



U.S. National  
Science Foundation



# PENNSYLVANIA

## FY 2023 Fast Facts



**\$320,284,000**

Total NSF Awards to Pennsylvania



**\$246,980,000**

Invested in Fundamental Research in Pennsylvania



**\$58,130,000**

Invested in STEM Education in Pennsylvania



**\$13,557,000**

Invested in Pennsylvania Businesses

## Top NSF-funded Academic Institutions for FY 2023

Pennsylvania State University  
**\$75,465,000**

University of Pennsylvania  
**\$62,849,000**

Carnegie Mellon University  
**\$50,678,000**

## NSF By The Numbers

The U. S. National Science Foundation (NSF) is an [\\$9.06 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.

**DID YOU KNOW?**

NSF has funded the work of **261** Nobel Prize winners over 75 years.



**\$9.06B**  
FY 2024  
Total Enacted

**93%**  
Funds research, education and related activities



**11K**  
Awards



**1.9K**  
Institutions



**353K**  
People

*\*Data represents FY 2023 Actuals unless otherwise indicated*



[www.nsf.gov](http://www.nsf.gov)

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## Expanding the Frontiers of Science

Decision-making in domains such as a public health crisis or disaster response has a significant societal and economic impact. These domains present critical challenges for decision-making as they require complex, potentially life-saving decisions to be made under dynamic, uncertain and resource-constrained scenarios, while accounting for factors that are key to acceptance of the decisions, such as stakeholders' biases and perception of risk, trust and equity. Artificial intelligence advancements and data availability can complement human limitations in navigating this complex decision space, however, current systems fail to account for the stakeholders' mental states and behavior. The NSF AI Institute for Societal Decision Making (AI-SDM) at **Carnegie Mellon University** is targeting this opportunity at the confluence of social decision sciences and AI by developing human-centric AI for decision-making and interdisciplinary training. By bringing together AI and social science researchers, AI-SDM will enable emergency managers, public health officials, first responders, community workers and the public to make quick, data-driven and resource-efficient decisions while also improving outcomes by accounting for human factors governing acceptance.



## STEM Education and Broadening Participation

A strong nanomanufacturing workforce will enable the U.S. to be competitive in the global economy and will support the U.S. leadership in microelectronics and semiconductor technologies. The NSF Advanced Technological Education program, a project led by the Center for Nanotechnology Education and Utilization at **Pennsylvania State University** is supporting members of the U.S. military and veterans to gain the knowledge, skills and abilities to move into the semiconductor and microelectronics workforce. Members of the collaboration include two-year and four-year institutions, microelectronics companies and the global SEMI trade association. The project builds upon a successful pilot that involved the U.S. Navy, Tidewater Community College and Norfolk State University; the pilot is being adapted and scaled to involve additional academic institutions and branches of the military.



## Regional Innovation Engines

NSF Regional Innovation Engines (NSF Engines) Development Awards help organizations create connections and develop their local innovation ecosystem within two years to prepare a strong proposal for becoming a future NSF Engine. In Pennsylvania, a Development Award led by the nonprofit biotechnology corporation **Vytal Plant Science Research** is focused on the development of a plant-based ecosystem to support the manufacture and deployment of innovative bio-based products for application in green building construction, packaging, foods, nutraceuticals, textiles, renewable energy and land remediation. Long-term goals include the realization of an estimated \$3.5 billion market opportunity for the Commonwealth of Pennsylvania and the creation of at least 14,000 jobs.

## NCSES

According to the [NSF National Center for Science and Engineering Statistics \(NCSES\)](#), which is housed in NSF, Pennsylvania ranks 5th in the nation for higher education R&D performance. Visit Pennsylvania's science and engineering state profile to learn more!

- 35.48%** of **Pennsylvania's** [higher education degrees are concentrated in S&E fields.](#)
- 4.90%** of **Pennsylvania's** [workforce is employed in S&E occupations.](#)
- 7.32%** of **Pennsylvania's** [total employment is attributable to knowledge - and technology - intensive industries.](#)

## 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 [congressionalteam@nsf.gov](mailto:congressionalteam@nsf.gov).