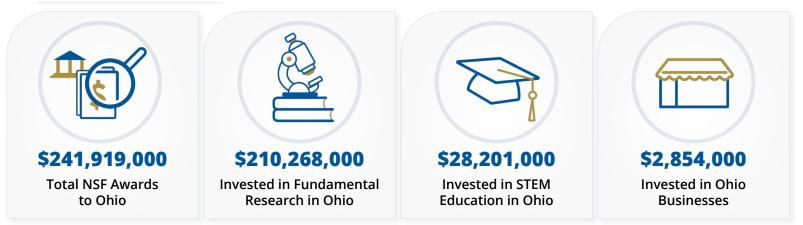


#### FY 2023 Fast Facts



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

The Ohio State University \$83,298,000

University of Cincinnati \$16,351,000 Case Western Reserve University \$12,660,000

### • 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.





# **Expanding the Frontiers of Science**

Soft architected materials self-assembled from nanoscale building blocks could have far-reaching applications in sensing, soft robotics, energy, information storage and medicine. Materials constructed from biological building blocks are attractive because they can integrate the advantages of biomolecular systems, such as adaptability in response to external stimuli, the capacity to dynamically interact with other materials and the ability to self-heal after chemical or mechanical degradation. DNA self-assembly provides a promising approach for creating such nano-architected materials due to its ability to produce precise nanostructures of unprecedented geometric complexity, tunable mechanical properties and dynamic reconfiguration. An NSF Designing Materials to Revolutionize and Engineer our Future award to **The Ohio State University** supports fundamental research focused on developing self-assembled materials constructed from DNA with adaptable structures and unique mechanical properties, signal processing capabilities and the ability to form a variety of materials from a single reconfigurable building block. In addition, the award provides unique training for graduate and undergraduate students in DNA nanotechnology, biochemistry, molecular simulations, machine learning and multiscale modeling.

## **STEM Education and Broadening Participation**

Over the next 10 years, technology occupations are expected to grow at twice the rate of overall employment. To meet the demand for skilled information technology workers, an experienced consortium of community college leaders in information technology is collaborating with industry partners to create the National Information Technology Innovation Center (NITIC). Funded through the NSF Advanced Technological Education program and led by **Columbus State Community College**, the NITIC develops high-quality educational materials, curricula, pedagogy and teaching resources while consolidating access to existing materials across broad areas of information technology. The center will produce, implement, assess the impact and broadly share the following: (1) an innovation clearinghouse to encourage new emerging IT curriculum and materials; (2) an IT innovation network to promote sharing and problem-solving; (3) a faculty professional development model to address continuing learning needs as technologies emerge; and (4) dedicated models for increasing diversity and underserved population representation in IT.



## **Regional Innovation Engines**

NSF Regional Innovation Engines (NSF Engines) represent one of the single largest broad investments in place-based 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: Great Lakes Water Innovation Engine**, led by the nonprofit Current Innovation NFP, aims to discover, develop and deploy innovative key technologies that attract water-intensive manufacturers to the region, recover valuable energy and mineral resources from wastewater streams and foster workforce opportunities, all while maintaining environmental health. Additionally, an NSF Engines Development Award led by **Case Western Reserve University** is focused on the research-driven discovery, development, translation and commercialization of sustainable manufacturing technologies in energy science, electrochemistry, green steel and chip production, carbon capture, storage/sequestration and utilization, as well as alternatives to petroleum-based plastics, packaging and biodegradable byproducts.

### NCSES

According to the <u>NSF National Center for Science and</u> <u>Engineering Statistics (NCSES)</u>, which is housed in NSF, Ohio ranks 8th in the nation for federal R&D obligations. Visit Ohio's science and engineering state profile to learn more!

- **31.30%** of Ohio's higher education degrees are concentrated in S&E fields.
  - **4.83**<sup>w</sup> of **Ohio's** workforce is employed in S&E occupations.
  - **9.21**<sup>%</sup> of **Ohio'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>.