NSF & SOUTH DAKOTA

In Fiscal Year (FY) 2019, the National Science Foundation made $20,290,000 in awards to South Dakota in support of fundamental research, advanced technical education, entrepreneurial training, STEM teacher training, long-term ecological monitoring, small business development, major research instrumentation and more.

DID YOU KNOW?

DISCOVERY | At South Dakota State University, NSF has funded the South Dakota Biochemical Spatiotemporal Network Resource (BioSNTR) project, which is developing ways to increase agricultural productivity through scientific advances in bioscience and informatics. BioSNTR will use imaging and molecular biology to map the biochemical architecture of plant and animal cells. Technologies to improve crop yields will be developed by applying new knowledge about the ways that molecular circuits signal plant cells to grow and function. The project involves all colleges and universities in South Dakota and is broadening the participation of women, Native Americans and persons with disabilities in STEM.

STEM WORKFORCE DEVELOPMENT | NSF’s CyberCorps® Scholarship for Service (SFS) program is a scholarship program designed to recruit and train the next generation of information technology professionals, industry control system security professionals, and security managers to meet the needs of the cybersecurity mission for federal, state, local and tribal governments. All scholarship recipients must work after graduation for a federal, state, local or tribal government organization in a position related to cybersecurity for a period equal to the length of the scholarship. Dakota State University, one of only 13 Centers of Academic Excellence in Cyber Operations nationwide, prepares students through hands-on technical exercises in offensive security practices in hardware, operating systems, networks, databases and software.

SUPPORTING STUDENTS | With NSF support, Black Hills State University hosts a 10-week Research Experiences for Undergraduates program centered on underground science at the Sanford Underground Research Facility. This program will recruit six to eight undergraduate students each year to participate in exciting underground research projects, as well as professional development and social and outreach activities. Underground science offers possibilities for research across a variety of disciplines including physics, chemistry and biology. Right now, some of the most important physics experiments of our time are currently in operation at the Sanford Underground Research Facility, searching for dark matter and investigating properties of the neutrino.

STRENGTHENING STEM EDUCATION AND RESEARCH AT TRIBAL AND NATIVE-SERVING COLLEGES | A goal of NSF’s Tribal Colleges and Universities Program (TCUP) is to increase the STEM instructional and research capacities of specific institutions of higher education that serve the nation’s indigenous students. Sisseton Wahpeton Community College has developed a new online journal, Native Science Report, that focuses on STEM education within tribal and native-serving colleges and universities. The publication will address the need for greater national awareness of STEM education programs within tribal colleges and, in addition, will promote greater communication between tribal college STEM faculty nationwide.

SCIENCE & ENGINEERING (S&E) INDICATORS | 3.50% of the South Dakota workforce is employed in S&E occupations and 5.98% of South Dakota business establishments are industries with high employment in science, engineering and technology occupations.