NSF & KENTUCKY

In Fiscal Year (FY) 2018, the National Science Foundation made $32,887,000 in awards to Kentucky 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 | Kentucky is home to the National Nanotechnology Coordinated Infrastructure (NNCI) Kentucky Multi-scale Manufacturing and Nano Integration Node (MMMNIN). The node is a collaboration between the University of Louisville and the University of Kentucky focused on integrating manufacturing technology over widely different length scales. With nanotechnology now integral to scientific discovery and engineering, there is a pressing need for infrastructure that supports the rapid and effective prototyping of nanoscale devices in macro-scale systems. The goal of the MMNIN is to combine micro/nano fabrication processes with the latest in 3D additive manufacturing technology to allow researchers to explore nanotechnology solutions to real-life problems in health care, energy, the environment, communication and security.

STEM WORKFORCE DEVELOPMENT | The Major Research Instrumentation (MRI) program catalyzes new knowledge and discoveries by empowering the nation’s scientists and engineers with state-of-the-art research instrumentation. The University of Kentucky Research Foundation received a $2.2 million award from NSF to create a Big Data cloud infrastructure, the Kentucky Research Informatics Cloud (KyRIC), to accelerate data-driven discovery and computational research education across multiple disciplines. KyRIC will provide intuitive access, rapid infrastructure customizations and higher bandwidth and lower latency between the desktop and resources like XSEDE to facilitate improved algorithm design, software development and interactive data analysis.

SUPPORTING STUDENTS | With an emphasis on two-year institutions of higher education, the Advanced Technological Education program focuses on the education of technicians for the high-technology fields that drive the nation’s economy. The University of Kentucky Madisonville Community College and the Hopkins County Career Technology Center are collaboratively delivering a manufacturing certificate program that prepares students for the Manufacturing Skill Standards Council’s Certified Production Technician exam and employment as process technicians. The project’s broader impact involves the dissemination of improved marketing techniques that are increasing the number of students enrolling in postsecondary STEM-based manufacturing programs, entering the STEM workforce, and pursuing further STEM education.

SCIENCE & ENGINEERING INDICATORS | 3.05 percent of the Kentucky workforce is employed in S&E occupations, and 6.86 percent of Kentuckian business establishments are industries with high employment in science, engineering and technology (SET) occupations.+

COMPETITIVE RESEARCH | NSF made $29,947,000 in awards to Kentucky’s academic institutions.