



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](https://www.nsf.gov/75years)

# SOUTH DAKOTA

## ● FAST FACTS



**\$24,199,000**

Total NSF Awards  
to South Dakota



**\$22,873,000**

Invested in Fundamental  
Research in South Dakota



**\$1,326,000**

Invested in STEM Education  
in South Dakota

## ● TOP NSF-FUNDED ACADEMIC INSTITUTIONS

South Dakota School of  
Mines and Technology  
**\$8,605,000**

South Dakota State  
University  
**\$7,701,000**

Black Hills State University  
**\$3,415,000**

## ● 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](https://www.nsf.gov)



## INNOVATION | *Generating new knowledge that provides a greater understanding of the world around us*

Computer chips are vital in every sector of the economy and every part of life. In recent years these chips have become increasingly complex, and novel applications like artificial intelligence necessitate that these components be shrunk significantly to facilitate either power savings or increased processing power. In response, the **South Dakota School of Mines and Technology** is leveraging an NSF Expanding Capacity in Quantum Information Science and Engineering program award to establish a Quantum Materials Institute in South Dakota. The Institute's interdisciplinary team explores the design, physical limits and mechanisms for achieving extraordinarily high optical nonlinearities in atomically thin materials. Such compact and efficient nonlinear optical materials are expected to find application in chip-scale integrated photonics and quantum networks. In addition to directly performing cutting-edge research, the Institute is establishing new curricula that will support the next generation of researchers and workforce in quantum information science through the establishment of coursework in quantum communications and quantum computing, a certificate in quantum communications, a minor in quantum information science and collaboration with quantum communications and quantum computing industry partners.

## EXPANDING FRONTIERS | *Generating institutional capacity, new technologies and societal impact*

Enabled by NSF funding, **South Dakota State University, Oglala Lakota College, the University of South Dakota, South Dakota School of Mines and Technology**, and the company **Houdek** are partnering to establish the BioNitrogen Economy Research Center, which builds state-wide research capacity focused on biological nitrogen fixation and its practical applications. Funded through the NSF EPSCoR Research Incubators for STEM Excellence program, the center is studying nitrogen-fixing cyanobacteria in natural ecosystems; exploring the mechanisms of solar-powered nitrogen fixation using machine-learning driven comparative multi-omics; working to bio-manufacture fuels and value-added products using nitrogen; and engineering nitrogen-fixing cyanobacteria as a step towards developing nitrogen-fixing crops. This translational research has the potential to make South Dakota a national leader in use-inspired, machine learning-driven research in biological nitrogen fixation, with significant economic impacts in the advanced energy and agricultural sectors.

## EDUCATION AND WORKFORCE | *Supporting our STEM talent of today and tomorrow*

The STEM research ecosystem in South Dakota relies critically on K-12 schools and teachers and their surrounding communities. The need for pathways for young learners to develop interest and confidence in STEM and to become motivated to work in STEM fields is recognized by South Dakota's Science and Technology Plan. As a result, **Black Hills State University** is leading an expansive coalition supported by the NSF EPSCoR Collaborations for Optimizing Research Ecosystems Research Infrastructure Improvement (NSF E-CORE RII) program to strengthen South Dakota's research ecosystem and cultivate a workforce pipeline by promoting STEM careers with K-12 students. The project is building a strong network of educators and researchers to strengthen the STEM education landscape across South Dakota, including within the most rural and remote regions and tribal communities. The project's goals include enhancing STEM researchers' ability to engage with different audiences, identifying and nurturing STEM leaders and enhancing the ability of K-12 teachers to deliver high-quality STEM instruction.

## COMPETITIVE RESEARCH

**SOUTH DAKOTA** 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 and E-RISE programs. For more information, visit **SOUTH DAKOTA'S EPSCoR state web page**.

### NCSSES

The **National Center for Science and Engineering Statistics (NCSSES)** 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, NCSSES 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, **South Dakota** invested **\$345,000,000** 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](mailto: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](https://www.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](https://www.nsf.gov/research-security).
- **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](https://www.seedfund.nsf.gov).