U.S. National Science Foundation

NSF 75 YEARS OF INNOVATION

2025 marks the 75th anniversary of NSF. Throughout the year, the agency will host in-person and virtual activities to commemorate this significant milestone. For more information, visit: nsf.gov/75years

VIRGINIA

FAST FACTS

$346,212,000
Total NSF Awards to Virginia

$302,968,000
Invested in Fundamental Research in Virginia

$43,244,000
Invested in STEM Education in Virginia

$10,343,000
Invested in Virginia Businesses

TOP NSF-FUNDED ACADEMIC INSTITUTIONS

Virginia Polytechnic Institute and State University
$60,848,000

University of Virginia
$34,150,000

George Mason University
$30,837,000

NSF BY THE NUMBERS

The U.S. National Science Foundation (NSF) is an independent federal agency created by Congress in 1950 to promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense. To fulfill this vital role, NSF supports basic research and researchers who create knowledge that transforms the future.

DID YOU KNOW? NSF has funded the work of **268** Nobel Prize winners over 75 years.

$9.06B
FY 2024
Total Enacted

92%
Funds research, education and related activities

11K
Awards

1.9K
Institutions

358K
People

"Data represents FY 2024 Actuals unless otherwise indicated"

www.nsf.gov

INNOVATION | *Generating new knowledge that provides a greater understanding of the world around us*

The Center for Community Empowering Pandemic Prediction and Prevention from Atoms to Societies (COMPASS) center is a partnership among the **Virginia Polytechnic Institute and State University**, Cornell University, Meharry Medical College, the University of Michigan, and the Wake Forest University School of Medicine that seeks to address the challenges and gaps in our understanding of how pathogens may cause pandemics. Funded through the NSF Predictive Intelligence for Pandemic Prevention Phase II Centers program, COMPASS creates foundation machine learning models that address how a pathogen may lower host barriers to infect a cell, how it persists in the environment, and how drugs that have already been approved may be utilized to treat infections. In parallel, COMPASS scientists generate novel organoid systems to serve as robust platforms to study pathogen life cycles and to test therapies. The outcomes of COMPASS foundational research will inform a diverse set of use-inspired research projects across industry, federal agencies, and international organizations, resulting in a robust public-private ecosystem which can provide solutions to diverse problems in pandemic science.

EXPANDING FRONTIERS | *Generating institutional capacity, new technologies and societal impact*

Science-based, data-driven approaches for cropping decision-making, based on timely, accurate information on current and predicted future crop conditions, are key to maintaining the competitiveness of American agriculture. However, it remains a challenge for stakeholders to adopt the data-driven approach because they do not have full and effective access to timely and accurate information and lack facilities to process the information. An NSF Convergence Accelerator project at the **University of Virginia** is meeting this challenge by offering data-driven optimal cropping decision-making services nationwide up to field scales through developing and operating the CropSmart digital twin. The services, accessible to users through both web portals and smartphone apps, will not only accurately represent the current crop and environment conditions but also predict, with acceptable confidence levels, future conditions with hypothetical "what if" scenarios, resulting in actionable predictions. With a planned sustained community of at least 6,000 users, the project will bring a hundred-million-dollar economic annual return and enhance U.S. food and nutrition security.

EDUCATION AND WORKFORCE | *Supporting our STEM talent of today and tomorrow*

The NSF Trojan Center for Emerging Engineering Research at **Virginia State University (VSU)**, established through an NSF Historically Black Colleges and Universities – Undergraduate Program Implementation project, is addressing the competency gaps which exist between the skills of engineering and computer science (ENG-CS) graduates and the expectations of their employers. Through the project, the researchers are developing new courses in the industrial "internet of things" and quantum computing, engaging and mentoring students in undergraduate research, providing students with career coaching and internship opportunities with industry partners, and exposing them to research and study abroad experiences. In doing so, the project hopes to enhance the graduation rate of VSU ENG-CS students and increase their competency and technical competitiveness on the job market.

ON THE CUTTING EDGE

NSF is pushing the boundaries of what is possible in today's most important technology areas, including artificial intelligence, quantum information science, and biotechnology. The Foundation also maintains industry-leading, state-of-the-art facilities around the world.

NCSES

The National Center for Science and Engineering Statistics (NCSES) within the U.S. National Science Foundation is the nation's leading provider of statistical data on the U.S. science and engineering enterprise. As a principal federal statistical agency, NCSES conducts nationally representative surveys and publishes objective data and reports on topics related to research and development, the science and engineering workforce, and STEM education. For example, in FY 2024, **Virginia** invested **$14,789,000,000** on research and development.

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

LEARN MORE

- **BROUGHT TO YOU BY NSF** – NSF has invested in discoveries, inventions, and innovations that have shaped the modern world, including the internet, 3D printing, American Sign Language, Magnetic Resonance Imaging (MRI), deep sea exploration, Doppler radar and more. For more information on NSF impacts, please visit: nsf.gov/impacts.

- **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 NSF's Research Security website.

- **FOSTERING INNOVATION** – Every year, NSF funds around 400 companies across nearly all technology areas to create prototypes and commercialize technologies. Learn more at seedfund.nsf.gov.