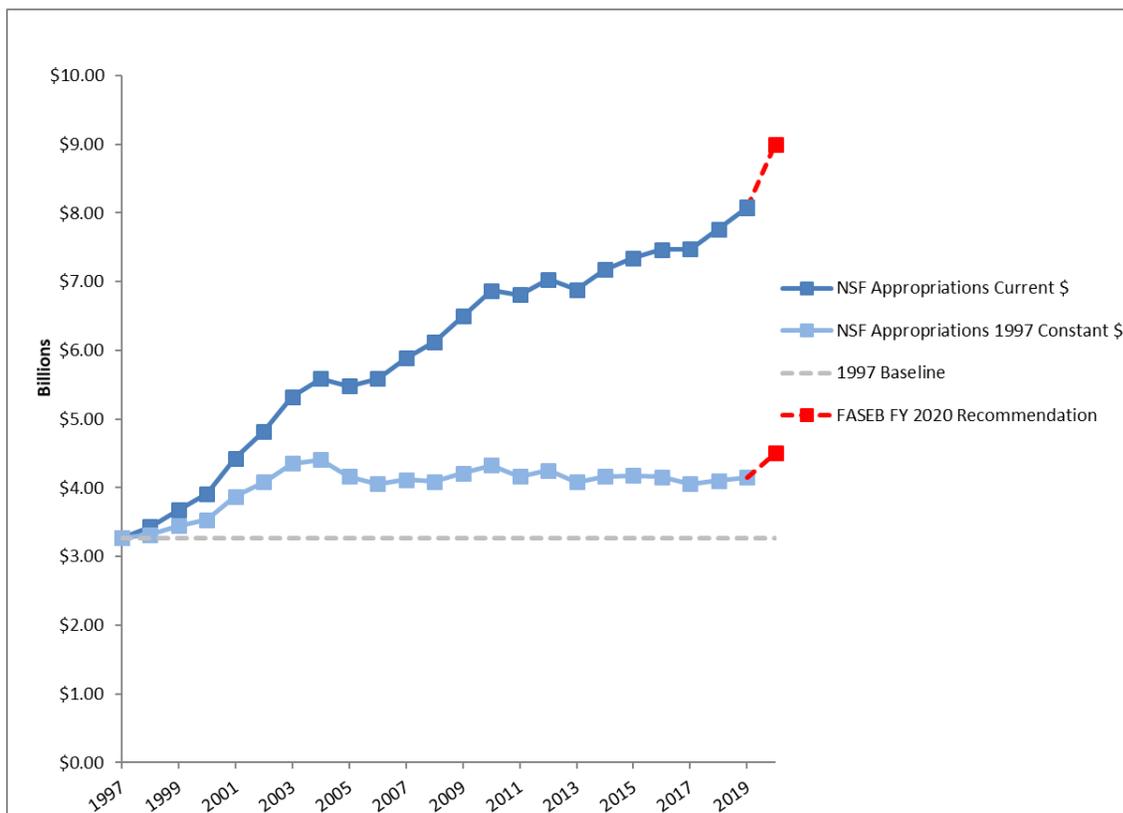
NSF is uniquely positioned to support interdisciplinary collaboration, research facilities, and scientific resources to meet national challenges. By harnessing expertise and technology from across the sciences, NSF-supported research is crucial in safeguarding our national security and addressing the effects of global warming.

NSF also has a critical educational mission. The Foundation’s graduate and postdoctoral fellowships and other educational programs underwrite the training of thousands of young scientists and engineers. This investment ensures a technical and scientific workforce capable of pursuing research and leading the innovative, dynamic industries of the future.

Even as the demand for scientific research has dramatically grown, the NSF budget has remained flat in real terms for 15 years (Figure 1). The federal government must renew its commitment to fundamental, discovery-based science.⁵ Providing NSF with a budget of \$9.0 billion (\$925 million above FY 2019⁶) would support about 1,000 additional research grants, enabling researchers to rapidly seize new scientific opportunities.

FASEB FY 2020 recommendation: at least \$9.0 billion for NSF

Figure 1: NSF Appropriations, FY 1997-2020



¹ <https://www.nsf.gov/about>

² *Transforming the World Through Science*. National Science Foundation, Alexandria, VA

³ [NSF Sensational 60. National Science Foundation, Alexandria, VA](#)

⁴ [Celebrating 2018 Nobel Laureate Frances Arnold, National Science Foundation, Alexandria, VA](#)

⁵ [Innovation: An American Imperative](#)

⁶ [H.J.Res.31 – Consolidated Appropriations Act, 2019](#)