

Individual research benefits from state grants

PIERRE, S.D. – Twenty faculty members at South Dakota public universities will benefit from \$442,425 in grants that Gov. Mike Rounds and the state has awarded to support their individual research projects.

“This is the second year we have awarded ‘seed grants’ as part of a strategy to build competitive research at the public universities,” said Gov. Rounds. “This program is an important step within the 2010 Initiative to increase research expectations and new opportunities on all of our campuses.”

The governor’s awards support faculty researchers as they develop research programs to become more competitive for external grants and contracts. It is also an opportunity for faculty members to develop ideas with commercial potential, Gov. Rounds said.

Targeted research at the public universities and its commercialization potential are part of Gov. Rounds’ 2010 Initiative, which calls for the state to “become a recognized leader in research and technology development by 2010.” The idea is to increase the role of university research in South Dakota’s economic development by expanding academic research and exploiting new development opportunities arising from it.

The seed grants complement other strategies South Dakota is already pursuing to increase university-based research, such as the 2010 research centers and new doctoral programs in the sciences, engineering, and technology. It is important to increase research expectations and opportunities for existing faculty too, said Regents’ Executive Director Robert T. Tad Perry.

“Faculty need release time from teaching to pursue research work,” Perry said. “These grants will pay for 25 percent of a faculty member’s salary for one academic year, plus one summer month’s salary.” Funding is matched by the faculty member’s university, so the researcher earns 50 percent release time and two summer months of salary to do research, starting this fall. The award is intended to give the faculty member an opportunity to start a sustainable research program and to help build research capacity within their department.

2006 Governor Rounds’ Individual Research Seed Grant Program

This is a listing, sorted by university, of faculty members who received a seed grant, the university department they work in, and their research topic:

Black HillsStateUniversity

- David Siemens, Science/Biology – *“Gene discovery under drought and herbivory in plants: Functional genomics in close wild relatives of the model organism Arabidopsis thaliana”*

DakotaStateUniversity

- Xinwen Fu, Business and Information Systems – *“Effectively and Efficiently Tracking Malicious Use of Anonymous Communication”*

- Kevin Streff, Business and Information Systems – *“Information Assurance Awareness Measurement Research Project”*
- Justin L. Blessinger, English – *“Semi-Automatic Essay Grader and Rubric Tool”*

Northern State University

- Richard L. Peterson, Chemistry – *“Investigation into the Synthesis of Transition Metal Substituted Silicate Materials”*

South Dakota School of Mines & Technology

- Steve Smith, Nanoscience and Nanoengineering – *“Nanoscale Ultrafast Spectroscopy of Nano-and Energy-Materials”*
- Andrea E. Surovek, Civil and Environmental Engineering – *“Response of Composite Partially-Restrained Connections Subjected to Blast Loads”*
- Rajesh K. Sani, Chemical and Biological Engineering – *“Generation of Energy from Renewable Biofuels Using Microorganisms from Deep Subsurface of Homestake Mine, Lead, South Dakota”*
- Todd J. Menkhaus, Chemical and Biological Engineering – *“Development of Separation Processes for the Recovery of High-Value Products from Forestry and Plant Agriculture Feedstocks”*
- Thomas P. Montoya, Electrical and Computer Engineering – *“Loaded Antenna Development Using Direct-Write Processes with Photo-Active Nano-Inks”*

South Dakota State University

- Hesham Fahmy, Pharmaceutical Sciences – *“Development of potent skin cancer chemopreventive agents from marine sources”*
- Omathanu P. Perumal, Pharmaceutical Sciences – *“Dendritic Nanopolymers as Novel Vehicles for Transdermal Drug Delivery”*
- Gareth E. Davies, Pharmaceutical Sciences – *“Molecular Pathogenesis of HIV Associated Lipodystrophy”*
- Shanzhong Duan, Mechanical Engineering – *“Efficient Computer Simulation of Multibody Dynamic Systems”*
- Elizabeth A. Droke, Nutrition, Food Science, and Hospitality – *“The Protective Role of Soy Against Complications Associated with Obesity and Chronic Inflammation”*
- Daniel Cervantes Laurean, Chemistry and Biochemistry – *“High throughput screening assay for inhibitors of protein glycation”*
- Tagir Gilmanov, Biology and Microbiology – *“Developing new generation mathematical models for grassland ecosystems of South Dakota”*
- Li Qian, Engineering Technology and Management – *“Process modeling and optimization for high speed machining of hardened tool steels”*

University of South Dakota

- Kai Wang, Computer Science – *“Enhance the Performance of ACTS by Processor Virtualization”*
- Yunkai Liu, Computer Science – *“Haplotype Reconstruction and Decompositions in Diploid Species with the Perfect Phylogeny Model”*