3 Awards of $3 million or more
18 Awards of $1 million to $2,999,999
26 Awards of $200,000 to $999,999
64 American Recovery and Reinvestment Act Awards
70 Early Career Awards
73 Arts and Humanities Awards of $50,000 or more
78 Arts and Humanities Awards of $5,000 to $49,999
80 Startups
82 License Agreements
83 Option Agreements
84 Creative Activity
85 Books
93 Recognitions and Honors

On the Cover: These images reflect the diversity and global reach of research at the University of Nebraska–Lincoln. From discoveries in nanoscience, nutrigenomics and software engineering to innovative initiatives in math achievement, child welfare, water and climate change, UNL faculty are engaged in meeting the challenges of a changing world.
This eighth annual “Major Sponsored Programs and Faculty Awards for Research and Creative Activity” booklet highlights the successes of University of Nebraska–Lincoln faculty during 2009. It lists the funding sources, projects and investigators on major grants and sponsored program awards received during the year; published books and scholarship; fellowships and other recognitions; startups and intellectual property licenses; and performances and exhibitions in the fine and performing arts.

This impressive list grows each year and I am pleased to present evidence of our faculty’s accomplishments. Large grants in fields ranging from rural and math education to water and renewable energy to virology, redox biology and nanomaterials enable UNL faculty to address important challenges facing Nebraska, our nation and the world. Our external research funding reflects their achievements, reaching a new record total of $122 million in fiscal year 2009, marking a 13 percent increase over last year.

We are harnessing this momentum to advance new initiatives with an innovative perspective and research that responds to a changing world. We are reaching beyond our institutional, state and national borders to build partnerships that seek solutions to global challenges, provide our students with an interdisciplinary, international perspective, and enhance our state’s economy.

As you read the accomplishments in this booklet, I invite you to imagine how the innovative and collaborative research, scholarship and creative activity of our faculty is changing our world and meeting the complex global challenges that lie before us.

Thank you for your interest in and support for research and creative activity at the University of Nebraska–Lincoln!

Prem S. Paul
Vice Chancellor for Research and Economic Development
AWARDS OF $3 MILLION OR MORE
Active awards in 2009
* Indicates new in 2009

Allen, Craig  Natural Resources
* IGERT: Resilience and Adaptive Governance in Stressed Watersheds
$3,116,173  NSF
8/15/09 – 7/31/10
Fritz, Sherilyn  Geosciences
Samal, Ashok  Computer Science and Engineering
Tyre, Richard  Natural Resources
Tomkins, Alan  Public Policy Center

Wildlife ecologist Craig Allen, with a grant from the National Science Foundation’s Integrative Graduate Education and Research Traineeship Program, known as IGERT, will lead an innovative, interdisciplinary graduate education program to prepare future scientists, policymakers and natural resource managers to address increasingly complex global water issues. The five-year grant will fund an education project focused on resilience and adaptive governance in stressed watersheds. Doctoral students from many disciplines across the natural, computational and social sciences will study resilience and adaptive management strategies for stressed watersheds in the U.S. and Eastern Europe. The program will integrate scientific, socio-economic and legal aspects involved in studying and managing complex systems of people and nature.

Allen, David  Engineering
Blast Wave Absorbing Structures: An Experimental & Modeling Program
$7,500,000  DOD-Army Research Laboratory
6/25/04 – 6/24/09

David Allen, dean of the College of Engineering and professor of engineering mechanics, with funding from the Army Research Laboratory-Weapons and Materials Research Directorate, directs a collaborative effort focused on development of new materials and technologies relevant to blast mitigation and weapons detection. The program includes 24 UNL faculty from six different departments—civil engineering, structural engineering, chemical and biomolecular engineering, electrical engineering, engineering mechanics and mechanical engineering—working on 15 multidisciplinary projects. The projects have the common objective of providing new materials and technologies for blast mitigation, mine detection and pathogen detection.
Donald Becker, professor of biochemistry in the Institute of Agriculture and Natural Resources, is the director of the Redox Biology Center. Established in 2002 with a grant from the National Institutes of Health as a Center of Biomedical Research Excellence, the center received a competitive renewal grant in 2007 to support it through 2012. The center’s researchers investigate how cells maintain a reduction-oxidation balance, a process called redox homeostasis, and study links between redox homeostasis and diseases such as cancer, cardiovascular disease, Alzheimer’s disease and cataracts. The center’s research will provide important advances in the understanding of redox regulation, comprising aspects of cellular aging and controlled cell death.

Kenneth Cassman directs the Nebraska Center for Energy Sciences Research, a collaboration between UNL and the Nebraska Public Power District. The center was established in April 2006 to support energy research that produces new technologies, processes and systems that provide new or significantly enhanced renewable energy sources, improves the quality of life and boosts economic opportunity. The center fosters interdisciplinary collaboration among UNL faculty and with other research institutions, public-sector agencies and private sector companies with similar interests. The center supports both basic and applied research and has a broad mandate to explore a range of renewable energy opportunities (including biofuels, wind and solar energy), as well as opportunities for energy conservation.

Namas Chandra, associate dean in the College of Engineering, has received a grant from the Army Research Office to create the UNL Center for Trauma Mechanics. The center will focus on the effects of blast waves on the head and brain of a fully equipped soldier in the field. The project will study
wave propagation effects on the skull and brain especially under mild traumatic brain injury (TBI) pressure loading conditions. The work of the center will be instrumental in improving understanding of TBI and may lead to design of more effective protection systems that shield soldiers from the combined effects of both blast waves and impact.

**Cotton, Dan**

National eXtension Project

$11,070,000 National Association of State Universities and Land-Grant Colleges

10/1/04 – 12/31/11

**eXtension: The Transformation of Cooperative Extension**

$5,702,400 Department of Agriculture-CSREES

8/15/07 – 8/14/11

Dan Cotton directs the eXtension Initiative, an Internet-based Cooperative Extension Service education and information system. UNL is the lead institution in this multi-year project, which partners with the University of Kentucky, North Carolina State University and Virginia Tech University. This is a collaborative effort of the nation’s 107 land-grant universities and the U.S. Department of Agriculture’s Cooperative State Research, Education and Extension Service to develop content and technology for the eXtension project. eXtension is a virtual educational environment that provides science-based, objective information. Users may take advantage of learning opportunities and interact with the expertise available from the land-grant university system by visiting www.extension.org.

**DeKraai, Mark**

Public Policy Center

* Child Mental Health State Infrastructure Grant

$3,129,313 Nebraska Department of Health and Human Services

4/1/05 – 9/30/10

Gallagher, Kenneth

Special Education and Communication Disorders

The Nebraska Department of Health and Human Services is supporting a five-year project directed by Mark DeKraai of UNL’s Public Policy Center to build on major behavioral health system reform efforts to develop systems of care specifically for children (age birth to 5; youth; youth with co-occurring disorders; substance abuse; transition age youth). The project aims to individualize service models for children and youth, establish culturally and linguistically appropriate practices, and form a coalition for an integrated, family-centered system for children and families.
A five-year, $8.7 million grant from the U.S. Department of Health and Human Services Children’s Bureau has helped establish the Midwest Child Welfare Technical Assistance Implementation Center. The new center will provide long-term consultation and support to child service agencies and tribes in Nebraska, Iowa, Illinois, Indiana, Kansas, Michigan, Missouri, Minnesota, Ohio and Wisconsin. It will partner with state and tribal child welfare agencies to assess their inner workings and identify broad changes that could help them operate more efficiently and effectively to serve families and children; identify obstacles to helping families; build the capacity of state and tribal child welfare systems; and work toward significant changes to improve outcomes for children and families involved with these systems. The ultimate goal is to ensure all children have safe, stable and permanent homes. Co-leaders of the project are Mark Ells and Michelle Graef of the Center on Children, Families and the Law.

With support from the NIH National Institute of Mental Health, Kim Espy, professor of psychology and associate vice chancellor for research, will continue her research into executive control in children, which has been shown to be a precursor to childhood externalizing disorders (including ADHD). The objective of this project is to determine how executive control relates to later functional outcomes, the next step toward clinical application. Dr. Espy’s research will elucidate the fundamental mechanisms that go awry in childhood psychopathology and identify precursors for use in future work to tailor preventive interventions to those who stand to benefit most.
<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
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<td>$3,534,439</td>
<td>9/17/04 – 12/31/10</td>
<td>Department of Transportation-FRA</td>
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<td>Turner, Joseph</td>
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<td>Mechanical Engineering</td>
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<td>Nelson, Carl</td>
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<td>Mechanical Engineering</td>
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With more than $3 million in support from the Department of Transportation’s Federal Railroad Administration, associate professor of mechanical engineering Shane Farritor and colleagues are continuing to develop techniques to assess track stability and related high-speed wireless communication to improve the safety of railroad operations. This funding supports research in three different areas of railroad track safety: 1) real-time measurement of track modulus from a moving car, leading to preventative maintenance strategies that relate track modulus data to specific track problems; 2) study of the measurement of rail longitudinal stress, to help reduce rail failure; and 3) study of the use of electrical energy from passing trains to power an efficient warning light system at grade crossings that are not equipped with warning light systems due to the lack of electrical infrastructure, thus reducing accidents at these “passive” grade crossings.

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<td>Computer Science and Engineering</td>
<td>$6,407,473</td>
<td>9/1/05 – 8/31/10</td>
<td>Department of Agriculture-RMA-FCIC</td>
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<tr>
<td>Wilhite, Donald</td>
<td>Natural Resources</td>
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Stephen Goddard, associate professor of computer science and director of UNL’s Laboratory for Advanced Research Computing, is principal investigator in a $6.4 million joint effort by climatologists and computer scientists to bring cutting-edge computer science technologies to agricultural producers’ age-old decision-making processes. The three-year partnership agreements are between the U.S. Department of Agriculture’s Risk Management Agency, UNL’s Department of Computer Science and Engineering and the UNL-based National Drought Mitigation Center. A separate $1 million cooperative agreement, directed by Donald Wilhite, professor in the School of Natural Resources and director of the National Drought Mitigation Center, will support continued work on a tool that uses satellite technology and climate information to detect vegetation stress on the ground for a much more detailed view of drought’s scope and potential impact.
David Harwood, professor of geosciences, leads an international team of scientists drilling beneath the Antarctic ice pack to unearth geological strata that could hold ancient clues to contemporary global warming trends. The National Science Foundation has awarded $12.9 million to a consortium of five U.S. universities headed by UNL and Northern Illinois University. Dubbed ANDRILL (ANtarctic geological DRILLing), the project is administered by the ANDRILL Science Management Office headquartered at UNL. ANDRILL is backed by more than $30 million in funding, including $9.7 million in previous and ongoing national agreements to support operations and nearly $8 million from the other countries to support scientific research. Other members of the U.S. consortium making up the American portion of the ANDRILL program are Florida State University, The Ohio State University and the University of Massachusetts Amherst. The project also includes scientists from Germany, Italy and New Zealand.

The North Central Risk Management Education Center provides program leadership and coordination for risk management education in the North Central Region (Kansas, Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Nebraska, Ohio, North Dakota, South Dakota and Wisconsin). It is one of four risk management education centers in the United States. They were established in 2001 to provide risk management education for agricultural producers to help them develop knowledge, skills and tools needed to make informed risk management decisions for their operations.
Lewis, Jim Mathematics/Center for Science, Mathematics and Computer Education

$9,235,407
1/1/09 – 12/31/13

Heaton, Ruth Teaching, Learning and Teacher Education/ CSMCE

McGowan, Thomas Teaching, Learning and Teacher Education

Stroup, Walter Statistics

Edwards, Carolyn Psychology/Child, Youth and Family Studies

Papick, Ira Mathematics/CSMCE

Jacobson, Barbara Lincoln Public Schools

Jim Lewis, professor of mathematics; Ruth Heaton, associate professor of teaching, learning and teacher education; Tom McGowan, professor of teaching, learning and teacher education; Carolyn Edwards, professor of psychology; Ira Papick, professor of mathematics; and Barbara Jacobson, curriculum director for Lincoln Public Schools, are directing NebraskaMATH, a statewide program aimed at improving mathematics achievement for all students and narrowing the achievement gap for at-risk students in kindergarten through third grade. The program is supported by a $9.2 million grant from the National Science Foundation. NebraskaMATH is a partnership of UNL, public school districts in Omaha, Lincoln, Grand Island, and Papillion-La Vista and Nebraska’s Educational Service Units. It builds on the success of UNL’s Math in the Middle Institute, by initiating new programs that focus on enhancing teachers’ knowledge of mathematics and teaching methods.

