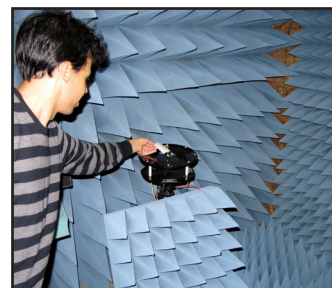


EPSCoR Funding In South Dakota

Science & Engineering

- SD EPSCoR researchers are creating new photo-active nanoscale systems that address research challenges in the fields of photovoltaics and solar energy, directwrite electronics, and the use of nanostructured materials for converting solar energy into chemical fuels.
- SD EPSCoR researchers have developed semiconductive oxide materials that cut back on pollutants more actively than commercial grade titanium dioxide materials. They have also successfully prepared highly active mesoporous materials for solar hydrogen production. Combined, these discoveries show considerable promise for improving the efficiency and reliability of solar energy technology.
- SD EPSCoR researchers advanced low-cost and flexible electronics technology by developing the first ever direct-write printed reconfigurable antenna. These antennas were the only reconfigurable electronics component that had not been highly miniaturized.



Energy

- SD EPSCoR researchers from the CUBED collaboration (Center for Ultra-Low Background Experiments at Deep Underground Science and Engineering Laboratory) are producing ultra-high purity germanium crystals that will be used to create some of the world's most sensitive detectors. These devices will be capable of measuring rare event physics processes such as neutrinoless double-beta decay and dark matter interaction with ordinary matter at levels exceeding the current detection capability with discovery potential in science.



Workforce Development

- In partnership with the SD Department of Economic Development, SD NSF EPSCoR has created the Dakota Seeds Internship Program to help bridge the technology transfer and workforce gap between university and industry. Graduate and undergraduate students work on a collaborative research project with their university mentor and private sector partner or intern directly with a private sector business. Ninety-six (96) companies have sponsored 260 internships, and one-third of the interns have been hired to full-time positions by the companies with which they interned.



Space

- EPSCoR researchers are developing advanced plasmonic nanomaterials as substrates for the detection of minerals, microbes, and biomarkers. This project directly supports the design of compact chemical and biochemical detectors for NASA's planetary exploration.

Commercialization & Economic Development

- An EPSCoR researcher recently received the Pat and Jo Cannon Intellectual Property Commercialization Award for the formation of a new company to commercialize a novel device to measure the efficiency of photovoltaic cells.



**Funds Awarded to South Dakota
from Federal Agency EPSCoR Programs**

<u>Award</u>	<u>FY06</u>	<u>FY07</u>	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>
National Science Foundation	\$3,026,558	\$3,629,637	\$3,565,364	\$6,802,143	\$6,826,470
EPSCoR	\$2,140,106	\$2,279,894	\$2,330,000	\$4,542,143	\$4,000,000
RII--Beyond the 2010 Initiative: Partnerships for Competitiveness				\$4,000,000	\$4,000,000
RII--The 2010 Initiative: Science-Based Leadership for South Dakota; James Rice	\$2,140,106	\$2,279,894	\$2,330,000	\$542,143	
Other EPSCoR					
C 2--Partnerships for Competitiveness: Cyber-enabling Primarily Undergraduate Institutions					\$1,176,470
EPSCoR Co-Funded Awards	\$886,452	\$1,349,743	\$1,235,364	\$2,260,000	\$1,650,000
National Institutes of Health	\$6,906,994	\$4,823,990	\$6,661,051	\$6,740,103	\$3,164,239
INBRE	\$3,236,301	\$2,998,635	\$2,869,605	\$3,240,835	
SD Biomedical Research Infrastructure Network (BRIN); Barbara Goodman	\$3,236,301	\$2,998,635	\$2,869,605	\$3,240,835	\$3,164,239
COBRE	\$3,670,693	\$1,825,355	\$3,791,446	\$3,499,268	
SANFORD--COBRE: Mechanisms of Cardiovascular Remodeling; Anthony M. Gerdes	\$1,770,500		\$1,951,668	\$2,266,215	
USD--COBRE: Neural Mechanisms of Adaptive Behavior; Joyce N. Keifer	\$1,900,193	\$1,825,355	\$1,839,778	\$1,233,053	
Department of Defense	\$557,247	\$0	\$681,371	\$575,055	No Program
DEPSCoR	\$557,247		\$681,371	\$575,055	
SDSM&T--Modeling and Experimental Studies of Spin Transport...; Andre Petukhov	\$557,247				
SDSM&T--Design, Synthesis and Investigations of New Copolycarbonates...; David A. Boyles			\$681,371		
USD--Fluorinated Materials for Air-stable and Moisture-resistant Flexible Optoelectronics; Haoran Sun				\$575,055	
Department of Energy	\$150,000	\$0	\$420,000	\$15,000	\$2,393,648
DOE Lab Partnerships	\$150,000		\$420,000	\$15,000	
SDSM&T--Laboratory/State Partnerships; Jon Kellar	\$150,000				
SDSM&T--Laboratory/State Partnerships; P. Ahrenkiel			\$420,000	\$15,000	\$15,000
DOE Implementation Awards					
USD--Crystal Growth & Detector Development at Homestake for DUSEL Experiments; Dongming Mei					\$2,378,648
NASA	\$289,000	\$1,612,843	\$250,000	\$1,550,000	\$1,000,000
EPSCoR	\$289,000	\$1,612,843	\$250,000	\$1,550,000	
SDSM&T--The Use of Remote Sensing for Monitoring...; Edward Duke	\$289,000				
SDSM&T--Continuous Nano-Scaled Carbon Fibers...; Edward Duke		\$750,000			
SDSM&T--Land Cover Dynamics, Regional...; Edward Duke		\$737,843			
SDSM&T--Development of an Advanced Photovoltaic Materials Research Center in SD; SDSMT & SDSU				\$750,000	
SDSM&T--Improved Thermal Management Systems using Advanced Materials and Fluids; SDSMT & SDSU				\$750,000	
SDSM&T--NASA EPSCoR Office; Edward Duke		\$125,000	\$250,000	\$50,000	\$250,000
SDSM&T--Enhanced Raman Detection of Minerals, Microbes, and Biomarkers...; Chaoyang Jiang					\$750,000
USDA	\$258,824	\$1,235,381	\$1,237,878	\$349,934	\$2,609,868
Strengthening Awards & Seed Grants	\$258,824	\$1,235,381	\$1,237,878	\$349,934	\$2,609,868
TOTAL	\$11,188,623	\$11,301,851	\$12,815,664	\$16,032,235	\$15,994,225