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

KENTUCKY

FAST FACTS

$48,010,000
Total NSF Awards to Kentucky

$42,699,000
Invested in Fundamental Research in Kentucky

$5,312,000
Invested in STEM Education in Kentucky

$6,645,000
Invested in Kentucky Businesses

TOP NSF-FUNDED ACADEMIC INSTITUTIONS

University of Kentucky
$26,495,000

University of Louisville
$7,809,000

Kentucky State University
$3,886,000

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

A rapidly growing sector of agriculture technology (AgTech) is soilless plant production, which can be implemented in areas with poor soil quality or adverse climate conditions and in areas lacking access to fresh food. The Driving AgTech Research and Education in Kentucky (DARE KY) project is increasing Kentucky's capacity to support soilless AgTech development. An NSF EPSCoR Research Incubators for STEM Excellence Research Infrastructure Improvement (NSF E-RISE RII) project, DARE KY is investigating the science of plant culture using nutrient waste from aquaculture (which uses fish waste as fertilizer), and assessing the food safety and sustainability of these systems. The project is also developing strategies aimed at mitigating the high cost of treating agricultural nutrient waste, reducing operating costs and easing the environmental impacts of soilless agriculture. The project is led by **Kentucky State University** and is working to create a statewide network of institutions which includes **Bluegrass Community and Technical College**, the **University of Pikeville**, other Kentucky universities and colleges, nonprofits and industry partners.

EXPANDING FRONTIERS

Generating institutional capacity, new technologies and societal impact

To combat threats to eastern Kentucky's Appalachian region posed by climate change-related hazards, the Climate Resilience through Multidisciplinary Big Data Learning, Prediction & Building Response Systems (CLIMBS) project, funded through the NSF EPSCoR Research Infrastructure Improvement program, is producing a holistic understanding of climate change processes, determining the influence of climate change on geohazards and establishing an enhanced "tools and technology" for climate change mitigation and community disaster response. This research is also helping to support Kentucky's key industries of manufacturing, data analytics, energy transition and engineering, helping to train the state's science and engineering workforce and helping smaller industries to flourish. CLIMBS is administered by the **University of Kentucky** in collaboration with seven other institutions: the **University of Louisville, Eastern Kentucky University, Northern Kentucky University, Western Kentucky University, Morehead State University, Murray State University** and **Thomas More University**.

EDUCATION AND WORKFORCE

Supporting our STEM talent of today and tomorrow

Artificial intelligence, advanced robotics, automation, analytics and the Internet of Things are emerging to transform the manufacturing industry, creating new jobs and new skill sets for workers to learn. Over the next decade, quality instructors will be needed to help fill technical or hands-on applied training and, in some cases, licensing and certification jobs. To address these challenges, the **Kentucky Community & Technical College System** is leveraging an NSF Advanced Technological Education award to promote a highly-skilled and globally competitive workforce for Kentucky and for the nation. The project is developing a professional development series on Industry 4.0 and related best practices for secondary and postsecondary instructors to expose them to the latest technologies used in today's advanced manufacturing sector. It will also provide ongoing guidance to incorporate the information from this series into curricula and classrooms.

COMPETITIVE RESEARCH

KENTUCKY is one of 28 U.S. states or territories under the NSF Established Program to Stimulate Competitive Research (EPSCoR) and recently received awards through NSF's new E-CORE program For more information, visit **KENTUCKY'S** EPSCoR state web page.

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, **Kentucky** invested **$2,321,000,000** 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.