MARYLAND FACT SHEET

FY 2020 FAST FACTS

$402,651,000
Total NSF awards to Maryland

$325,918,000
Invested in fundamental research in Maryland

$28,457,000
Invested in STEM education in Maryland

$7,388,000
Invested in Maryland startups through NSF’s small business program

TOP NSF-FUNDED ACADEMIC INSTITUTIONS FOR FY 2020

$67,563,000
University of Maryland-College Park

$41,389,000
Johns Hopkins University

$11,563,000
University of Maryland-Baltimore County

NSF BY THE NUMBERS

The National Science Foundation (NSF) is an $8.5 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.
NSF-FUNDED RESEARCH FIGHTING COVID-19

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 Act of 2021. For more information on NSF’s COVID research, visit NSF’s award database and COVID funding reports.

COVID-19 RESEARCH SPOTLIGHT | Recent reports demonstrate the critical influence of COVID-19 on the cardiovascular system, with up to 20% of COVID-19 patients suffering acute cardiac injury. Approaches to identify COVID-19 patients at risk for cardiac dysfunction have not yet been developed, and no alerting clinical parameters are available to address the impending decline of cardiac function and mortality. Researchers at Johns Hopkins University are developing a machine learning approach to identify COVID-19 patients at risk for cardiac dysfunction and sudden cardiac death. Using such an approach will provide early warning and enable the delivery of early goal-directed therapy, reducing mortality and optimizing allocation of resources. The machine learning classifier is to be distributed to any interested health care institution to augment their ability to successfully treat patients. This project also provides new fundamental scientific knowledge: how COVID-19-related cardiac injury could result in cardiac dysfunction and sudden cardiac death. Such knowledge is of paramount importance in the fight against COVID-19 and in addressing post-disease adverse effects on human health.

STEM EDUCATION

STEM WORKFORCE DEVELOPMENT | Keeping computers and information systems secure is a major challenge. Business, industry and government need well-prepared technicians who can prevent, detect and investigate cybersecurity breaches, and the growth of cybersecurity threats has created a need for many more workers who have appropriate, specific knowledge and skills. Prince George’s Community College hosts the National CyberWatch Center, an NSF Advanced Technological Education center, which has achieved major national impact in cybersecurity education by establishing and validating education and training standards and building new cybersecurity curricula tied to job roles and industry certifications.

RESEARCH DRIVING WORKFORCE INNOVATION

FUTURE OF WORK | With NSF funding, researchers at the University of Maryland, College Park are working to enable trapped ion quantum computers to communicate over the internet. Just as the internet has transformed virtually every aspect of our lives by enabling connectivity among a myriad of users in different geographical locations, a quantum internet could have a similar impact. A quantum internet would distribute quantum computing capabilities securely and broadly to a wide user base. Those capabilities could enable advances in various applications, from cybersecurity to data analytics to medicine. This program seeks to merge quantum computers over a quantum internet while leveraging the current internet infrastructure. Researchers are focused on developing long-range interconnects between remote quantum computing sites. The program will include the formation of the Mid-Atlantic Regional Quantum Internet network, and outreach efforts are planned to educate the public and industry on the current state and future potential of quantum technology.

INFRASTRUCTURE

- The National Ecological Observatory Network (NEON) Maryland is home to the Smithsonian Environmental Research Center NEON site. NEON comprises terrestrial, aquatic, atmospheric and remote-sensing measurement infrastructure and cyberinfrastructure that deliver standardized, calibrated data to the scientific community through a single, openly accessible data portal. NEON infrastructure is geographically distributed through 81 sites across the United States, including Alaska, Hawaii and Puerto Rico, and will generate data for ecological research over a 30-year period.

NCSES

- According to the National Center for Science and Engineering Statistics (NCSES), which is housed in NSF, Maryland ranks 11th in Federal R&D obligations. Visit Maryland’s science and engineering state profile to learn more!

7.80% of Maryland’s workforce are employed in S&E occupations.

12.65% of Maryland’s industries offer high-level science, engineering and technology occupations.

LEARN MORE

- NSF70 – In 2020, NSF commemorated its 70th anniversary and the 75th anniversary of the publication of Science - the Endless Frontier. Watch the highlight video for NSF’s seven decades of funding the best and brightest ideas that have transformed our lives and established the U.S. as a science and technology leader.
- 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.