**FY 2021 Fast Facts**

- $68,959,000 Total NSF Awards to South Carolina
- $63,976,000 Invested in Fundamental Research in South Carolina
- $4,983,000 Invested in STEM Education in South Carolina
- $786,000 Invested in South Carolina startups

**Top NSF-funded Academic Institutions for FY 2021**

- $20,782,000 University of South Carolina, Columbia
- $18,383,000 Clemson University
- $1,350,000 Coker College

**NSF By The Numbers**

The National Science Foundation (NSF) is an $8.8 billion 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.

- 93% Funds research, education and related activities
- $8.8B FY 2022 Enacted
- 43,600 Proposals evaluated
- 2,000 NSF-funded institutions
- 11,300 Number of awards NSF funds each year
- 318K People NSF supported
- $1.5B STEM education
- $181M* To seed public/private partnerships
- 253 NSF-funded Nobel Prize winners
NSF-funded COVID-19 Research and Recovery

In the era of personalized medicine, rapid and accurate quantification of multiple biomarkers at the point-of-care is fundamental to successful control and management of infectious disease outbreaks. Led by the University of South Carolina, the major goal of this project — supported by NSF’s CAREER program — is to develop a new nanopore testing technology to enable ultrasensitive detection of infectious diseases at a reasonably low cost. Upon the successful completion of this project, the proposed nanopore test will meet the urgent need for a point-of-care testing, or POCT, technology with accuracy that exceeds current POCTs or even lab-based testing technologies. This platform technology has great potential for changing the current paradigm of POCT for existing infectious diseases. It can be readily modified with minimal optimization as soon as new diseases and biomarkers are identified for rapid deployment in clinics and at the point of care. The project also includes education and outreach activities, such as organizing a summer research workshop and internship for high school students on the fundamentals of biomedical engineering and nanotechnology, broadly presenting research to local communities and starting an infectious disease research symposium that brings an additional synergy among local clinicians, biomedical engineers and scientists.

STEM Education & Broadening Participation

An NSF award supporting students with demonstrated financial need at Coker University and Florence Darlington Technical College will contribute to the national need for scientists, mathematicians, engineers and technicians. The project will fund scholarships to 48 full-time students pursuing bachelor’s degrees in biology, computer science, mathematics and chemistry at CU or an associate degree in general science at FDTC. It proposes a cross-institutional scalable approach to improving retention, graduation and transfer rates of low-income students who are underrepresented in STEM, including underrepresented minorities and those that are the first generation in their families to attend college.

Research Driving Innovation

Researchers at Clemson University will use quantum random access memory, or QRAM, a key component in many well-known quantum algorithms that allows stored data to be extracted in quantum superposition, to develop a hybrid QRAM device composed of superconducting qubits and high-quality acoustic cavities joined together by highly tunable interconnects. Quantum computers are expected to revolutionize the future of science and technology by solving complex problems that are beyond the reach of current classical supercomputers. So far, several physical platforms have been demonstrated as prototypes for implementation of universal quantum processors. Each physical implementation holds specific benefits in demonstrating coherent manipulation of quantum state while suffering downfalls that prevent their scalable integration. Many quantum computing tasks would benefit enormously from the ability to coherently connect those physically distinct information processing platforms. This project entails integrated research, education and outreach efforts that encourage full participation of underrepresented groups in quantum science and technology, including summer camps for K-12 students and teachers, course and outreach material development, undergraduate and graduate research and advising, and postdoc mentoring.

EPSCoR

COMPETITIVE RESEARCH | South Carolina is one of 28 U.S. states or territories under NSF's Established Program to Stimulate Competitive Research (EPSCoR). Over $8,090,000 in awards have been made to South Carolina academic institutions through EPSCoR in FY 2021. For more information, visit South Carolina’s EPSCoR state web page.

NCSES

According to the National Center for Science and Engineering Statistics (NCSES), which is housed in NSF, 28% of Science, Engineering and Health doctorates conferred in South Carolina are made in Engineering.

- 3.9% of South Carolina’s workforce are employed in S&E occupations.
- 31.47% of South Carolina’s higher education degrees are concentrated in S&E fields.

Learn More

COVID RELIEF - Congress provided NSF with funding to prevent, prepare for, and respond to COVID-19 in the CARES Act of 2020 and the American Rescue Plan (ARP) Act of 2021. For more information on NSF-funded COVID-19 research and recovery, visit NSF’s award database for CARES Act and ARP awards, and NSF’s Toolkit for COVID funding updates.

NSF FACT SHEETS – NSF provides fact sheets about the agency and its bold investments in basic research. These fact sheets profile NSF investments in research across all fields of science and engineering, including quantum, artificial intelligence, and advanced manufacturing, and the NSF-supported research and computing infrastructure powering the U.S. response to COVID-19.

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