Math in the Middle Institute Partnership

$5,900,000
8/1/04 – 7/31/11

Heaton, Ruth Teaching, Learning and Teacher Education/ CSMCE

McGowan, Thomas Teaching, Learning and Teacher Education

Jacobson, Barbara Lincoln Public Schools

Drs. Lewis, Heaton, McGowan and Jacobson are co-leaders of a $5.9 million project titled the Math in the Middle Institute Partnership. The goal is to create the next set of leaders in middle school mathematics who will mentor peers and offer challenging courses to their students. With support from the grant, 156 teachers from across Nebraska will take 12 challenging math and pedagogy courses and earn master’s degrees from UNL. Middle school is a gateway to high school success, and efforts to improve middle school learning, especially in mathematics, show benefits at later stages in students’ academic careers.
With the support of the Department of Defense’s Office of Naval Research, electrical engineering professor Yongfeng Lu is undertaking a project to investigate and delineate the underlying science behind multi-energy processing, an emerging surface coating technology that will make surface coatings stiffer, tougher and lighter for use in applications like thermal barriers, corrosion protection and interface tribology. Multi-energy processing can be used, for example, to deposit diamond and diamond-like carbon (DLC) coatings in open atmosphere. The multi-energy processing approach is a marked improvement over conventional coating techniques that require high vacuum and high temperature. Dr. Lu will apply his fundamental understanding of multi-energy processing to develop a new multi-laser-beam, low-temperature, open-atmosphere, contamination-free surface coating technique to deposit hard coating materials from gaseous and polymeric precursors on various substrates, resulting in optimized efficiency, improved quality, and minimum thermal stress.

Multi-Laser-Beam Open-Atmosphere Surface Coating Techniques Based on Precursor Excitation, Photodissociation and Controlled Cooling

$4,764,956 DOD-Office of Naval Research-MURI
3/15/05 – 7/31/10
Zeng, Xiao Cheng Chemistry

With support from the Department of Defense, Professor Lu is conducting a five-year study to investigate a new process to deposit a diamond or diamond-like coating on surfaces to create thermal barriers and increase corrosion protection. He is developing a coating technique that employs multiple laser beams to deposit the coating at room temperature in an open atmosphere – a significant improvement over conventional coating techniques that require low vacuum and high temperature. The resulting process will be more energy-efficient, improve the quality of materials on which the coating is deposited, and minimize thermal stress.

Meagher, Michael Chemical and Biomolecular Engineering
Process Research & Development of Antibodies as Countermeasures for C. Botulinum Neurotoxin

$10,627,000 DOD-Army Medical Research
3/1/02 – 2/28/09

Michael Meagher, Donald F. Othmer, professor of chemical and biomolecular engineering, is the director of the Biological Process Development Facility. The facility provides clients with process research and early manufacturing of new therapeutic molecules for human clinical testing. The
facility is also involved in the development of vaccines against biological warfare agents and products that can be used as therapeutic countermeasures to treat people who have been exposed to biological agents. Department of Defense funding has led to the building of new laboratories that give the Biological Process Development Facility new capabilities in mammalian cell culture process research and development.

**Paul, Prem**

**Research and Economic Development**

ADVANCE-Nebraska: An Institutional Approach to Hiring, Retaining, and Promoting Women STEM Faculty at the University of Nebraska–Lincoln

$3,801,443  NSF  
9/1/08 – 8/31/13

Holmes, Mary Anne  Geosciences
McQuillan, Julia  Sociology
Manderscheid, David  Arts and Sciences
Allen, David  Engineering
Fritz, Susan  IANR
Chandra, Namas  Engineering

Prem Paul, vice chancellor for research and economic development, with funding from the National Science Foundation, directs ADVANCE-Nebraska, a program intended to significantly increase the gender and racial diversity of the UNL faculty, especially in the science, technology, engineering and mathematics (STEM) fields. The ADVANCE office, led by program director Mary Anne Holmes, professor of practice of geosciences, will coordinate recruitment and retention-enhancing activities, disseminate information to the campus and the academic community at large, and serve as liaison for the many groups engaged in diversity-focused activities on campus. Other ADVANCE efforts include initiatives related to flexible work arrangements to accommodate work-life issues of faculty; development of a dual career partner program; training programs to minimize the influence of bias on decision-making processes; and informal networking through professional development workshops, luncheons and retreats. The five-year, $3.8 million grant is from NSF’s ADVANCE program, which aims to increase participation and advancement of women in academic science and engineering careers.

**Pope, Kevin**

**Natural Resources**

* Angler Behavior in Response to Management Actions on Nebraska Reservoirs

$3,147,776  Nebraska Game and Parks Commission  
1/1/09 – 12/31/13

Kevin Pope, assistant unit leader-Fisheries of the Nebraska Cooperative Fish and Wildlife Research Unit and associate professor in the School of Natural Resources, with support from the Nebraska Game and Parks Commission, will document the current participation levels of anglers in Nebraska’s lentic systems. In particular, participation levels of generic angling groups will be quantified among specific water bodies, and a model will be developed to describe generic angler participation.
(spatial and temporal) within a region. Such a model will help managers better determine appropriate lake-specific management objectives, given the dynamic nature of angler participation, and will be important for increased effectiveness of angler recruitment and retention activities throughout the Midwest.

Rilett, Laurence  
Civil Engineering/Nebraska Transportation Center  
Department of Transportation-Research and Innovative Technology Administration  
Region 7 University Transportation Center  
$6,225,000  
10/1/06 – 9/30/11

The U.S. Department of Transportation’s Research and Innovative Technology Administration has designated UNL’s Mid-America Transportation Center as a regional university transportation center. MATC is a consortium with UNL as the lead institution with regional partners Kansas State University, University of Kansas, University of Missouri-Rolla and Lincoln University of Missouri. The Nebraska Department of Roads and the Kansas and Missouri Departments of Transportation also are key partners. Laurence Rilett, Keith W. Klaasmeyer chair in engineering and technology in UNL’s civil engineering department, directs the center. Its focus is “improving safety and minimizing risk associated with increasing multi-modal freight movement on the U.S. surface transportation system.” MATC will focus on safety research related to rural transportation. Key safety research areas include traffic control, animal crashes, safer at-grade railway crossings and work zones, and the development of more effective and economical roadside crash barriers. The university transportation center program supports transportation research, education and technology transfer that promote scientific innovations in a variety of transportation modes and disciplines. Region 7 serves Iowa, Kansas, Missouri and Nebraska. It is one of 10 regional university transportation centers in the nation.

Sellmyer, David  
Physics and Astronomy/Nebraska Center for Materials and Nanoscience  
* Cooperative Agreement to Research and Develop High-Sensitivity Nanosensors for Defense Applications  
$4,260,001  
9/25/09 – 9/24/12  
DOD-Army Research Office

David Sellmyer, professor of physics and astronomy, and colleagues in the Nebraska Center for Materials and Nanoscience have received funding from the Department of Defense’s Army Research Office to develop high-sensitivity nanosensors for defense applications. The key to improving the sensitivity of the magnetic sensors is to understand and control sources of noise and to understand the fundamental limitations due to both noise and signal. This research will provide clear...
pathways for applications developers to improve signal and reduce noise and lead to development of new materials for improving future sensors. In particular, there is considerable room for improvement in ferromagnetic materials. The project has important applications in the areas of homeland security, health care, information technology and nanotechnology.

**Sheridan, Susan**  
*Nebraska Center for Research on Rural Education (R2Ed)*  
Education Psychological/Nebraska Center for Research on Children, Youth, Families and Schools  
Department of Education-IES  
$9,997,852  
7/1/09 – 6/30/14  
Glover, Todd  
Nebraska Center for Research on Children, Youth, Families and Schools  
Kunz, Gina  
Nebraska Center for Research on Children, Youth, Families and Schools  
Nugent, Gwen  
Nebraska Center for Research on Children, Youth, Families and Schools  
Bovaird, James  
*Nebraska Center for Research on Rural Education (R2Ed)*  
Educational Psychology/Nebraska Center for Research on Children, Youth, Families and Schools  
Steckelberg, Allen  
Teaching, Learning and Teacher Education  
Trainin, Guy  
Teaching, Learning and Teacher Education  

Susan Sheridan, Willa Cather Professor and professor of educational psychology, will head the new National Center for Research on Rural Education, the only one of its kind in the U.S., funded by a five-year grant from the U.S. Department Education’s Institute of Education Sciences. The center will conduct cutting-edge rural education research to improve student learning in reading, science and math. Researchers will identify how to best provide professional development for teachers to infuse state-of-the-art instructional strategies in their classrooms and enhance student learning. Research on rural education is limited and the center will provide the infrastructure, leadership and expertise to focus on unique rural needs.

**Parent Engagement and Learning Birth to Five**  
$5,077,441  
9/26/03 – 7/31/10  
Edwards, Carolyn  
Psychology/Child, Youth and Family Studies  

Professor Sheridan and co-investigator Carolyn Edwards, Willa Cather professor of psychology and child, youth and family studies, are leading a team of researchers from UNL and UNMC in a school-readiness project funded by three federal agencies. The team will launch and evaluate a comprehensive, community-based early education program for children aged 0-5. The goal is to increase children’s readiness for school by teaching parents to build an effective relationship with their children at home and to be active participants in their children’s learning when they enter school. The program is designed to enhance children’s cognitive, behavioral and socioemotional well-being, which together set the stage for school readiness.
Tsymbal, Evgeny  
Physics and Astronomy/Nebraska Center for Materials and Nanoscience  
Materials Research Science & Engineering  
Center: Quantum Spin

$6,321,899  
9/1/08 – 8/31/14

Grouverman, Alexei  
Physics and Astronomy

Evgeny Tsymbal, professor of physics and astronomy at UNL, leads the Materials Research Science and Engineering Center. The center was established in 2002 with a grant from the National Science Foundation and involves scientists from the Departments of Physics and Astronomy, Chemistry and Mechanical Engineering, and the School of Biological Sciences. MRSEC projects focus on fabricating and studying new magnetic structures and materials at the nanometer scale. The research has applications in advanced computing and data storage, handheld electronic devices, advanced sensors and future medical technologies.

Umstadter, Donald  
Physics and Astronomy

High-Energy Laser for Detection, Inspection, & Non-Destructive Testing

$4,846,860  
5/15/08 – 5/14/10

Banerjee, Sudeep  
Shadwick, Bradley  
Physics and Astronomy

With support from the Department of Defense Air Force Office of Scientific Research, Donald Umstadter, professor of physics and astronomy, will complete construction of a high-energy laser system at the UNL Extreme Light Laboratory capable of delivering a peak power of 1 petawatt. This project is critical to the development and performance of laser-driven radiation sources used for detection, inspection and non-destructive testing. The most immediate result will be a dramatic increase in the brightness and quality of the laser-driven electron beams and x-rays, with applications for detecting cracks in aging critical components and detecting special nuclear materials through large thicknesses of shielding.

Tunable, Monoenergetic Gamma-Ray Source for Identification of Embedded SNM

$3,904,359  
3/1/07 – 8/31/11

Banerjee, Sudeep  
Physics and Astronomy

With support from the Department of Homeland Security Domestic Nuclear Detection Office, Professor Umstadter is developing an x-ray source capable of distinguishing different
target materials embedded in thick shielding, including special nuclear materials (SNM), and determining the target’s size, shape and isotopic composition. By allowing rapid scanning of a large number of cargo containers, and enabling spot inspections on land and sea, this system would provide early detection capability, and so greatly reduce the threat from SNM. As such, it has the potential to radically improve current cargo screening capabilities and transform the national security environment.

**Velander, William**  
Chemical and Biomolecular Engineering  
cGMP Recombinant FIX and Oral Hemophilia B Therapy  
$9,587,071 DHHS-NIH-NHLBI  
9/6/05 – 8/31/10

Van Cott, Kevin  
Chemical and Biomolecular Engineering

William Velander, Donald R. Voelte Jr. and Nancy A. Keegan endowed chair in engineering, is principal investigator in a partnership funded by a $9.9 million grant from the National Institutes of Health/National Heart, Lung and Blood Institute. The goal is to develop an abundant, pure, safe and effective therapy for Hemophilia B using recombinant human coagulation proteins produced in the milk of transgenic pigs. The project builds on innovative bioengineering technologies pioneered by Velander that enable improved intravenous and novel oral delivery of hemophilic factors to patients. Hemophilia B is a congenital bleeding disorder that causes pain, crippling injuries and early death. It can be treated by Factor IX, a blood protein, but the costs are prohibitive and most patients do not receive it. Velander’s project isolates Factor IX in the milk of transgenic pigs.

**Production and Purification of Fibrinogen Components for Production Fibrin Sealant of Hemostatic Dressing**  
$5,398,990 DOD-Army Medical Research  
8/1/05 – 10/31/09

Van Cott, Kevin  
Chemical and Biomolecular Engineering

Velander is also leading a project, funded by the Department of Defense, to develop processes to produce recombinant fibrinogen and other blood proteins for bandages and implant devices, and to conduct research and clinical trials on their effectiveness. The fibrinogen bandage is a potentially life-saving technology for patients who lose large amounts of blood. When applied, the bandage immediately begins clotting the wound, stemming blood loss. The technology could be used in battlefield or other applications where patients are hemorrhaging. Fibrinogen technology could also play a role in helping develop implantable devices with increased biological compatibility. Fibrinogen made from human plasma is scarce and expensive; Velander has developed a process for producing it from transgenic cattle bred with a human gene that enables them to produce fibrinogen.
Les Whitbeck, professor of sociology, is coordinating a seven-year project, funded by the National Institute on Drug Abuse, to investigate risk and resilience for early onset substance use and abuse among pre-teen Native children in the Upper Midwest.

