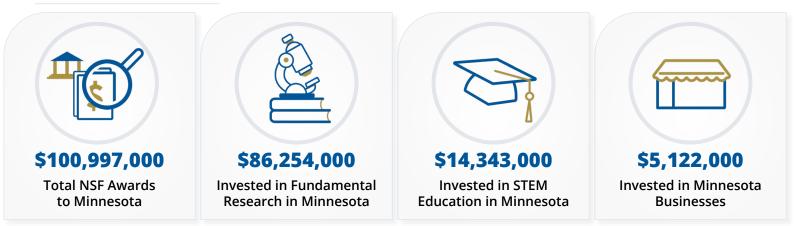


# MINNESOTA

#### • FY 2023 Fast Facts



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



## • 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.







## **Expanding the Frontiers of Science**

Extended reality (XR) technologies are being rapidly integrated into industry and society, yet their integration into technician education lags. These technologies, which include 360-degree photography and videography, augmented reality, mixed reality and virtual reality, have tremendous potential to enhance student learning and are poised to revolutionize the educational experience. Through the NSF Advanced Technological Education (ATE) program, **St. Cloud State University** is creating an innovative ecosystem supporting XR technology utilization in technician education, fostering new collaborations, developing community standards and enhancing technician workforce pathways to ensure industry competitiveness. The goals of the project are to (1) assess XR technology adoption and attitudes in ATE program domains and create implementation and dissemination resources for two-year colleges; (2) develop and implement XR technology faculty professional development for direct instruction; (3) develop an XR technology website and products repository for ATE projects and open educational resources using XR technology; and (4) grow and broaden XR implementation by connecting high schools, academia and industry.

## **STEM Education and Broadening Participation**

Through the NSF Build and Broaden program, the **University of Minnesota, Twin Cities** is advancing the scholarship of future developmental scientists through the Faculty Learning Community (FLC), which fosters connections between scholars in teaching-intensive, minority-serving institutions (MSIs) and mentors appointed at research-intensive institutions. Barriers to opportunities and resources can hinder the research productivity of scholars appointed at teaching-intensive institutions. Scholars impacted by such barriers often have compelling research questions, however, without the capital and mentoring to move their ideas to the next stage, their research questions remain unanswered or reflected in scientific literature. FLC is designed to provide a supportive scholarly community and mentoring experience to encourage early-career faculty or postdoctoral fellows at teaching-intensive MSIs to acquire the skills needed to develop successful grant proposals and cultivate their network of professionals. FLC catalyzes cutting-edge, developmental research using projects focused on underrepresented families at pivotal developmental transitions while considering the familial, financial and social factors impacting those developmental stages.



# **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, Minnesota ranks 12th in the nation for utility patents issued to state residents. Visit Minnesota's science and engineering state profile to learn more!

- **28.91**% of Minnesota's higher education degrees are concentrated in S&E fields.
  - **5.71**<sup>%</sup> of **Minnesota's** <u>workforce is employed in S&E</u> <u>occupations.</u>
  - **8.27**<sup>%</sup> of Minnesota'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>.