

National Science Foundation

By the Numbers:

∴ The National Science Foundation (NSF) drives innovative research across a diverse range of science and engineering disciplines. The research NSF supports seeds private sector innovation and uncovers knowledge that empowers America to prosper.

∴ In 2016, NSF received \$7.4 billion, 0.2% of the total federal budget, to carry out its mission.*

∴ NSF funds cutting edge basic and applied research at more than 1,800 academic institutions in all 50 states, D.C. and four U.S. territories.°

∴ Almost 90% of NSF's budget directly funds research and development projects across the nation.°*

∴ Between 1980 and 2000, NSF's budget had an average annual growth of 7.3%. Between 2001 and 2016, the average annual growth fell to 4.2%.°



NSF in Action

Google

In 1994, NSF launched the Digital Library Initiative (DLI) in search of new ways to easily access the small but quickly growing Internet. Two graduate students working on the NSF-funded Stanford University DLI project, Larry Page and Sergey Brin, developed a revolutionary way to search the Web. Their prototype, BackRub, later became Google, whose parent company, Alphabet, is now valued at just over \$600 billion and employs more than 69,000 people.°^•

Supercomputers and Blood Clots

The NSF-funded Stampede Supercomputer focuses on leveraging advanced computing power to facilitate more than 1,000 research projects. In an NSF-funded collaboration between Johns Hopkins University and Ohio State University, researchers used Stampede to develop a new method to determine who is at an increased risk for developing blood clots in the heart. This method provides a way to identify and potentially reverse symptoms associated with heart disease, the leading cause of death in America.°□

Digital Mammography

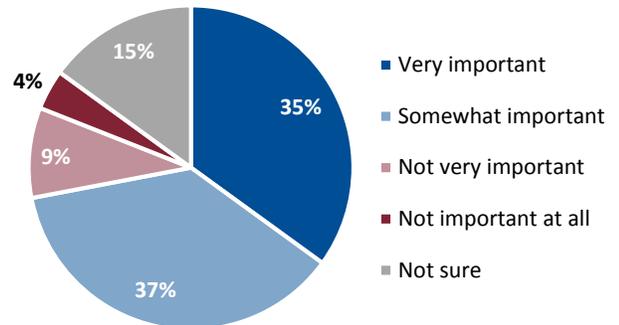
An NSF-funded multi-disciplinary collaboration brought together radiologists and astronomers to develop a better way to visualize and diagnose breast cancer. Researchers from Johns Hopkins University, Georgetown University and the Space Telescope Science Institute re-engineered computer software, originally developed to decipher complex telescope images, to analyze results from digital mammogram images. The digital mammogram allows doctors to manipulate images to more easily view abnormalities.°+♦

Funded by NSF:

- **Bar codes** are ubiquitous, found on an estimated 100,000 grocery store items and many other products. In the 1970s, NSF funding played a crucial role in improving the accuracy of the original bar code scanners. This breakthrough was vital to their worldwide utilization for commercial, transportation, military and medical uses. °
- Used both commercially and for research, the **Doppler radar**, a meteorological tool used to monitor precipitation, is essential to daily modern life. Critical parts of the development of this tool occurred at the NSF-supported National Center for Atmospheric Research (NCAR). °
- **Magnetic resonance imaging (MRI)** is a staple of modern medicine, allowing us to see tissue damage and tumors inside the body. MRI technology is based on the understanding of spin characteristics of matter as well as the physics of nuclear magnetic resonance (NMR). These basic science research findings, which were crucial to developing the MRI, were a product of NSF-funded research. °