Charles Wood, Lewis Lehr/3M University Professor of biological sciences, is the director of the Nebraska Center for Virology. The center, funded by the National Institutes of Health, combines the expertise and facilities of Nebraska’s leading biomedical research institutions: UNL, the University of Nebraska Medical Center and Creighton University. Center research addresses pathogenic and therapeutic aspects of some of the most devastating viral and neuroimmune disorders facing the global community, including AIDS, HIV-associated cancers, Alzheimer’s disease and chronic infections caused by herpes viruses and a new class of infectious agents called prions.

Since the onset of the AIDS epidemic, Kaposi’s sarcoma has become the most frequently diagnosed pediatric cancer in sub-Saharan Africa. It is associated with Human Herpesvirus 8 (HHV-8) and Kaposi’s Sarcoma Herpesvirus (KSHV). The project looks to understand how these viruses are transmitted to children by studying children in Lusaka, Zambia. The goal is to establish the rates of transmission and to identify virologic, immunologic and ethnographic risk factors that predispose children to HHV-8 infection. It is anticipated that the information could be used to develop intervention strategies.
Yohe, John

International Sorghum and Millet Collaborative Research Support Program

International Sorghum/Millet Collaborative Research Support Program (INTSORMIL)

$12,900,000  U.S. Agency for International Development
9/30/06 – 9/29/11
Heinrichs, Elvis  IANR-International Programs
Johnsen, Carolyn  Journalism and Mass Communications
Struthers, Amy  Journalism and Mass Communications

John Yohe, associate professor in the Department of Agronomy and Horticulture, directs the International Sorghum/Millet (INTSORMIL) Collaborative Research Support Program. INTSORMIL is a collaborative international organization that supports research focused on improving nutrition and increasing income in developing countries and the United States. Scientists from U.S. land grant universities collaborate with scientists in host countries in the development of technology to improve production and utilization of sorghum and millet and facilitate natural resource management. Their work is done in Africa, Eurasia, Latin America and the United States.

Transfer of Sorghum & Millet Production, Processing & Marketing Technologies Program in Mali

$5,250,000  U.S. Agency for International Development
10/1/07 – 9/30/12

Dr. Yohe, with support from the U.S. Agency for International Development, is directing this project designed to improve sorghum and millet farmers’ productivity and incomes in targeted areas of Mali by moving sorghum and millet production technologies onto farmers’ fields, linking farmers’ organizations to food and feed processors, and commercializing processing technologies. Ultimately, the project’s goal is to improve the supply chain from the farm level to the consumer.

Interdisciplinary Team

Infrastructure for the Enhancement of Systems Biology Research & Development at UNL

$4,329,877  NSF-EPSCoR
7/1/07 – 6/30/10

This grant supports multi-campus collaborative research between biologists and engineers for creating a strategic research niche in epigenetics – the study of heritable changes in gene functions not associated with changes in DNA sequence. Much of what comprises the complexity of multi-cellular organisms is programmed within the network of interacting molecules – protein, RNA and DNA – known collectively as chromatin. Engineers will create nano-devices for delivering molecules into cells for better understanding the role of chromatin in cell function and its response to the environment.
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<td>National Academy of Sciences-Transportation Research Board</td>
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$1 MILLION — $2,999,999
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Paul, Prem  
Research and Economic Development  
* Great Plains National Security  
Education Consortium (GP-NSEC)  
$1,200,000  
DOD-National Geospatial Intelligence Agency  
Adenwalla, Shireen  
Physics and Astronomy  
LeSueur, James  
History  
McMahon, Patrice  
Political Science  
Wedeman, Andrew  
Political Science  
Wood, Simon  
Classics and Religious Studies  
Weissinger, Ellen  
Graduate Studies  

Redepenning, Jody  
Chemistry  
* Bioceramic Bones for Battlefield Traumas  
$1,358,000  
DOD-Army Medical Research  

Robertson Jr., Vaughn  
Student Affairs  
UNL Educational Talent Search  
Department of Education  
$2,091,823  

Rutenbeck, Kathy  
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Upward Bound-Northeast Nebraska  
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$1,458,320  

Schaefer, Matthew  
Law  
University of Nebraska College of Law  
Space & Telecommunications Law Program: Filling a National Need, Advancing the Field  
$1,717,370  
NASA  
Willborn, Steven  
Law  
Leiter, Richard  
Law  

Scott, Stephen  
Computer Science and Engineering  
An Extensible Semantic Bridge between Biodiversity and Genomics  
$1,367,121  
NSF  
Soh, Leen-Kiat  
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Henninger, Scott  
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Jameson, Mary Liz  
University of Nebraska State Museum  
Moriyama, Etsuko  
Biological Sciences/Center for Plant Science Innovation  

Shapiro, Charles  
Northeast Research and Extension Center  
* Improving Organic Farming Systems and Assessing Their Environmental Impacts across Agro-Ecoregions  
$1,419,710  
Department of Agriculture-CSREES  
Brandle, James  
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Francis, Charles  
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Knezevic, Stevan  
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Schlegel, Vicki  
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Wright, Robert  
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Wortmann, Charles  
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Bernards, Mark  
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Ferguson, Richard  
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Quinn, John  
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Lyon, Drew  
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Sheridan, Susan  Educational Psychology/
Nebraska Center for Research on
Children, Youth, Families and Schools
* Development of a Three-Tiered Model in Early Intervention
to Address Language and Literacy Needs of Children at Risk
$1,499,511  Department of Education-IES
Knoche, Lisa  Nebraska Center for Research on
Children, Youth, Families and Schools
Ihlo, Tanya  Nebraska Center for Research on
Children, Youth, Families and Schools

Evaluation of Efficacy of CBC for Addressing Disruptive
Behaviors of Children-at-Risk for Academic Failure
$1,368,067  Department of Education
Glover, Todd  Nebraska Center for Research on
Children, Youth, Families and Schools

Shi, Jonathan  Construction Management
*Advanced Decentralized Water/Energy
Network Design for Sustainable Infrastructure
$1,249,995  Environmental Protection Agency
Zhang, Tian  Civil Engineering
Berryman, Charles  Construction Management
Shen, Zhigang  Construction Management
Stansbury, John  Civil Engineering
Alahmad, Mahmoud  Architectural Engineering
Li, Haorong  Architectural Engineering
Schwer, Avery  Construction Systems
Dahab, Mohamed  Civil Engineering

Simpson, Melanie  Biochemistry
Role of Hyaluronan Matrix in Prostate Cancer Progression
$1,056,209  DHHS-NIH-NCI

Spreitzer, Robert  Biochemistry
Role of the Rubisco Small Subunit
$1,001,500  Department of Energy

Starace, Anthony  Physics and Astronomy
Dynamics of Few-Body Atomic Processes
$1,326,337  Department of Energy

Storz, Jay  Biological Sciences
Mechanisms of Hemoglobin Adaption
to Hypoxia in High-Altitude Rodents
$1,323,748  DHHS-NIH-NHLBI
Moiyiyama, Hideaki  Center for Biotechnology

Swanson, David  Computer Science and Engineering
US CMS Tier 2 Center
$2,678,720  University of California, Los Angeles
Bloom, Kenneth  Physics and Astronomy
Domínguez, Aaron  Physics and Astronomy
Van Etten, James  
DNA Replication & Gene Expression of Chlorella Viruses  
$1,215,694  
Plant Pathology  
DHHS-NIH-NIGMS  

Dunigan, David  
Kang, Ming  
Agarkova, Irina  
Gurnon, James  
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Plant Pathology  
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Plant Pathology  

Verma, Shashi  
Carbon Sequestration in Dryland & Irrigated Agroecosystems  
$2,265,000  
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Cassman, Kenneth  
Knops, Johannes  
Hubbard, Kenneth  
Arkebauer, Timothy  
Walters, Daniel  
Suyker, Andrew  
Ginting, Daniel  
Agronomy and Horticulture  
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Agronomy and Horticulture  
Natural Resources  
Agronomy and Horticulture  

Viljoen, Hendrik  
A Rational Design of a Platform for de novo Gene Synthesis  
$1,315,289  
Chemical and Biomolecular Engineering  
DHHS-NIH-NCRR  

Subramanian, Anu  
Gogos, George  
Chemical and Biomolecular Engineering  
Mechanical Engineering  

Weeks, Donald  
Development of Dicamba-Resistant Crops  
$2,500,000  
Biochemistry  
Monsanto Co.  

Whitbeck, Les  
Resilience through the High School Years  
$2,654,155  
Sociology  
DHHS-NIH-NIMH  

Whilke, William  
North Central Regional Sustainable Agriculture Research & Education Program – SARE  
$2,707,719  
IANR-Research  
Department of Agriculture-CSREES  

Wilcox, Brian  
Midwest Child Care Research Consortium  
$1,200,000  
Center on Children, Families and the Law  
DHHS-ACF  

Torquati, Julia  
Raikes, Helen  
Child, Youth and Family Studies  
Child, Youth and Family Studies  

Wilhite, Donald  
Rangeland and Forage Geospatial Decision Support System for Drought Risk Management  
$1,023,038  
Natural Resources  
Department of Agriculture-RMA  

$1 MILLION — $2,999,999
Wood, Charles  
**Biological Sciences/ Nebraska Center for Virology**  
Programs in HIV & AIDS Assoc Diseases/Malignancies  
$2,376,315  
DHHS-NIH-Fogarty International Center

Research Training in Comparative Viral Pathogenesis  
$1,306,932  
DHHS-NIH-NIAID

Yamamoto, Catherine  
**Student Affairs**  
Student Support Services Program  
$2,431,588  
Department of Education

Zempleni, Janos  
**Nutrition and Health Sciences**  
Biotin Deficiency Impairs Silencing of Repeat Regions and Retrotransposons  
$1,233,088  
DHHS-NIH-NIDDK

Zhang, Luwen  
**Biological Sciences/ Nebraska Center for Virology**  
Oncogenic Properties of Interferon Regulatory Factor 7  
$1,105,123  
DHHS-NIH-NCI
Awards of $200,000 - $999,999
Active awards in 2009
* Indicates new in 2009

Adenwalla, Shireen  
Physics and Astronomy/Nebraska Center for Materials and Nanoscience  
Development of Semiconducting Boron Carbide Neutron Detectors for Astrobiological Applications  
$299,991  
NASA

Admiraal, David  
Civil Engineering  
Low-Cost Energy Dissipation at Culvert Exits  
$201,856  
Nebraska Department of Roads

Albrecht, Julie  
Nutrition and Health Sciences  
Food Safety for Families with Young Children  
$599,503  
Department of Agriculture-NRICGP

Alexander, Dennis  
Electrical Engineering  
Ultrafast Laser Interaction Processes for Libs & Other Sensing Technologies  
$600,000  
University of Central Florida

Alfano, James  
Plant Pathology/Center for Plant Science Innovation  
Secretion Signals & Type III Chaperones in Pseudomonas Syringae Type III Secretion System  
$440,000  
NSF

Dissecting the Function of HrpJ & HrpK – Two Type III Secreted Proteins Required for Injection of Effectors into Plant Cells  
$398,500  
Department of Agriculture-NRICGP

Allen, Craig  
Natural Resources  
* Missouri River Mitigation: Implementation of Amphibian Monitoring and Adaptive Management for Wetland Restoration Evaluation  
$556,603  
Department of Interior-GS

Monitoring, Mapping & Risk Assessment for Non-Indigenous Invasive Species in Nebraska  
$325,081  
Nebraska Environmental Trust

Merchant, James  
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Cross-Scale Structure & Scale Breaks in Complex Systems  
$248,986  
James S. McDonnell Foundation

Allen, David  
Engineering  
U.S.-Brazil Dual Degree in Infrastructure & Sustainability Engineering Program  
$208,211  
Department of Education-FIPSE

EMME: US-EU Transatlantic Degree Program in Engineering Mechanics/Materials Engineering  
$407,997  
Department of Education

Chandra, Namas  
Engineering  
Negahban, Mehrdad  
Engineering Mechanics
Anderson, Mark Geosciences
Development of Northern Hemisphere Snow & Ice Climate Data Records
$213,461 Rutgers University

Asgarpoor, Sohrab Electrical Engineering
Reliability Modeling and Maintenance Optimization of Aging Substations
$206,082 NSF

Atkin, Audrey Biological Sciences
Wild-Type PPR1 mRNA Decay by Yeast Nonsense-Mediated mRNA Decay Pathway
$403,219 NSF
Moriyama, Etsuko Biological Sciences/Center for Plant Science Innovation

Avramov, Luchezar Mathematics
Cohomology and Structure of Commutative Algebras
$260,667 NSF

Avramova, Zoya Biological Sciences
Lipid-Signaling and Epigenetic Regulations in Arabidopsis: Are Myotubularins the Link?
$450,000 NSF

Azizinamini, Atorod Civil Engineering
* NaBRO-POSCO Cooperative Research Plan in Bridge and Material Research
$225,204 Research Institute of Industrial Science & Technology

Comprehensive Evaluation of Fracture Critical Bridges
$286,348 Nebraska Department of Roads

Steel Box System Monitoring of N-2 over I-480 Bridge
$292,244 Nebraska Department of Roads

IBRC 2002 Project
$240,000 Nebraska Department of Roads

Folded Plate Technology: Research, Design & Monitoring
$445,000 Nebraska Department of Roads

