

MARYLAND

FY 2023 Fast Facts



• Top NSF-funded Academic Institutions for FY 2023

University of Maryland, College Park \$60,410,000

Johns Hopkins University \$49,099,000 University of Maryland, Baltimore County \$16,262,000

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



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Expanding the Frontiers of Science

The NSF National Artificial Intelligence Research Institutes (AI Institutes) advance foundational AI research that promotes ethical and trustworthy AI systems and technologies, develop novel approaches to cybersecurity, contribute to innovative solutions to climate change, expand our understanding of the brain and leverage AI capabilities to enhance education and public health. Current AI systems are not created transparently, making them a challenge to public trust. Trust is further undermined by the harm that AI systems can cause. It is therefore critical for AI innovation to include groups affected by these AI systems. The Trustworthy AI in Law and Society (TRAILS) Institute, led by the **University of Maryland, College Park** in partnership with **Morgan State University**, The George Washington University and Cornell University, encourages community participation in AI development of techniques, tools and scientific theories. Additionally, the institute seeks to ensure the values produced by AI systems reflect the community and interested parties' values; develop algorithms to promote transparency and trust in AI; assess the interpretability and explainability of AI systems; and document and analyze governance regimes for both data and technologies.

STEM Education and Broadening Participation

As the U.S. ramps up its domestic semiconductor manufacturing capacity, a strong, diverse, domestic microelectronics industry workforce is needed. Electrical and computer engineering programs in community colleges serve a diverse population and providing new training opportunities can significantly support underrepresented students in transferring to four-year degree programs, boosting their career potential. Therefore, through the NSF Experiential Learning for Emerging and Novel Technologies program, the **University of Maryland**, **College Park** is partnering with two regional community colleges — the **College of Southern Maryland** and **Montgomery College** — and regional industrial technology partners to expand the pool of research- and industry-ready students by creating a new, project-based, experiential learning program for second-year community college students in microelectronics. The Democratizing Research and Experiential Education for Microelectronics team will carry out an eight-month experiential learning project for second-year community college students in electrical engineering. The student experience includes a focused three-week practical workshop on targeted design skills; a semester-long, hands-on research project with the University of Maryland, College Park faculty to develop laboratory skills; and a summer internship with industrial partners.



Regional Innovation Engines

U.S. National Science Foundation 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. The program seeks regional teams rooted within industry, academia, government, nonprofits, civil society and communities of practice to catalyze and foster innovation ecosystems across the U.S. to advance critical technologies, address national and societal challenges, promote economic growth and job creation, spur sustainable regional innovation and nurture diverse talent.

To stay in the loop about future funding calls and opportunities to engage, sign up for the NSF Engines newsletter.

NCSES

According to the <u>NSF National Center for Science and</u> <u>Engineering Statistics (NCSES)</u>, which is housed in NSF, Maryland ranks 1st in the nation for federal R&D obligations. Visit Maryland's science and engineering state profile to learn more!

- **46.42**[%] of Maryland's <u>higher education degrees are</u> <u>concentrated in S&E fields.</u>
 - 8.31% of Maryland's workforce is employed in S&E occupations.
 - **7.49**[%] of Maryland'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>.