Americans Support Increased Funding for NSF

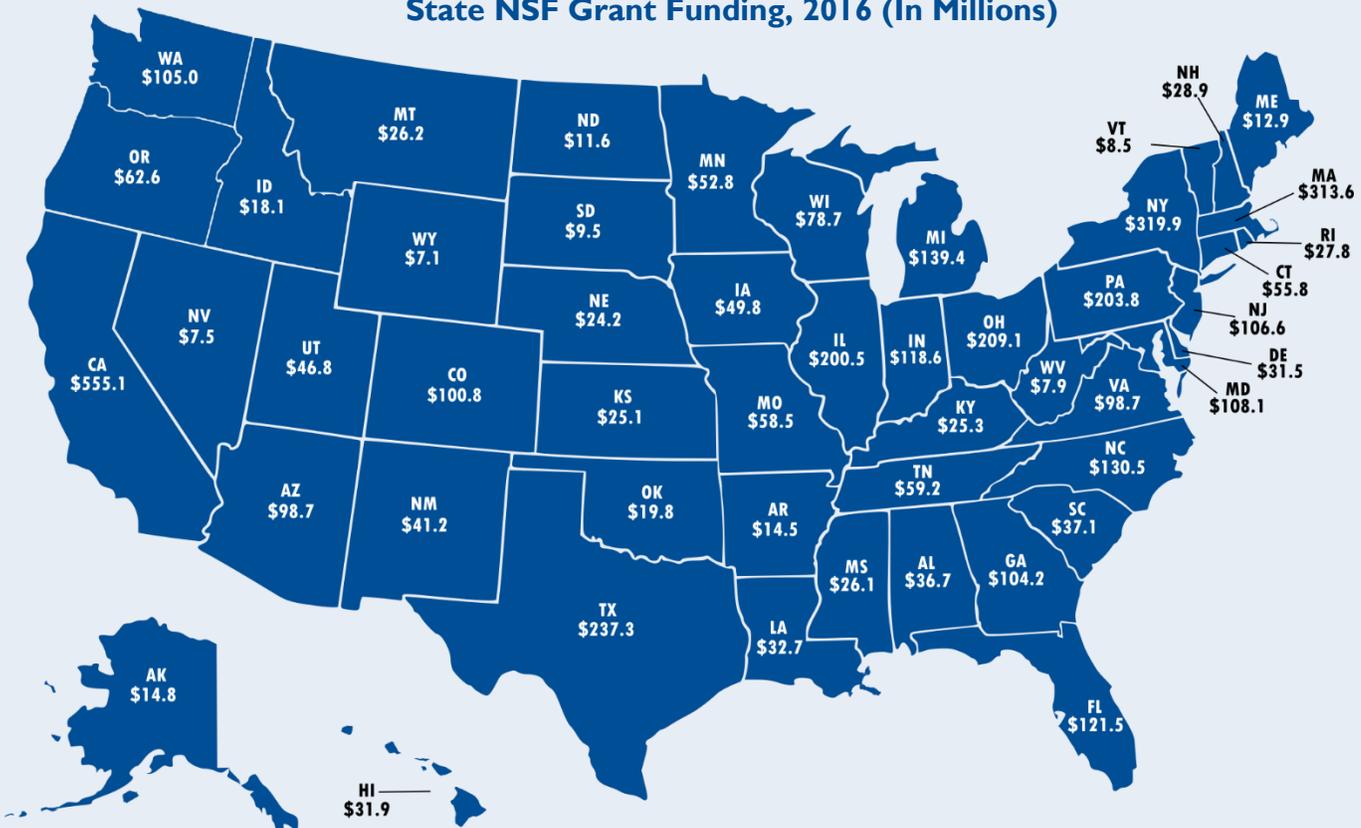
The National Science Foundation (NSF) works to promote the progress of science; advance the national health, prosperity, and welfare; and secure the national defense. How important is it to increase funding for NSF?



A RESEARCH!AMERICA SURVEY OF U.S. ADULTS CONDUCTED IN PARTNERSHIP WITH ZOGBY ANALYTICS IN JANUARY 2016.

The National Science Foundation is one of our nation's top strategic assets, a conduit to economic growth, heightened national security, and other top priorities of the American people.

State NSF Grant Funding, 2016 (In Millions)



SOURCE: FEDERAL REPORTER

- * CONGRESSIONAL RESEARCH SERVICES, 2016.
- PULLEN, J. FORTUNE, 2017.
- ^ CNN <WWW.CNN.COM>
- TEXAS ADVANCED COMPUTING CENTER <WWW.TACC.UTEXAS.EDU>
- NATIONAL SCIENCE FOUNDATION <WWW.NSF.GOV>
- + SUSAN G. KOMEN <WWW.KOMEN.ORG>
- ◆ JOHNS HOPKINS MEDICINE <WWW.HOPKINSMEDICINE.ORG>