Development of Field Data for Effective Implementation of Mechanistic-Empirical Pavement Design Procedure
$315,252 Nebraska Department of Roads

Negahban, Mehrdad Engineering Mechanics

$200,000 – $999,999
Baenziger, P. Stephen  
Agronomy and Horticulture  
Developing Winter Wheat with Improved Fusarium Head Blight Tolerance by Conventional and Transgenic Approaches  
$354,437  
Wegulo, Stephen  
Plant Pathology  
Clemente, Thomas  
Agronomy and Horticulture  
Baltensperger, David  
Panhandle Research and Extension Center

Developing Small Grains Cultivars Optimally Suited for Organic Production  
$755,937  
Flores, Rolando  
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Wegulo, Stephen  
Plant Pathology  
Russell, William  
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Knezevic, Stevan  
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Hein, Gary  
Panhandle Research and Extension Center  
Lyon, Drew  
Panhandle Research and Extension Center

Balkir, Sina  
Electrical Engineering  
All Solid-State Wireless Sensor Network for Nuclear Proliferation Detection  
$417,191  
Hoffman, Michael  
Electrical Engineering

Barker, Bradley  
4-H Youth Development  
* 4-H Robotics: Engineering for Today and Tomorrow  
$400,000  
Robotics & GPS/GIS in 4-H: Workplace Skills for the 21st Century  
$864,139  
Adamchuk, Viacheslav  
Biological Systems Engineering

Basolo, Alexandra  
Biological Sciences  
Behavioral Plasticity in Preexisting Receiver Bias  
$384,000  
Basset, Gilles  
Agronomy and Horticulture/Biochemistry/Center for Plant Science Innovation  
* Phylloquinone Biosynthesis in Plants: Enzyme Discovery and Pathway Flux Control  
$440,356  
Batelaan, Herman  
Physics and Astronomy  
Matter Optics with Intense Laser Light  
$467,590  
Becker, Donald  
Biochemistry  
* REU Site: Training in Redox Biology  
$252,250  
Stone, Julie  
Biochemistry/Center for Plant Science Innovation  
MRI: Acquisition of Beckman XL-I Analytical Ultracentrifuge  
$284,160
Belli, Robert  Psychology/Gallup Research Center  Verbal Behaviors in Computerized Lifecourse Surveys  $409,889  DHHS-National Institute on Aging

Benson, Andrew  Food Science and Technology  Pyrosequencing and Community Profiling for Risk Assessment in Leafy Greens  $370,927  Department of Agriculture-NRICGP
Walter, Jens  Food Science and Technology
Hutkins, Robert  Food Science and Technology

Berens, Charlyne  Journalism and Mass Communications  Carnegie-Knight Initiative on the Future of Journalism Education  $250,000  Carnegie Corporation of New York

Berkowitz, David  Chemistry  Stereocontrolled Total Synthesis of (-)-Picropodophyllin Analogues  $500,000  Stockbridge Pharmaceuticals Inc.
New Approaches to Catalyst Screening & Development  $435,000  NSF

Beukelman, David  Special Education and Communication Disorders  Rehabilitation Engineering Research Center on Communication Enhancement  $392,328  Duke University Medical Center

Bevins, Rick  Psychology  Altering Nicotine Reward through Conditioning  $339,446  DHHS-NIH-NIDA
Acquired Appetitive Properties of Nicotine  $881,371  DHHS-NIH-NIDA

Bilder, Christopher  Statistics  Disease Detection and Prevalence Estimation through Informative Group Testing  $713,250  DHHS-NIH-NIAID

Billesbach, David  Biological Systems Engineering  Development & Field Testing of a Rapidly Deployable Carbon Dioxide Flux Management System  $607,405  Department of Energy-Berkeley National Lab

Bischoff, Richard  Child, Youth and Family Studies  * Improving Training in Rural Mental Health Care through the Innovative Use of Technology and the Application of Collaborative Care Models  $455,062  Department of Agriculture-CSREES
Springer, Paul  Child, Youth and Family Studies
Reisbig, Allison  Child, Youth and Family Studies

Blum, Paul  
* Uranium Mobilization by Extremely Thermoacidophilic Archaea  
$512,998  
North Carolina State University  

* REU Site: Integrated Development of Bioenergy Systems  
$269,592  
NSF  

Cerutti, Heriberto  
Biological Sciences  

Biohydrogenesis in the Thermotogales  
$525,000  
North Carolina State University  

Bobaru, Florin  
Engineering Mechanics  

Adaptivity in Peridynamics for Composite Plates  
$294,880  
Department of Energy–Sandia National Laboratories  

Brand, Jennifer  
Chemical and Biomolecular Engineering/Nebraska Center for Materials and Nanoscience  

Novel Rare-Earth Semiconductors for Solid-State Neutron Detectors  
$767,293  
DOD-Defense Threat Reduction Agency  
Belashchenko, Kirill  
Physics and Astronomy  
Dowben, Peter  
Physics and Astronomy  

Direct Energy Conversion with Heteroisomeric Boron Carbide Diode Devices  
$238,398  
Central Intelligence Agency  

Brisson, Jennifer  
Biological Sciences  

* Contrasting Environmental and Genetic Controls of Alternative Phenotypes  
$746,411  
DHHS-NIH-NIEHS  

Brown, Mary  
Natural Resources  

Advancing Tern and Plover Common Sense Conservation into the Future  
$270,000  
Nebraska Environmental Trust  

Bulling, Denise  
Public Policy Center  

*Development of Nebraska’s Homeland Security Planning Capacity  
$385,987  
Nebraska Military Department-NEMA  

Hospital Preparedness — Bioterrorism  
$230,000  
Nebraska Department of Health and Human Services  

Critical Incidence Stress Management Program Coordination  
$309,812  
Nebraska Department of Health and Human Services  

Burbach, Mark  
Natural Resources  

Integrated Real-Time Groundwater-Level Monitoring Network to Support Drought Impact Assessment and Mitigation Programs  
$403,293  
Department of Agriculture-RMA  
Ramamurthy, Byrav  
Computer Science and Engineering  

Cady, Daniel  
Extension  

Nebraska Technology Transfer Center at UNL  
$523,035  
Nebraska Department of Roads  

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<td>Cahoon, Edgar</td>
<td>Biochemistry/Center for Plant Science Innovation</td>
<td>* Probing the Metabolic and Physiological Significance of Sphingolipid Long-Chain Base Desaturation in Plants</td>
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<td>* Biochemical Genomics: Quizzing the Chemical Factories of Oilseeds</td>
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<td>* Center for Metabolic Channeling for Enhanced Biofuel Systems</td>
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<td>* Metabolic Profiling to Understand the Biochemical Basis for Genetic Enhancement of Soybean</td>
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Cerutti, Heriberto  
**Biological Sciences/Center for Plant Science Innovation**  
Histone Modifications & Transcriptional Silencing in Chlamydomonas  
$448,235  
NSF

Chen, Xun-Hong  
**Natural Resources**  
Development of Groundwater Flow Model in the Lower Platte North NRD Area  
$220,458  
Lower Platte North NRD

Cheung, Chin Li  
**Chemistry**  
* Boron Coatings for Scalable Solid-State Neuron Detectors  
$400,000  
Department of Energy-Livermore National Laboratory

Ci, Song  
**Computer and Electronics Engineering**  
IHCS: ARMS: A Novel Adaptive Configurable Multi-Cell Battery System for Power-Aware Electronics  
$299,626  
NSF

Claes, Daniel  
**Physics and Astronomy**  
Experimental High Energy Physics  
$573,000  
NSF

Clemente, Thomas  
**Agronomy and Horticulture/Center for Plant Science Innovation/Center for Biotechnology**  
Necessary Resources to Aid in the Translation of Genomics Information into Applied Technologies  
$459,396  
University of Georgia

Costello, Don  
**Computer Science and Engineering**  
GAANN Fellowships for Computer Science & Engineering  
$500,000  
Department of Education
Daly, Edward  
School Psychology Leadership Specialization in Response-to-Intervention Research & Systems Change  
$800,000  
Department of Education  
McCurdy, Merilee  
Educational Psychology  
Sheridan, Susan  
Educational Psychology  
Kunz, Gina  
Nebraska Center for Research on Children, Youth, Families and Schools

DeKraai, Mark  
Public Policy Center  
Evaluation of Public Engagement Demonstration Projects on Pandemic Influenza (E-PEDPPI)  
$348,716  
DHHS-Centers for Disease Control  
Bulling, Denise  
Public Policy Center

DiMaggio, Stephen  
Chemistry  
Anhydrous Fluoride Salts  
$420,000  
NSF

DiRusso, Concetta  
Biochemistry/Nutrition and Health Sciences  
* High Throughput Screens for Fatty Acid Uptake Inhibitors  
$325,983  
DHHS-NIH-NIDDK  
Black, Paul  
Biochemistry

Dominguez, Aaron  
Physics and Astronomy  
PIRE: Collaborative Research with the Paul Scherrer Institute and Eidgenoessische Technische Hochschule on Advanced Pixel Silicon Detectors for the CMS Detector  
$406,500  
University of Kansas Center for Research  
Bloom, Kenneth  
Physics and Astronomy

Dowben, Peter  
Physics and Astronomy/Nebraska Center for Materials and Nanoscience  
* Polymer Interface Induced Spin and Dipole Ordering  
$484,478  
NSF  
* Doped Boron Carbide Polymers: Fundamental Studies of a Novel Class of Materials for Enhanced Radiation Detection  
$225,000  
University of North Texas  
Surface Chemistry of Adsorbates on Crystalline Polymers  
$690,000  
NSF

Drijber, Rhae  
Agronomy and Horticulture  
Developing Technologies to Improve Soil & Nutrient Management  
$291,000  
Department of Agriculture-ARS

Du, Liangcheng  
Chemistry  
Biosynthesis of Mycotoxin Fumonisins: Characterization of Enzymes for Vicinal Diol & Tricarballylic Ester Formation  
$284,667  
NSF

$200,000 — $999,999
Ducharme, Stephen  Physics and Astronomy/Nebraska Center for Materials and Nanoscience
Rational Design of Molecular Ferroelectric Materials and Nanostructures
$434,054  Department of Energy-EPSCoR
Takacs, James  Chemistry
Nanostructure-Designed Dielectric Material for High-Energy-Density Capacitors
$586,000  DOD-DEPSCoR
Ferroelectric Polymer Langmuir-Blodgett Films for Nonvolatile Random-Access Memory Applications
$240,000  NSF

Duppong Hurley, Kristin  Special Education and Communication Disorders
Treatment Implementation and Mental Health Outcomes for Youth in Residential Care
$510,300  DHHS-NIH-NIMH
Epstein, Michael  Special Education and Communication Disorders

Dussault, Patrick  Chemistry
Detection of Emerging Classes of Explosives
$950,000  DOD-DARPA
Cerny, Ronald  Chemistry
DiMagno, Stephen  Chemistry
Hage, David  Chemistry
Harbison, Gerard  Chemistry
Redepenning, Jody  Chemistry
Directed Reactions of Carbonyl Oxides: A New Approach to Ozonolysis
$365,000  NSF

Dweikat, Ismail  Agronomy and Horticulture
* Characterization of Nitrogen Use Efficiency in Sweet Sorghum
$390,000  Department of Energy
Clemente, Thomas  Biotechnology/Agronomy and Horticulture/Center for Plant Science Innovation
Weeks, Donald  Biochemistry

Dwyer, Matthew  Computer Science and Engineering
Finite-State Verification for High-Performance Computing
$300,000  NSF
CSR-EHS Predictable Adaptive Residual Monitoring for Real-time Embedded Systems
$500,000  NSF
Goddard, Stephen  Computer Science and Engineering
Elbaum, Sebastian  Computer Science and Engineering
Dzenis, Yuris  
**Engineering Mechanics**  
Nanoengineered Interfaces  
$250,002  
NSF  
Modeling-Based Control of Electrospinning Process  
$275,000  
NSF  

Eccarius, Malinda  
**Special Education and Communication Disorders**  
Mountain Prairie Upgrade Partnership - Early Childhood  
$781,642  
Department of Education  
Marvin, Chris  
Special Education and Communication Disorders  

Eckhardt, Craig  
**Chemistry**  
Experimental Investigation of the Role of Defects in Detonation Sensitivity of Energetic Materials  
$600,000  
DOD-Office of Naval Research  
A Study of the Mechanochemistry of Carbamazepine Polymorphs  
$227,200  
Pfizer Inc./PGRD Groton Labs  

Elbaum, Sebastian  
**Computer Science and Engineering**  
* Enhancing the Dependability of Complex Missions through Automated Analysis  
$548,852  
DOD-Air Force Office of Scientific Research  
Dwyer, Matthew  
Computer Science and Engineering  
* T2T: A Framework for Amplifying Testing Resources  
$491,688  
NSF  
Dwyer, Matthew  
Computer Science and Engineering  
ITR: Dependable End-User Software  
$253,573  
NSF  

Engen-Wedin, Nancy  
**Teaching, Learning and Teacher Education/Lied Center for Performing Arts**  
Indigenous Roots Teacher Education Program  
$704,730  
Department of Education  
McGowan, Thomas  
Teaching, Learning and Teacher Education  

