VERMONT

FY 2023 Fast Facts

$15,208,000
Total NSF Awards
to Vermont

$14,319,000
Invested in Fundamental
Research in Vermont

$889,000
Invested in STEM
Education in Vermont

Top NSF-funded Academic Institutions for FY 2023

University of Vermont and State Agricultural College $13,736,000	Middlebury College $892,000	Champlain College $400,000

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

Expanding the Frontiers of Science

Despite years of recycling efforts, only about 10 percent of polymer waste ends up in recycling facilities, with the majority still accumulating in landfills or oceans, emphasizing the need for eco-friendly materials combining renewable sourcing, sustainable processing and biodegradability. Thermoformable biopolymer assemblies, or bioplastics, are eco-friendly materials that can be sourced from biological cells or tissue (biomatter) without expensive and wasteful extraction and pre-processing. The NSF Designing Materials to Revolutionize and Engineer our Future program is supporting research at the **University of Vermont and State Agricultural College** that combines high-throughput data capture, multiscale modeling and machine learning to understand the molecular and chemical mechanisms controlling the production of bioplastics. With that understanding, design pathways can be developed to tailor the processing and composition of the initial structure of the bioplastic, allowing control over its macroscopic properties and the degradation that occurs during and after its use. The broad impact of this work will be a new class of entirely biodegradable plastics with performance comparable to commodity plastics but manufactured sustainably.

STEM Education and Broadening Participation

A collaborative project between **Champlain College**, Christopher Newport University and Western Oregon University, funded by an NSF Enabling Partnerships to Increase Innovation Capacity award, is focused on developing and maintaining external partnerships to drive workforce development and research projects between faculty, students, industry and institutions of higher education. The capacity-building efforts of these institutions are increasing the number of undergraduate students who engage in hands-on learning and career preparation opportunities (such as internships and industry research) as part of the college experience in emerging technology industries, including data science, artificial intelligence and biotechnology. The cohort institutions collectively identify best practices from other successful model institutions, share learned expertise and create and expand upon a centralized organizational structure at each institution. Additionally, they organize and pilot industry partnerships to find sustainable partnership models and share these models with other primarily undergraduate institutions, with the intent of increased involvement in local technology ecosystems.

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. 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. which will 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.

EPSCoR

COMPETITIVE RESEARCH | Vermont is one of 28 U.S. states or territories under the NSF Established Program to Stimulate Competitive Research (EPSCoR). **$6,040,350** in awards have been made to Vermont academic institutions through EPSCoR in FY 2023. For more information, visit Vermont's EPSCoR state web page.

NCSES

According to the NSF National Center for Science and Engineering Statistics (NCSES), which is housed in NSF, 40% of science, engineering and health doctorates conferred in Vermont are made in life sciences. Visit Vermont's science and engineering state profile to learn more!

43.54% of **Vermont's** higher education degrees are concentrated in S&E fields.

4.46% of **Vermont's** workforce is employed in S&E occupations.

6.72% of **Vermont'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.