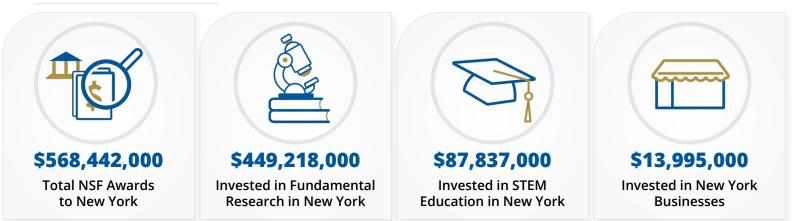


# NEW YORK

#### • FY 2023 Fast Facts



## • Top NSF-funded Academic Institutions for FY 2023

Cornell University \$118,212,000

Columbia University \$103,521,000

University of Rochester \$44,944,000

#### • NSF By The Numbers

The U. S. National Science Foundation (NSF) is an <u>\$9.06 billion</u> 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

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





2415 Eisenhower Avenue | Alexandria, VA 22314



# **Expanding the Frontiers of Science**

The **NSF AI Institute for ARtificial and Natural Intelligence (ARNI)** draws together top researchers across the country to focus on a national priority: connecting the major progress made in artificial intelligence systems to the revolution in our understanding of the brain. ARNI researchers work together to tackle the limitations and challenges of current learning systems, including learning with limited data, reasoning about causality and uncertainty and lifelong learning, which are all hallmarks of biological systems, and further investigate how brains compute and learn. Research at ARNI supports industrial applications, such as robust, interpretable medical decisions and smarter home assistants; societal applications, such as better social safety nets and assistive multimodal systems to help the vulnerable; and scientific applications, such as providing hypotheses about brain function and creating powerful tools for extracting insights from massive data. ARNI is a collaboration between Columbia University, City University of New York, Tuskegee University, Baylor College of Medicine, The University of Texas Health Science Center at Houston, Mila, Howard Hughes Medical Institute, the University of Pennsylvania, Harvard University and Princeton University. Industry partners include Google, DeepMind, IBM, Amazon and Meta.

# **STEM Education and Broadening Participation**

The expansion of data networks and centers, safer autonomous driving vehicles and more efficient food production cannot be sustainably met by electronic microchip technology alone. However, combining electrical devices with photonic integrated circuits (PICs) provides a more energy-efficient way to increase the speed and capacity of data networks, reduce costs and meet an increasingly diverse range of needs across various industries. To respond to these needs, the recently formed **Northeast Consortium for Advanced Integrated Silicon Technologies** (**NCAIST**), funded through the NSF Advanced Technological Education program, has the mission of educating the skilled technical workforce for advanced silicon manufacturing, with an emphasis on silicon-based PIC technologies. NCAIST is comprised of a network of 16 community colleges and technical colleges and four universities across New York, Massachusetts and Pennsylvania with a common goal of rapidly developing and disseminating technician education content in PIC technologies, including hands-on training for students and teachers from community and technical colleges in PIC fabrication and introducing career pathways and PIC-education content to regional high school teachers.



# **Regional Innovation Engines**

NSF Regional Innovation Engines (NSF Engines) represent one of the single largest broad investments in placebased research and development in the nation's history, uniquely placing science and technology leadership as the central driver for regional economic competitiveness. The **NSF Engine: Upstate New York Energy Storage Engine**, led by **Binghamton University**, aims to establish a tech-based, industry-driven hub for new battery componentry, safety testing and certification, pilot manufacturing, applications integration, workforce development and energy storage, including through material sourcing and recovery. Additionally, an NSF Engines Development Award led by **Cornell University** is focused on transitioning upstate New York to a sustainable climate-smart bioeconomy by supporting interdisciplinary, convergent, use-inspired research across three target areas: sustainable agri-food and forestry systems, climate-beneficial technology and nature-based innovation and bio-based industrial processes and products.

## NCSES

According to the <u>NSF National Center for Science and</u> <u>Engineering Statistics (NCSES)</u>, which is housed in NSF, New York ranks 2nd in the nation for higher education R&D performance. Visit New York's science and engineering state profile to learn more!

- **35.89**% of **New York's** higher education degrees are concentrated in S&E fields.
  - **4.55**<sup>w</sup> of New York's <u>workforce is employed in S&E</u> <u>occupations.</u>
  - of New York'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 <u>congressionalteam@nsf.gov</u>.