Epstein, Michael  
**Special Education and Communication and Disorders**  
Evaluation of Family Reunification Program  
$219,454  
Father Flanagan’s Boys’ Home  
Leadership Training in Emotional Disturbance Disorders  
$601,733  
Department of Education  
Duppong Hurley, Kristin  
Special Education and Communication and Disorders  
Torkelson-Trout, Alexandra  
Special Education and Communication and Disorders  

Fabrikant, Ilya  
**Physics and Astronomy**  
Electron-Molecule Collisions in Different Environments  
$240,001  
NSF  

$200,000 — $999,999
Faller, Ronald  Civil Engineering/
Midwest Roadside Safety Center

$601,736  Nebraska Department of Roads

Sicking, Dean  Civil Engineering/
Midwest Roadside Safety Center

Reid, John  Mechanical Engineering

Dynamic Evaluation of Box Beam End Terminal
Using the MASH 2008 Guidelines

$204,533  Nebraska Department of Roads

Sicking, Dean  Civil Engineering/
Midwest Roadside Safety Center

Reid, John  Mechanical Engineering

Development of a New Precast Concrete
Bridge Railing System

$229,820  Nebraska Department of Roads

Bielenberg, Robert  Civil Engineering

Reid, John  Mechanical Engineering

Tadros, Maher  Civil Engineering

Development of an Economical Guardrail
System for Use on Gabion Walls

$450,000  Department of Transportation-FHWA

Sicking, Dean  Civil Engineering/
Midwest Roadside Safety Center

Rohde, John  Civil Engineering/
Midwest Roadside Safety Center

Reid, John  Mechanical Engineering

Flores, Rolando  Food Science and Technology
Midwest Advanced Food Manufacturing Alliance

$319,775  Department of Agriculture-CSREES

Franti, Thomas  Biological Systems Engineering
* Heartland Regional Water Coordination Initiative

$273,046  Iowa State University

Wortmann, Charles  Agronomy and Horticulture

Fromm, Michael  Agronomy and Horticulture/
Center for Biotechnology

MRI: Acquisition of High Capacity DNA Sequencing System

$714,750  NSF

Gardner, Scott  Biological Sciences/
University of Nebraska State Museum

$627,491  NSF

Mongolia Vertebrate Parasite Project

Enabling Access to Priority Taxa for Biodiversity Studies
in the Manter Laboratory of Parasitology

$523,847  NSF

Jimenez-Ruiz, Francisco  University of Nebraska State Museum
Gay, Timothy  
Physics and Astronomy  
MRI: Development of a Rubidium Spin Filter as a Source of Polarized Electrons  
$285,000  
Batelaan, Herman  
Physics and Astronomy  
Uiterwaal, Kees  
Physics and Astronomy  
$385,000  

Gibson, Robert  
Biological Sciences  
GAANN Fellowship for Ecology, Evolution & Behavior at UNL  
$625,000  

Giesler, Loren  
Plant Pathology  
Improving Management of Soybean Cyst Nematode through Extension Demonstration and Outreach  
$292,000  

Gitelson, Anatoly  
Natural Resources  
A Satellite-Based Quantification of Carbon Exchange of the Dominant Ecosystem (Maize-Soybean) in the NACP Mid-Continent Intensive (MCI) Region  
$496,124  
Verma, Shashi  
Natural Resources  
Suyker, Andrew  
Natural Resources  
$598,130  

Glover, Todd  
Nebraska Center for Research on Children, Youth, Families and Schools  
Establish a State-Wide Response-to-Intervention Consortium for Training & Evaluation  
$432,605  
McCurdy, Merilee  
Educational Psychology  

Goddard, Stephen  
Computer Science and Engineering  
CRI: IAD: Towards Cyber-Physical Computing at Scale: A Life-Size Experimental Facility for Applied Sensor Networks Research  
$200,000  
Ci, Song  
Computer and Electronics Engineering  
Peng, Dongming  
Computer and Electronics Engineering  
Sharif-Kashani, Hamid  
Computer and Electronics Engineering  
Hudgins, Jerry  
Electrical Engineering  

$200,000 — $999,999
Goodman, Richard  Food Science and Technology
* Differentiating Biologically Relevant from Irrelevant IgE Binding to Food Antigens for Improved Risk Assessment and Diagnostic Studies Using a Humanized Rat Basophil Cell Line (RBL 30/25)
$372,340  Environmental Protection Agency
Siddanakoppalu, Pramod  Food Science and Technology

Food Allergen Database
$679,742  Various Industries

Assessing the Potential Allergenicity of Proteins Introduced by Genetic Engineering
$450,000  Environmental Protection Agency
Schlegel, Vicki  Food Science and Technology
Taylor, Stephen  Food Science and Technology

Gosselin, David  Natural Resources
Earth Science Institute for Elementary Educators
$356,094  NASA
Bonnstetter, Ronald  Teaching, Learning and Teacher Education

Online Master’s Degree in Applied Science Education
$540,345  Toyota USA Foundation
Bonnstetter, Ronald  Teaching, Learning and Teacher Education
Strand, Billie  Extended Education and Outreach

Graef, George  Agronomy and Horticulture
Quality Traits Regional Tests
$225,535  United Soybean Board/Smith/Bucklin

Soybean Breeding and Genetic Research for Nebraska
$203,596  Nebraska Soybean Board
Specht, James  Agronomy and Horticulture

Gursoy, Mustafa  Electrical Engineering
* Energy Efficiency in Wireless Communications under Queuing Constraints
$335,856  NSF
Velipasalar, Senem  Electrical Engineering

Hage, David  Chemistry
Chromatographic Automation of Immunoassays
$946,982  DHHS-NIH-NIGMS

Chromatographic Studies of Functional Proteomics
$756,640  DHHS-NIH-NIDDK

Hallbeck, M. Susan  Industrial and Management Systems Engineering
* VA Engineering Research Center
$371,804  VA Medical Center-Omaha
Savory, Paul  Industrial and Management Systems Engineering
Hanna, Milford  Food Science and Technology/Industrial Agricultural Products Center
* Pine Ridge Stewardship and Legacy Project: Ferguson Property Acquisition
$240,000  Nebraska Environmental Trust

Harris, Steven  Plant Pathology/Center for Plant Science Innovation
Autophagy in Fungal Hyphae: Functional Genomic & Mechanical Strength Studies
$417,852  University of Maryland-Baltimore

Harshman, Lawrence  Biological Sciences
Comparative Functional Genomics of Drosophila Obesity
$516,548  Cornell University
Molecular Evolution of Genes Expressed in D. melanogaster Sperm Storage Structures
$295,213  NSF
Moriyama, Etsuko  Biological Sciences/Center for Plant Science Innovation
Genome Biology of Innate Immunity: Genetic Dissection of D. melanogaster Responses to Bacillus Infection
$452,163  DOD-DEPScOR

Harvey, F. Edwin  Natural Resources
Investigation of the Role of Rainwater Basin Wetlands in Contributing to the Functions of Groundwater Recharge, Water Quality Improvement, and the Wildlife Habitat, Including an Assessment of the Impact of Sediment on These Functions
$386,520  Nebraska Game and Parks Commission
Habitat Conservation Plan for the Salt Creek Tiger Beetle and the Eastern Saline Wetlands of Nebraska
$380,000  Nebraska Game and Parks Commission

Hay, DeLynn  Extension
North Central Region Sustainable Agriculture Professional Development Program—FY 2005
$910,283  Department of Agriculture-CSREES
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<td>Developing Seasonal Predictive Capability for Drought Mitigation Decision Support System</td>
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<td>Estimating the Impacts of Complex Climatic Events: Drought in Colorado, Nebraska &amp; New Mexico</td>
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<td>Searle Scholar: Exploring Neural Basis of Complex Behavior in Amblypygids</td>
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<td>* Engaging Young Farmers and Ranchers in Environmental Management Education</td>
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<td>Development of Alternative Technologies for Small Livestock Producers</td>
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Enhancing Irrigation Management Tools & Developing a Decision Support System for Managing Limited Irrigation Supplies for the High Plains

$249,999  Department of Agriculture-RMA-FCIC
Burgener, Paul  Panhandle Research and Extension Center
Lyon, Drew  Panhandle Research and Extension Center
Martin, Derrel  Biological Systems Engineering
Pavlista, Alexander  Panhandle Research and Extension Center
Santra, Dipak  Panhandle Research and Extension Center
Supalla, Raymond  Agricultural Economics

Demonstrate & Adapt Remote Sensing Technology to Produce Consumptive Water Use Maps for the Nebraska Panhandle

$239,951  Department of Agriculture-NRCS
Baltensperger, David  Panhandle Research and Extension Center
Berger, Aaron  Panhandle Research and Extension Center
DeBoer, Karen  Panhandle Research and Extension Center
Hla, Aung  Panhandle Research and Extension Center
Lyon, Drew  Panhandle Research and Extension Center
Pavlista, Alexander  Panhandle Research and Extension Center
Yonts, C. Dean  Panhandle Research and Extension Center

Hibbing, John  Political Science
DHB: Identifying the Biological Underpinnings of Political Temperaments

$587,068  NSF
Espy, Kimberly Andrews  Psychology/Research and Economic Development
Smith, Kevin  Political Science
Dodd, Michael  Psychology
Wiebe, Sandra  Psychology/Research and Economic Development

Hoffman, Lesa  Psychology
Visual Attention in Aging: Bridging Experimental and Psychometric Approaches

$322,745  DHHS-NIH-NIA

Hogan, Tiffany  Special Education and Communication Disorders
The Lexicon and Phoneme Awareness

$430,591  DHHS-NIH-NIDCD

Holmes, Mary Anne  Geosciences
Building a Community of Women Geoscience Leaders

$228,774  NSF

Holz, Aris  Natural Resources
Fremont Lake #20 Alum Treatment Evaluation Project

$201,700  Nebraska Department of Environmental Quality
Barrow, Tadd  Natural Resources
Hoagland, Kyle  Natural Resources
Horn, Christy  
Equity, Access and Diversity Programs

Department of Education

Sydik, Jeremy  
Equity, Access and Diversity Programs

Huang, Qi  
Natural Resources

* Understanding and Predicting Tropical and North Atlantic SST Forcing on Variations in Warm Season Precipitation over North America

Oglesby, Robert  
Geosciences

Feng, Song  
Natural Resources

Hudgins, Jerry  
Electrical Engineering

Development of System Level Modeling & Simulation Capability for SiC Power Semiconductor Devices

University of South Carolina

Hutkins, Robert  
Food Science and Technology

* Assessing and Enhancing Stability of Prebiotics in Processed Foods

Wehling, Randy  
Food Science and Technology

Schlegel, Vicki  
Food Science and Technology

Hygnstrom, Scott  
Natural Resources

Development of Spatially Explicit Models of Wildlife Diseases

Department of Agriculture-APHIS

Irmak, Suat  
Biological Systems Engineering

Quantifying Evaporation, Crop Evapotranspiration, and the Water Balance for Tilled and Untilled Fields

Nebraska Department of Natural Resources

Yoder, Ronald  
Biological Systems Engineering

Measurement of Growing Season Actual Crop Evapotranspiration and Crop Coefficients, and Dormant Season Evaporative Losses for Key Vegetation Surfaces in the Central Platte Natural Resources District

Central Platte NRD

Iyengar, Srikanth  
Mathematics

* Derived Categories of Complete Intersections and Hochschild Cohomology

NSF
Jiang, Hong  Computer Science and Engineering
* CSR: Small: Flashtube: A Semantic-Aware, Highly Reliable Flash Memory SSD  
$474,739  NSF

* HECURA: A New Semantic-Aware Metadata Organization for Improved File-System Performance and Functionality in High-End Computing  
$344,552  NSF

SAM^2 Toolkit: Scalable & Adaptive Metadata Management for High-End Computing  
$602,326  NSF

Jones, Clinton  Veterinary and Biomedical Sciences
* Analysis of Viral Factors that Regulate the Bovine Herpesvirus 1 (BHV-1) Latency Reactivation Cycle  
$375,000  Department of Agriculture-CSREES

Functional Analysis of biCPO  
$375,000  Department of Agriculture-NRICGP

Functional Analysis of Proteins Encoded by the Bovine Herpesvirus 1 Latency Related Gene  
$374,475  Department of Agriculture-CSREES

Does HSV-1 Latency Associated Transcript (LAT) Encode a Protein?  
$402,122  DHHS-NIH-NIAID

Jones, Erick  Industrial and Management Systems Engineering
RFID License Plate System Feasibility Study for Commercial Vehicle Operators  
$250,000  Nebraska Department of Roads

Josiah, Scott  Nebraska State Forest Service
* Forest Legacy Program: Pine Ridge Project  
$500,000  Department of Agriculture-FS

* Expansion of Hazelnut Production, Feedstock and Biofuel Potential Through Breeding for Disease Resistance and Climatic Adaption  
$389,224  Oregon State University
Adams, Dennis  Natural Resources

NRCS-Technical Service Provider Project  
$407,426  Department of Agriculture-NRCS

Hazardous Fuels Reduction: Pine Ridge  
$250,000  Department of Agriculture-FS

Kamil, Alan  Biological Sciences
* Operant Research on Episodic Memory in an Animal Model  
$383,500  DHHS-NIH-NIMH
Bond, Alan  Biological Sciences

