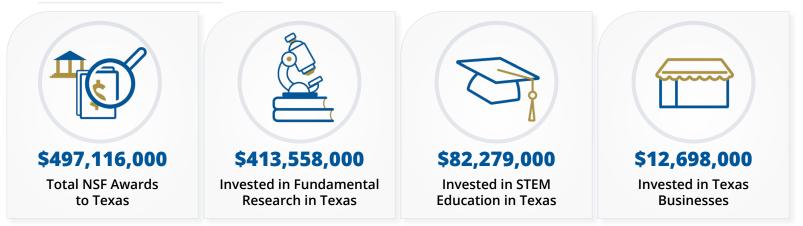


FY 2023 Fast Facts



• Top NSF-funded Academic Institutions for FY 2023

University of Texas at Austin \$135,277,000

Texas A&M University \$51,233,000 William Marsh Rice University \$35,475,000

• NSF By The Numbers

The U. S. National Science Foundation (NSF) is an <u>\$9.06 billion</u> independent federal agency created by Congress in 1950 to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense. NSF's vital role is to support basic research and researchers who create knowledge that transforms the future.

DID YOU KNOW? NSF has funded the work of **261** Nobel Prize winners over 75 years.





Expanding the Frontiers of Science

Through the NSF funding, researchers at **The University of Texas at Dallas** are revolutionizing live-cell imaging by harnessing the power of nanodiamond quantum sensing and advanced microscopy. While traditional fluorescence microscopy provides valuable insights into cell structures and functions, nanodiamond quantum sensors have the potential to study the intricacies of life processes with unprecedented detail. By integrating nanodiamond quantum sensors with advanced imaging techniques, the project aims to capture 4D information: 3D spatial data and an additional temporal dimension. Machine learning algorithms and image processing techniques are utilized to analyze the acquired data and extract valuable insights into the dynamics of live cells. This work has wide-ranging implications, from enhancing cancer immunotherapy through the monitoring of T-cell activity to unraveling the mysteries of membrane potentials in cardiac and neuronal cells. The project bridges the gap between fundamental quantum science and applied bioengineering and brings quantum sensing into rich applications in biomedical fields.

STEM Education and Broadening Participation

NSF CyberCorps® Scholarship for Service (SFS) program funds proposals for establishing or continuing scholarship programs in cybersecurity and aligns with the U.S. National Cyber Strategy to develop a superior cybersecurity workforce. **Sam Houston State University**, a National Center of Academic Excellence in Cyber Defense Education designated by the National Security Agency and Department of Homeland Security, has recently established an SFS program to serve four cohort classes of undergraduate and graduate students. With an emphasis on interdisciplinary education and research opportunities for scholars, the program will prepare 20 highly qualified students to become cyber leaders in the government workforce, increasing the percentage of scholars who are from underrepresented groups and supporting transfer students from community colleges. The program will educate and train scholars in different aspects of cybersecurity, such as computer science, digital forensics and more. This interdisciplinary collaboration offers practical experiences to ease the transition into the workforce. The selected scholars will receive academic advisement, research and career mentoring, extracurricular activities and coordinating placement with the Office of Personnel Management for internships.



Regional Innovation Engines

NSF Regional Innovation Engines (NSF Engines) represent one of the single largest broad investments in placebased research and development in the nation's history, uniquely placing science and technology leadership as the central driver for regional economic competitiveness. The **NSF Engine: Paso del Norte Defense and Aerospace Innovation Engine**, led by **The University of Texas at El Paso**, aims to fuel the growth of dynamic aerospace and defense manufacturing in Paso del Norte, an eight-county region on the U.S.-Mexican border, by creating a platform that combines an emerging digital engineering paradigm and skilled workforce development.

NCSES

According to the <u>NSF National Center for Science and</u> <u>Engineering Statistics (NCSES)</u>, which is housed in NSF, Texas ranks 2nd in the nation for academic research space. Visit Texas's science and engineering state profile to learn more!

- **31.76**% of **Texas'** <u>higher education degrees are</u> <u>concentrated in S&E fields.</u>
 - 5.12[%] of Texas' <u>workforce is employed in S&E</u> <u>occupations.</u>
 - **6.26**[%] of **Texas'** <u>total employment is attributable</u> <u>to knowledge - and technology - intensive</u> <u>industries.</u>

Learn More

CHIPS & SCIENCE – The CHIPS and Science Act's investments in the U.S. National Science Foundation will help the United States remain a global leader in innovation. Implementation of this legislation will be key to ensuring that ideas, talent and prosperity are unleashed across all corners of the nation. For more information, please visit the NSF CHIPS and Science website.

RESEARCH SECURITY – NSF is committed to safeguarding the integrity and security of science and engineering while also keeping fundamental research open and collaborative. NSF seeks to address an age of new threats and challenges through close work with our partners in academia, law enforcement, intelligence and other federal agencies. By fostering transparency, disclosure and other practices that reflect the values of research integrity, NSF is helping to lead the way in ensuring taxpayer-funded research remains secure. To learn more, please visit the NSF Research Security website.

CONNECT WITH NSF – For more information on NSF's impact in your state, please contact the NSF Office of Legislative and Public Affairs at <u>congressionalteam@nsf.gov</u>.