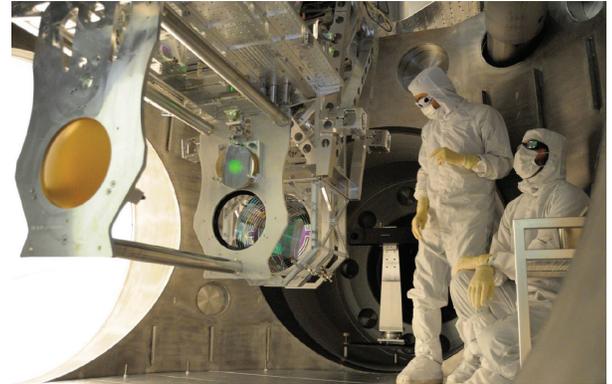




NSF & LOUISIANA

In fiscal year (FY) 2019, the **National Science Foundation (NSF)** made **\$39,207,000** in awards to Louisiana in support of fundamental research, STEM education, entrepreneurial training, student support, small business development, and more.



Two technicians install Advanced LIGO Upgrades, August 14, 2017.

Image Credit: Caltech/MIT/LIGO Lab

DID YOU KNOW?

DISCOVERY | Louisiana Tech University is a Center of Academic Excellence in Cyber Defense Education (CAE-CDE) and Research (CAE-R) and is currently the only university in the state to hold both education and research designations. With a \$3,531,000 NSF award, Louisiana Tech is proposing a CyberCorps®: Scholarship for Service (SFS) program (SFS@LaTech) to prepare highly qualified cybersecurity professionals for entry into the government workforce. The program proposes to support 36 SFS@LaTech scholars to complete either a Bachelor of Science degree in cyber engineering or computer science with cybersecurity concentration, or obtain a Master of Science degree in computer science with an additional focus on information assurance. To date, \$2,409,161 has been funded.

STEM WORKFORCE DEVELOPMENT | Louisiana Delta Community College has received a \$599,973 award under NSF's Advanced Technological Education (ATE) program. With an emphasis on two-year institutions of higher education, the ATE program focuses on the education of technicians for the high-technology fields that drive the nation's economy. Louisiana Delta Community College, in collaboration with Louisiana Technology University, proposes an engineering technology career pathway for high school and post-secondary students. This project aims to prepare students for instrumentation technician careers in manufacturing and other highly automated industries.

SUPPORTING STUDENTS | NSF made \$598,000 in awards in FY 2019 in support of graduate students through NSF's flagship Graduate Research Fellowship Program, which supports students pursuing master's and doctoral degrees in STEM disciplines.

SCIENCE AND ENGINEERING INDICATORS | 2.42% of the Louisiana workforce is employed in STEM occupations, and 8.18% of Louisiana's business establishments are industries with high employment in science, engineering and technology occupations.⁺

COMPETITIVE RESEARCH | NSF made \$8,020,000 in awards to Louisiana academic institutions through NSF's Established Program to Stimulate Competitive Research (EPSCoR), which promotes scientific progress in states that have traditionally received lesser amounts of NSF research and development funding.

FACILITIES | NSF's Laser Interferometer Gravitational-Wave Observatory (LIGO) is the most sensitive gravitational-wave detector ever built, with two main facilities located in **Livingston, Louisiana**, and Hanford, Washington. Each facility has an L-shaped vacuum chamber with two, 4-kilometer-long arms joined at right angles and houses an optical interferometer. A passing gravitational wave causes one arm to lengthen and the other to shrink. Einstein's theory of relativity predicts cataclysmic process involving extremely dense objects in the universe (i.e., the collision of black holes will produce gravitational radiation). LIGO directly observed gravitational radiation from a black hole merger in September 2015. The Advanced LIGO upgrade is expected to increase its sensitivity tenfold. In addition to the lab, Livingston has built the LIGO Science Education Center (LIGO-SEC), which houses around 50 interactive hands-on science exhibits, as well as a fully equipped classroom and an auditorium.

⁺ National Science Board, National Science Foundation. 2020. *Science and Engineering Indicators 2020: The State of U.S. Science and Engineering*. NSB-2020-1. Alexandria, VA. Available at <https://ncses.nsf.gov/pubs/nsb20201/>.

FAST FACTS

\$39,207,000

Total NSF awards to Louisiana in FY19

\$32,424,000

Amount invested in fundamental research in Louisiana in FY19

\$6,783,000

Amount invested in STEM education in Louisiana in FY19

\$670,000

Amount invested in Louisianan startups through NSF's small business program in FY19

\$8,020,000

Amount dedicated to stimulate competitive research in Louisiana through NSF EPSCoR

TOP 3 NSF-FUNDED ACADEMIC INSTITUTIONS FOR FY19

\$16,165,000

Louisiana State University & Agricultural and Mechanical College

\$5,624,000

Tulane University

\$4,479,000

University of Louisiana at Lafayette

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