$200,000 – $999,999
Kim, Yong Rak  
Civil Engineering  
Asphalt Research Consortium  
$350,000  
Texas A & M Research Foundation  
Allen, David  
Engineering Mechanics  
Layer Moduli of Nebraska Pavements for the New Mechanistic-Empirical Pavement Design Guide (MEPDG)  
$255,367  
Nebraska Department of Roads  

Knutson, Cody  
Natural Resources  
Development of a Drought Decision Support Portal for the Republican River Basin of Colorado, Nebraska & Kansas  
$223,524  
Department of Commerce-NOAA  
Svoboda, Mark  
Natural Resources  

Koelsch, Richard  
Biological Systems Engineering/Extension  
* Nebraska EIPM-CS Coordination Program  
$235,725  
Department of Agriculture-CSREES  
Wright, Robert  
Entomology  
Hunt, Thomas  
Northeast Research and Extension Center  
Bernards, Mark  
Agronomy and Horticulture  
Hein, Gary  
Entomology  
Ogg, Clyde  
Agronomy and Horticulture  
Kamble, Shripat  
Entomology  
Gaussoin, Roch  
Agronomy and Horticulture  
Baxendale, Fred  
Entomology  
Streich, Anne  
Agronomy and Horticulture  
Yonts, C. Dean  
Panhandle Research and Extension Center  
Hygnstrom, Scott  
Natural Resources  
Heartland Integrated Water Quality Coordination Initiative  
$338,650  
iowa State University  
Wortmann, Charles  
Agronomy and Horticulture  

Kostelnik, Marjorie  
Education and Human Sciences  
Osher Lifelong Learning Institute  
$450,000  
Bernard Osher Foundation  
Eversoll, Deanna  
Education and Human Sciences  
Aguilar, Deanna  
Education and Human Sciences  

Lackey, Susan  
Natural Resources  
Eastern Nebraska Water Resources Assessment LPNRD  
$476,668  
Lower Platte North NRD  
Ayers, Jerry  
Natural Resources  
Hanson, Paul  
Natural Resources  
Joeckel, Robert  
Natural Resources  
Developing Hydrogeologic Databases to Assist in Water Resources Management — UENRD  
$203,353  
Upper Elkhorn NRD
Ledder, Glenn  
Mathematics  
$905,000  
UBM: Research for Undergraduates in  
Theoretical Ecology (RUTE)  
NSF

Deng, Bo  
Mathematics  
Gibson, Robert  
Biological Sciences  
Loladze, Irakli  
Mathematics  
Louda, Svata  
Biological Sciences

Lee, Ji-Young  
Nutrition and Health Sciences  
$387,365  
* Evaluation of Athero-Protective Role of Blue-Green Algae  
DHHS-NCCAM

Lee, Kevin  
Physics and Astronomy  
ClassAction: Model Rapid-Feedback &  
Dynam Formative Assess System  
$359,768  
Schmidt, Edward  
Physics and Astronomy  
NSF

Lenters, John  
Natural Resources  
$433,960  
Istanbulluoglu, Erkan  
Riparian Vegetation Impacts on Water  
Quantity, Quality, and Stream Ecology  
Nebraska Department of Natural Resources  
Geosciences

Levis, Donald  
Northeast Research and Extension Center  
$258,644  
* Extension and Educational Programs and Materials for  
Small- and Medium-Sized Pork Operations  
Department of Agriculture-NRICGP

Lewis, Charlotte  
Center on Children, Families and the Law  
$307,011  
Answers4Families/NRRS Database  
Nebraska Department of Health and Human Services

Li, Haorong  
Architectural Engineering  
$475,750  
Cho, Yong Kwon  
Department of Energy  
Construction Systems

Peng, Dongming  
Computer and Electronics Engineering  
Goedert, James  
Construction Systems

Cogdill, Robert  
Engineering

Li, Ming  
Psychology  
$362,145  
Anxiolytic Property of Atypical Antipsychotics  
DHHS-NIH-NIMH

Lindquist, John  
Agronomy and Horticulture  
$366,186  
Drijber, Rhae  
Department of Agriculture-NRICGP  
Agronomy and Horticulture

Yuen, Gary  
Plant Pathology

$200,000 – $999,999
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<td>Advanced Probes for Characterizations of Magnetic Nanostructures</td>
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<td>Lu, Yongfeng</td>
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<td>* Synthesis of Crystalline Carbon Nitride by Simultaneous Vibrational and Electronic Excitations</td>
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<td>Coating and Patterning Diamond Films by Laser Resonant Bond Breaking in Polymer Precursors</td>
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<td>Self-Integration of Carbon-Nanotube Sensors in Functional Integrated Circuits</td>
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<td>MRI: Development of Multifunctional Nanoscale Measurement System</td>
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<td>Near-Field-Controlled Nanoscale Coating of Functional Thin Films for Nanodevices</td>
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Mackenzie, Sally  Biological Sciences/ Agronomy and Horticulture/ Center for Plant Science Innovation
Nuclear Mechanisms that Influence Mitochondrial Genome Stability
$450,000  NSF
Christensen, Alan  Biological Sciences
Montiel, Maria Arrieta  Center for Plant Science Innovation
Nuclear-Organellar Interactions Involving AtMSH1 in Arabidopsis
$810,000  Department of Energy
Training Graduate Students in Plant Breeding Using Crop Drought Tolerance Improvement as a Model
$599,999  Department of Agriculture-NRICGP
Fromm, Michael  Center for Plant Science Innovation

Martin, Derrel  Biological Systems Engineering
Modeling and Field Experimentation to Determine Effects of Land Terracing-Republican River Basin (CESU)
$515,775  Department of Interior-BR

McCurdy, Merilee  Educational Psychology
* Training School Psychologists in Response-to-Intervention Implementation and System Change
$799,981  Department of Education
Daly, Edward  Educational Psychology
Ihlo, Tanya  Nebraska Center for Research on Children, Youth, Families and Schools
Kunz, Gina  Nebraska Center for Research on Children, Youth, Families and Schools

McNulty, Lawrence  Educational Administration
* IREX End of Conference Program/ TEA Professional Development
$259,920  International Research & Exchanges Board

McQuillan, Julia  Sociology
Infertility: Pathways & Psychosocial Outcomes
$637,373  Pennsylvania State University

Meagher, Michael  Chemical and Biomolecular Engineering
* Development of a Fermentation Process for a Biotherapeutic
$578,477  Industry client
* Strain Development and Expression of Alpha-Galactosidase
$438,097  Aperion Biologics Inc/CrossCart Inc.
Manufacture of a Next Generation Vaccine for Clinical Trial and Toxicity Testing
$725,993  Industry client
Melvin, Steven  
West Central Research and Extension Center  
Irrigation Management with Limited Water: A Farm Education Program  
$287,080  
Martin, Derrel  
Biological Systems Engineering  
Corr, Alan  
West Central Research and Extension Center  
van Donk, Simon  
West Central Research and Extension Center  

Merchant, James  
Natural Resources  
Initial Design and Implementation of the Nebraska Geospatial Data Sharing and Web Services Network  
$295,311  
Martin, Derrel  
Biological Systems Engineering  
Corr, Alan  
West Central Research and Extension Center  
van Donk, Simon  
West Central Research and Extension Center  

Miller, Nancy  
Textiles, Clothing and Design  
Collaborative Research on Small Business Network Creation and Outcomes for Change and Innovation  
$230,011  

Mitra, Amit  
Plant Pathology  
Functional Map of Tomato Genome Using Direct Repeat Induced Gene Silencing  
$301,000  

Moore, Raymond  
Engineering  
Students United in Classes, Community, Engineering, Service and Study Abroad  
$591,995  

Moriyama, Etsuko  
Biological Sciences/Center for Plant Science Innovation  
Efficient and Sensitive Mining System for G-Protein Coupled Receptors  
$577,014  

Nelson, J. Ron  
Special Education and Communication Disorders  
Effects of a Supplementary Vocabulary Intervention for Students with Limited English Proficiency  
$694,884  

Newman, Ian  
Educational Psychology  
* Nebraska Collegiate Consortium to Reduce High Risk Drinking  
$374,993  

Nickerson, H. Doak  
Nebraska State Forest Service  
Restoring the Pine Ridge Forest Ecosystem  
$300,000  

$200,000 — $999,999
Nguyen, Lim  Computer and Electronics Engineering
Self-Encoded Spread Spectrum Modulation for Robust Anti-Jamming Communication
$379,767  DOD-DEPSCoR
Jang, Won  Computer and Electronics Engineering

Noureddini, Hossein  Chemical and Biomolecular Engineering
Reduction of Phosphorus from Ethanol By-Product used as Livestock Feed
$210,781  Nebraska Corn Board

Nowak, Andrzej  Civil Engineering/Nebraska Transportation Center
* SHRP2 R19 Bridges for Service Life beyond 100 years: Service Limit States
$293,118  Modjeski and Masters
Azizinamini, Atorod  Civil Engineering

Oglesby, Robert  Geosciences
Evaluating the Role of Global Snow Cover on Seasonal to Interannual Predictability of Temperature & Precipitation
$598,216  NASA

Osorio, Fernando  Veterinary and Biomedical Sciences
Porcine Reproductive and Respiratory Virus: Role of Viral Genes in Virulence/Attenuation
$375,000  Department of Agriculture-NRICGP
Pattnaik, Asit  Veterinary and Biomedical Sciences

Pattnaik, Asit  Veterinary and Biomedical Sciences
* Glycoproteins of Porcine Reproductive and Respiratory Syndrome Virus in Infection and Immunity
$371,230  Department of Agriculture-AFRI
Osorio, Fernando  Veterinary and Biomedical Sciences

Pegg, Mark  Natural Resources
* Environmental Flows in the Niobrara River for Fish and Wildlife
$726,754  Nebraska Game and Parks Commission

* Missouri River Sportfish Ecology and Management
$401,210  Nebraska Game and Parks Commission
Sturgeon Management in the Platte River
$801,000  Nebraska Game and Parks Commission

Perez, Lance  Electrical Engineering
Self-Configuration & Localization in Ad Hoc Wireless Sensor Networks
$548,807  DOD-DEPSCoR
Goddard, Stephen  Computer Science and Engineering

GAANN in Engineering & Assistive Technology
$387,165  Department of Education
Goddard, Stephen  Computer Science and Engineering
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<td>Food Science and Technology</td>
<td>* Adaptive Immune Response to Symbiotic Bacteria as a Mediator of Gut Homeostasis</td>
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<td>* Retinal Neurons Afferent to the Circadian System</td>
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<td>* 5HT Presynaptic Inhibition of Retinal Input to the SCN</td>
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<td>Transgenic Virus Resistant Squash: Ecological Effect</td>
<td>$314,877</td>
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<td>Recruitment of Walleye and White Bass in Irrigation Reservoirs</td>
<td>$484,448</td>
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<td>Assessing Local &amp; Regional Variability in Productivity &amp; Fidelity of Grassland Birds on National Park Service Units in the Great Plains</td>
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<td>* Intelligent Optimal Mechanical Sensorless Control for Variable-Speed Wind Energy Systems Considering System Uncertainties</td>
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<td>Geosciences/Antarctic Geological Drilling Program</td>
<td>* Promoting Environmental Literacy through Teacher Professional Development Workshops and Climate Change Student Summits (C2S2)</td>
<td>$694,095</td>
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<td>Stable High-Spin Polyradicals &amp; Chiral Pi-Conjugated Systems</td>
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Rajurkar, Kamlakar  Industrial and Management Systems Engineering
* Theoretical and Experimental Study of Debris Removal & Tool Wear in Micro-EDM $250,000 NSF
Modeling and Analysis of Material Removal and Tool Wear in Micro Ultrasonic Machining $247,760 NSF

Ramamurthy, Byrav  Computer Science and Engineering
* Dynamic Optimized Advance Scheduling of Bandwidth Demands $449,976 Department of Energy-EPSCoR

Ramamurthy, Byrav  Computer Science and Engineering
Modeling and Analysis of Material Removal and Tool Wear in Micro Ultrasonic Machining $247,760 NSF

Ratcliffe, Brett  Entomology/University of Nebraska State Museum
Faunistic Survey of Dynastinae of Mexico, Guatemala, & Belize $481,493 NSF

Reddy, N.R. Jayagopala Veterinary and Biomedical Sciences
* Delineating Autoimmunity in Post-Infectious Myocarditis (National Center, Scientist Development Grant) $308,000 American Heart Association

Reddy, N.R. Jayagopala Veterinary and Biomedical Sciences
Delineating Autoimmunity in Post-Infectious Myocarditis (National Center, Scientist Development Grant) $308,000 American Heart Association

Redepenning, Jody  Chemistry/Nebraska Center for Materials and Nanoscience
Chemically Modified Nano-Electrodes for Magnetoelectronics Applications $390,000 NSF
Binek, Christian  Physics and Astronomy
Sokolov, Andrei  Physics and Astronomy

Reichenbach, Stephen  Computer Science and Engineering
SEI: Information Modeling for Comparative Visualizations & Analyses $389,228 NSF

Reid, John  Mechanical Engineering
Midwest States Regional Pooled Fund Program $600,000 Nebraska Department of Roads
Sicking, Dean  Civil Engineering/Midwest Roadside Safety Facility
Faller, Ron  Midwest Roadside Safety Facility

Reid, Robert  Special Education and Communication Disorders
Leadership Training in Attention Deficit Hyperactivity Disorder $620,006 Department of Education

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<td>Spintronic Devices Enabled by Semiconducting Boron Carbide</td>
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<td>Building Knowledge Discovery &amp; Information Fusion Tools for Collaborative Systems to Adaptively Manage Uncertain Hydrological Resources</td>
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<td>Electronic Interfacing between a Living Cell and a Nanodevice: A Bio-Nano Hybrid System</td>
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* Electronic Interfacing between a Living Cell and a Nanodevice: A Bio-Nano Hybrid System

* Post-Secondary Institutions Safety Threat Assessment Technical Assistance Center
Scheffler, Marilyn  
**Special Education and Communication Disorders**  
Project RTI: Building Capacity Together to Implement Response to Intervention  
$800,000  
Sanger, Dixie  
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Project Support: Speech-Language Pathologists Supporting Literacy Instruction  
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Sanger, Dixie  
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Project Re-entry: Preparing Speech-Language Pathologists to Serve Students with Traumatic Brain Injury  
$800,000  
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Project NETS: Nebraska Educational Transition Specialists  
$798,624  
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* MRI: Development of an Optical Hall Effect Instrumentation for Non-Contact Nanostructure Electrical Characterization  
$299,915  
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Han, Ming  
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Schubert, Eva  
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Ducharme, Stephen  
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Hofmann, Tino  
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**Sellmyer, David**  
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Studies of Artificially Structured Composite Magnets  
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Wavebreaking and Particle Trapping in Collisionless Plasmas  
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* SHNBHIN Improving Access Health IT  
$385,528  
* Western Nebraska Health Information Exchange Network HIT RND Project  
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Shea, Patrick  Natural Resources
Targeting Watershed Vulnerability & Behaviors Leading to Adoption of Conservation Management Practices
$570,000  Department of Agriculture-CSREES
Burbach, Mark  Natural Resources
Lynne, Gary  Agricultural Economics
Martin, Alexander  Agronomy and Horticulture
Milner, Maribeth  Agronomy and Horticulture

Shearman, Robert  Agronomy and Horticulture
* Buffalograss Breeding, Evaluation and Management for Golf Course
$210,000  U. S. Golf Association

Shelton, David  Northeast Research and Extension Center
* Improving and Conserving Water Resources Through Stormwater Management Education for Community Decision Makers of Today and Tomorrow
$544,500  Department of Agriculture-CSREES
Feehan, Kelly  Northeast Research and Extension Center
Franti, Thomas  Biological Systems Engineering
Rodie, Steven  Agronomy and Horticulture

Sheridan, Susan  Educational Psychology/Nebraska Center for Research on Children, Youth, Families and Schools
Consultation Based Interventions for Students with Social and Behavioral Concerns
$599,694  Department of Education
Glover, Todd  Nebraska Center for Research on Children, Youth, Families and Schools
Bovaird, James  Educational Psychology/Nebraska Center for Research on Children, Youth, Families and Schools

Shield, Jeffrey  Mechanical Engineering/Nebraska Center for Materials and Nanoscience
* Phase Transformations in Confined Nanosystems
$450,000  Department of Energy-EPSCoR
Belashchenko, Kirill  Physics and Astronomy
Novel Nanostructures for High-Energy Nanocomposite Permanent Magnets
$251,819  NSF

Sicking, Dean  Civil Engineering
Enhancement of Research Infrastructure at the Midwest Roadside Safety Facility
$346,000  Nebraska Department of Roads
Identification of Vehicular Impact Conditions Associated with Serious Run-Off-Road Crashes
$634,521  National Cooperative Highway Research Program
Khattak, Aemal  Civil Engineering
Jones, Elizabeth  Civil Engineering

$200,000 — $999,999
Siegfried, Blair
Entomology
Quantifying Risk Factors for Evolution of European Corn Borer Resistance to Cry1F Expressing Corn Hybrids
$346,845
Department of Agriculture-CSREES
Evaluating Bioactivity of Insecticidal Proteins Against European Corn Borer (Lepidoptera: Crambidae)
$220,000
Pioneer Hi-Bred

Simmons, Mark
Southeast Research and Extension Center
* Operation Military Kids
$267,211
Kansas State University

Sleight, Weldon
Nebraska College of Technical Agriculture
* Biomass Energy System
$360,000
Nebraska Environmental Trust

Smith, David
Veterinary and Biomedical Sciences
* Nebraska Get Smart on Farm 2008/09 Contract
$235,000
Nebraska Department of Health and Human Services

Snow, Daniel
Natural Resources
Effects of Cattle Manure Handling & Management Strategies on Fate & Transport of Hormones
$699,607
Environmental Protection Agency
Bartelt-Hunt, Shannon
Civil Engineering
Zhang, Tian
Civil Engineering
Kranz, William
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Mader, Terry
Northeast Research and Extension Center
Shapiro, Charles
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Shelton, David
Northeast Research and Extension Center

Snow, Gregory
Physics and Astronomy
The Luminosity Measurement for the DZERO Experiment at Fermilab
$410,352
Department of Energy-EPSCoR
Bloom, Kenneth
Physics and Astronomy
Claes, Daniel
Physics and Astronomy
Dominguez, Aaron
Physics and Astronomy

GAANN Fellowships for Physics at UNL
$653,280
Department of Education
Claes, Daniel
Physics and Astronomy
Dominguez, Aaron
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Uiterwall, Cornelis
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Batelaan, Herman
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Gay, Timothy
Physics and Astronomy
Adenwalla, Shireen
Physics and Astronomy
Soh, Leen-Kiat  
Computer Science and Engineering  
iLOG: Embedding & Validating Empirical Usage Intelligence in Learning Objects  
$409,705  
NSF  
Samal, Ashok  
Computer Science and Engineering  
Nugent, Gwen  
Nebraska Center for Research on Children, Youth, Families and Schools  

Sourkup, Rodney  
Electrical Engineering  
A Novel Variable Wide Bandgap Material for High Power, High Frequency Devices  
$368,008  
DOD-DEPSCoR  
Hudgins, Jerry  
Electrical Engineering  
Ianno, Natale  
Electrical Engineering  

Spalding, Roy  
Agronomy and Horticulture  
Effectiveness of Irrigated Crop Management Practices in Reducing Groundwater Nitrate Contamination  
$630,768  
Department of Agriculture-CSREES  
Ferguson, Richard  
Agronomy and Horticulture  
Marx, David  
Statistics  
Spalding, Mary  
Natural Resources  

Spaulding, William  
Psychology  
Decision Science in Rehabilitation  
$860,775  
DHHS-NIH-NIMH  
Garbin, Calvin  
Psychology  

Specht, James  
Agronomy and Horticulture  
Genetic Mapping & Application of SNP DNA Markers in Soybean  
$389,391  
Department of Agriculture-ARS  

Spreitzer, Robert  
Biochemistry  
Rubisco Phylogenetic Engineering  
$202,383  
Department of Agriculture-NRICGP  

Srisa-an, Witawas  
Computer Science and Engineering  
CSR-PDOS: Memory Efficient Garbage Collection Framework for Java Server Applications  
$300,000  
NSF  

Stansbury, John  
Civil Engineering  
Feasibility of Integrating Natural and Constructed Wetlands in Roadway Drainage System Design  
$255,562  
Nebraska Department of Roads  
Moussavi, Massoum  
Civil Engineering  
Zhang, Tian  
Civil Engineering  

Starace, Anthony  
Physics and Astronomy  
Strong Field & Ultrafast Atomic and Molecular Processes  
$240,000  
NSF  

Staswick, Paul  
Agronomy and Horticulture  
Deciphering Novel Signaling Roles for Amino Acid Conjugates of Jasmonic Acid  
$249,969  
NSF  

$200,000 – $999,999
Stentz, Terry  Construction Management  Human Factors in Railway Operation  
$344,575  Department of Transportation-FRA
Jones, Elizabeth  Civil Engineering
Rilett, Laurence  Civil Engineering
Khattak, Aemal  Civil Engineering
Riley, Michael  Industrial and Management Systems Engineering
Jones, Erick  Industrial and Management Systems Engineering

Analytic Study of Acute Extremity Lacerations in Meat Packing  
$593,333  Harvard School of Public Health

Stockton, Matthew  West Central Research and Extension Center  Whole-Farm Economic Biological Stochastic Simulation Model of Small to Medium Cow-calf Firms with Research, Teaching and Extension Modules  
$499,740  Department of Agriculture-NRICGP

Storz, Jay  Biological Sciences  Test of Adaptive Divergence across Altitudinal Gradients: Population Genomics of Deer Mice  
$492,000  NSF

Stowell, Richard  Biological Systems Engineering  Air Quality Extension & Education: Enhanced Learning Opportunities for Addressing Air Quality Issues in Animal Agriculture  
$498,562  Department of Agriculture-NRICGP

Subbiah, Jeyamkondan  Biological Systems Engineering/ Food Science and Technology  Improving the Safety of Prepared, But Not Ready-To-Eat Microwavable Foods through Heat Transfer and Pathogen Destruction Modeling  
$599,985  Department of Agriculture-CSREES
Jones, David  Biological Systems Engineering
Thippareddi, Harshavardhan  Food Science and Technology

Subramanian, Anuradha  Chemical and Biomolecular Engineering  Biomimetic Nanofibrillar Scaffolds for Tissue Engineering  
$390,720  DHHS-NIH-NIBIB
Larsen, Gustavo  Chemical and Biomolecular Engineering
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<thead>
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<td>Svoboda, Mark</td>
<td>Natural Resources</td>
<td>Development of a “Drought Ready Communities” Program</td>
<td>$288,670</td>
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<td>Development of Enhanced GRACE Water Storage Data into the U.S. and North American Drought Monitors</td>
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<td>$205,000</td>
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<td>Integrating Enhanced GRACE Water Storage Data into the U.S. and North American Drought Monitors</td>
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<td>Tadros, Maher</td>
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<td>Class C Fly Ash in Concrete Pavement</td>
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<td>Evaluation &amp; Repair Procedures for Precast/Prestressed Concrete Girders w/Longitudinal Cracking in the Web</td>
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<td>Civil Engineering</td>
<td>Impact of Large 0.7 inch Strand on NU-I Girder and NUDeck</td>
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<td>Nebraska Department of Roads Construction Systems</td>
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<td>Takacs, James</td>
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<td>Ligand Scaffold Optimization for Catalytic Asymmetric Hydroboration</td>
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<td>Tan, Li</td>
<td>Engineering Mechanics</td>
<td>Self-Organized Nanolayers for Organic Thin-Film Transistors</td>
<td>$387,463</td>
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<td>Bi-Functional Pentacene Monolayer for Organic Field-Effect Transistors</td>
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<td>Chemistry</td>
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Taylor, Steve  Food Science and Technology  
* Determination of Minimal Elicitation Dose for Almond in Almond-Allergic Individuals  
$261,000  Almond Board of California  
Allergenicity Evaluation of Isinglass  
$555,035  Various Industries  

Thippareddi, Harshavardhan  Food Science and Technology  
Understanding and Controlling Listeria Monocytogenes Transmission through Ready-to-Eat Meat Products  
$222,270  Colorado State University  

HACCP Assistance for Small & Very Small Processors with Development & Validation of Safe Meat Chilling Processes  
$599,916  Department of Agriculture-CSREES  
Wang, Lijun  Biological Systems Engineering  
Weller, Curtis  Biological Systems Engineering  
Burson, Dennis  Animal Science  

Improving Safety of Shell Eggs & Egg Products by Addressing Critical Research Needs for Salmonella Enteritidis & Salmonella spp  
$599,951  Department of Agriculture-NRICGP  
Froning, Glenn  Food Science and Technology  
Subbiah, Jeyamkondan  Biological Systems Engineering  

Thomas, Steven  Natural Resources  
FIBR: Linking Genes to Ecosystems  
$341,084  University of California-Riverside  

Trainin, Guy  Teaching, Learning and Teacher Education  
Arts Linc  
$261,674  Lake Elsinore USD  

Tyler, Kimberly  Sociology  
Social Networks, HIV Risk Behaviors & Homeless Youth  
$356,771  DHHS-NIH-NIDA  

Tyre, Drew  Natural Resources  
* Quantifying Uncertainty in Missouri River Adaptive Management Processes  
$247,104  Department of Interior-GS  
Istanbulluoglu, Erkan  Natural Resources  
Allen, Craig  Natural Resources  

Uiterwaal, Kees  Physics and Astronomy  
* Molecules and Intense Light in a Photodynamical Test Tube  
$440,000  NSF  

Inside a Focused Laser Beam: Molecular Dynamics  
$477,001  NSF  

$200,000 — $999,999
Umstadter, Donald  
* Research and Development of High Power Laser Driven Electron Accelerator, Phase II  
$899,823  
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Shadwick, Bradley  
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DOD-DARPA  
Laser Produced Coherent X-Ray Sources  
$645,000  
Banerjee, Sudeep  
Physics and Astronomy

Van Etten, James  
Center for Innovation in Membrane Protein Production  
$553,105  
University of California, San Francisco  
Plant Pathology

Yariyam, Vinodchandran  
* AF: Small: Studies in Nonuniformity, Completeness and Reachability  
$272,031  
NSF

Velipasalar, Senem  
CSR-DMSS, SM: Cooperative Activity Analysis in Wireless Smart-Camera Networks (Wi-SCaNs)  
$300,000  
Gursoy, Mustafa  
Electrical Engineering

Wagner, William  
Effects of Predation by a Phonotactic Parasitoid on Male and Female Reproductive Behavior in a Field Cricket  
$505,414  
NSF  
Communication of Direct Mating Benefits to Females  
$313,283  
NSF

Waller, Steven  
Agriculture in the Classroom  
$302,366  
Nebraska Foundation for Agricultural Awareness

Walstad, William  
Interactive Teaching in Undergraduate Economic Courses  
$674,928  
NSF

Wang, Dong  
* Expanding the Scope of Association Mapping in Important Crop Species with Methodology Development in Statistics  
$282,000  
Department of Agriculture-AFRI  
Eskridge, Kent  
Statistics  
Boenziger, P. Stephen  
Agronomy and Horticulture  
Dweikat, Ismail  
Agronomy and Horticulture

Wang, Jun  
Regional Air Quality and Climate Impact of Biomass-Burning Aerosols from Central America: An Analysis with EOS Data and Numerical Models  
$300,676  
NASA

$200,000 – $999,999
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<td>Weisz, Victoria</td>
<td>Center on Children, Families and the Law</td>
<td>$264,030</td>
<td>Nebraska State Court Improvement</td>
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<td>Psychology/Research and Economic Development</td>
<td>$403,781</td>
<td>DHHS-NIH-NIDA</td>
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<td>Espy, Kimberly</td>
<td>* Prenatal Tobacco Exposure, Self Regulation, and Externalizing Behaviors in Early Childhood</td>
<td>$403,781</td>
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<td>Wiebe, Sandra</td>
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<td>Wiener, Richard</td>
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<td>REU Site: Psychology and Law</td>
<td>$200,000</td>
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<td>Self-referencing, Social Identity &amp; Judgments of Sexual Harassment</td>
<td>$302,364</td>
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<td>Wilson Jr., Robert</td>
<td>Panhandle Research and Extension Center</td>
<td>$880,000</td>
<td>Monsanto Co.</td>
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<td>Woldt, Wayne</td>
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<td>$259,742</td>
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<td>Skipton, Sharon</td>
<td>Southeast Research and Extension Center</td>
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<td>Wood, Charles</td>
<td>Biological Sciences/Nebraska Center for Virology</td>
<td>$273,363</td>
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<td>Research and Training on HIV/AIDS Neuropathogenesis in Zambia</td>
<td>$273,363</td>
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<td>Vaccination against Mucosal HIV Clade C Transmission</td>
<td>$768,718</td>
<td>Dana-Farber Cancer Institute</td>
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Woodward, Gordon  Mathematics  
Increasing Participation in Computer Science, Engineering, & Mathematics through NSF Scholarships at UNL  
$400,000  NSF  
Ballard, John  Engineering  
Ramamurthy, Byrav  Computer Science and Engineering  
Goddard, Steve  Computer Science and Engineering  
Lee, Kevin  Arts & Sciences  

Nebraska REU in Applied Mathematics  
$251,823  NSF  
Rebarber, Richard  Mathematics  

Wortmann, Charles  Agronomy and Horticulture  
Integrated Approach to Reduced Risk of Phosphorus Pollution of Surface Waters in Crop-Livestock Based Managed Ecosystems of the Midwest  
$235,839  Nebraska Corn Board  
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Schulte, Dennis  Biological Systems Engineering  
Franti, Tom  Biological Systems Engineering  
Jose, H. Douglas  Agricultural Economics  

Yang, Yiqi  Textiles, Clothing and Design  
Resistance of Sulfur Dyed Fabrics to Oxidative Bleaching & Acidic Tendering: Improvement & Application  
$300,618  Procter & Gamble  

Yoder, Ronald  Biological Systems Engineering  
Enhancing the Value of Water through Management Education  
$225,000  Nebraska Department of Natural Resources  

$797,000  Department of Agriculture-CSREES  
Baquet, Alan  Agricultural Economics  

Zempleni, Janos  Nutrition and Health Sciences  
* Biotin Sensing and Chromatin Remodeling by Holocarboxylase Synthetase  
$808,542  DHHS-NIH-NIDDK  
Biotin Affects Cytokine Metabolism  
$409,586  Department of Agriculture-NRICGP  

Zeng, Xiao Cheng  Chemistry  
ITR: Multiscale Treatment of Systems with Strong Heterogeneities  
$715,121  NSF  
Diestler, Dennis  Agronomy and Horticulture  
Feng, Ruqiang  Engineering Mechanics  

Zera, Anthony  Biological Sciences  
Enzymatic and Molecular Bases of Trade-Offs in Lipid Metabolism that Underlie Life History Trade-Off  
$441,682  NSF  
Harshman, Lawrence  Biological Sciences  

$200,000 — $999,999
Zlotnik, Vitaly  
Geosciences
Mechanisms Producing Variation in Lake Salinity in Dune Environments: Nebraska Sand Hills

$219,958  
NSF

Fritz, Sherilyn  
Geosciences

Swinehart, James  
Natural Resources

$200,000 – $999,999
### American Recovery and Reinvestment Act (ARRA) Awards

Through ARRA, or the Stimulus Act, the U.S. is investing in science, technology and engineering research and infrastructure to stimulate the nation’s economy and bolster its research capacity. These are the ARRA awards UNL faculty received through competitive grants from federal agencies in 2009.

<table>
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<tr>
<th>Faculty Name</th>
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<th>Project Title</th>
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<td>Alfano, James</td>
<td>Plant Pathology/Center for Plant Science Innovation</td>
<td>ARRA: EAGER: Plant Chromatin Remodeling in Response to the Bacterial Pathogen Pseudomonas syringae</td>
<td>$299,929</td>
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<td>Barletta, Raul</td>
<td>Veterinary and Biomedical Sciences</td>
<td>ARRA: Isolation and Verification of Mycobacterium tuberculosis Mutant Strains</td>
<td>$67,497</td>
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<td>Barletta-Chacon, Ofelia</td>
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<td>Barycki, Joseph</td>
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<td>ARRA: Structural Insights into Redox Homeostasis: Supplement</td>
<td>$333,085</td>
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<td>Simpson, Melanie</td>
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<td>ARRA: Genetic Control over the Gut Microbiome Composition</td>
<td>$997,732</td>
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<td>ARRA: Antibiotic Properties of Artificial Agonists for a Bacterial Riboswitch</td>
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<td>ARRA: Metabolic Engineering Studies of Extreme Thermoacidophily</td>
<td>$130,220</td>
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* ARRA: Factors that Facilitate or Inhibit Enrollment of Domestic Engineering PhD Students: A Mixed Methods Study
$149,851  NSF
Weissinger, Ellen  Graduate Studies
Smith, Michelle Howell  Graduate Studies

Crabtree, Kay  Biological Sciences/Nebraska Center for Virology
* ARRA: Epidemiology of HHV-8 Transmission in Lusaka, Zambia
$31,734  DHHS-NIH-NIAID
Wood, Charles  Biological Sciences/Nebraska Center for Virology

Curto, Carina  Mathematics
* ARRA: Stimulus Representation and Spontaneous Activity in Recurrent Networks
$109,635  NSF

Diamond, Judy  University of Nebraska State Museum
* ARRA: World of Viruses Supplement to NIH-NCRR Grant
$200,000  DHHS-NIH-NCRR
Cottingham, Ian  Computer Science and Engineering
Dugas, William  University Television
Wagler, Adam  Journalism and Mass Communications
Angeletti, Anisa  Biological Sciences

Du, Liangcheng  Chemistry
* ARRA: Biosynthesis of HSAF, an Antifungal Natural Product with a Novel Mode of Action
$49,028  DHHS-NIH-NIAID

Frank, Tracy  Geosciences
* ARRA: Acquisition of a Carbon Analyzer to Support Research in Sedimentary Systems
$31,036  NSF

Gay, Timothy  Physics and Astronomy
* ARRA: Polarized Electron Physics
$610,000  NSF

Green, Jordan  Special Education and Communication Disorders
* ARRA: Early Speech Motor Development – Equipment
$98,000  DHHS-NIH-NIDCD

Hanson, Paul  Natural Resources
* ARRA: REU Site: Dune Undergraduate Geomorphology and Geochronology Project in Wisconsin
$45,331  NSF
* ARRA: Linking Loess Landforms and Eolian Processes
$45,730  NSF
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<th>Name</th>
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<td>Harris, Steven</td>
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<td>Kaul, Robert</td>
<td>University of Nebraska State Museum</td>
<td>* ARRA: Development of a Multi-Herbarium Web-Accessible Database of the Vascular Plants from the Missouri Plateau, U.S.A.</td>
<td>$26,003</td>
<td>Black Hills State University</td>
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<td>Kravchenko, Ilya</td>
<td>Physics and Astronomy</td>
<td>* ARRA: Upgrade of CMS Level 1 Trigger by Addition of Pixel Detector Data, and Search for SM Higgs Boson at CMS</td>
<td>$140,000</td>
<td>NSF</td>
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<tr>
<td>Li, Yusong</td>
<td>Civil Engineering</td>
<td>* ARRA: Fate and Transport of Metal-Based Nanoparticles in the Subsurface</td>
<td>$27,279</td>
<td>Tufts University</td>
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<td>Meagher, Michael</td>
<td>Chemical and Biomolecular Engineering</td>
<td>* ARRA: Recombinant Protein-based Adjuvant for Cellular Immunity</td>
<td>$1,593,822</td>
<td>PharmaReview Corporation</td>
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<tr>
<td>Moriyama, Etsuko</td>
<td>Biological Sciences/Center for Plant Science Innovation</td>
<td>* ARRA: Efficient and Sensitive Mining System for G-Protein Coupled Receptors</td>
<td>$95,017</td>
<td>DHHS-NIH-NLM</td>
</tr>
<tr>
<td>Nowak, Andrzej</td>
<td>Civil Engineering</td>
<td>* ARRA: IRES Poland: Experience in Civil Infrastructure Systems</td>
<td>$144,108</td>
<td>NSF</td>
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<tr>
<td>Othman, Shadi</td>
<td>Biological Sciences</td>
<td>* ARRA: Regenerative Elastography: Monitoring Soft Tissue Reconstruction</td>
<td>$144,900</td>
<td>DHHS-NIH-NIBIB</td>
</tr>
</tbody>
</table>
Paul, Prem  Research and Economic Development
* ARRA: Nebraska Center for Virology Facility Expansion
$8,000,000  DHHS-NIH-NCRR
Wood, Charles  Biological Sciences/Nebraska Center for Virology

Powers, Robert  Chemistry
* ARRA: Revealing Functions for Newly Discovered Proteins by FAST-NMR
$375,670  DHHS-NIH-NIAID
Cerny, Ronald  Chemistry
Hage, David  Chemistry

Qiao, Wei  Electrical Engineering
* ARRA: Online Noninvasive Condition Monitoring and Fault Detection for Wind Turbines
$380,398  Department of Energy
Hudgins, Jerry  Electrical Engineering

Rack, Frank  Geosciences/Antarctic Geological Drilling Program
* ARRA: ANDRILL Coulman High Project – Investigating Antarctica’s Role in Cenozoic Global Environmental Change Phase 1 (Site Surveys)
$2,684,370  NSF
Harwood, David  Geosciences
Fischbein, Steven  Antarctic Geological Drilling Program

Rilett, Laurence  Civil Engineering
* ARRA: National Clean Diesel Funding Assistance Program Region 7 (1)
$1,000,000  Environmental Protection Agency

Saraf, Ravi  Chemical and Biomolecular Engineering
* ARRA: Regulating Current through a Nanoparticle Necklace by Microorganism: A Transformative Technology for Biofuel Cells and Biosensors
$391,056  NSF

Schubert, Mathias  Electrical Engineering
* ARRA: Effects of Polarization Fields and Surface Charge Layers on p-type Conductivity in In(Ga)N
$231,857  NSF

Shield, Jeffrey  Mechanical Engineering
ARRA: REU Site:
* Undergraduate Research Opportunities in Nanomaterials and Nanoscience at the University of Nebraska–Lincoln
$360,000  NSF
Enders, Susan  Engineering Mechanics

Simpson, Melanie  Biochemistry
* ARRA: Nebraska Center for Cellular Signaling
$69,985  UNMC-University of Nebraska Medical Center
Somerville, Greg  Veterinary and Biomedical Sciences  
* ARRA: Antibiotic Pressure and Selection of TCA Cycle Mutants in Staphylococcus Epidermidis  
$82,497  UNMC-University of Nebraska Medical Center

Storz, Jay  Biological Sciences  
* ARRA: Mechanisms of Hemoglobin Adaptation to Hypoxia in High Altitude Rodents  
$220,774  DHHS-NIH-NHLBI

Moriyama, Hideaki  Biological Sciences  
* ARRA: Design and Evaluation of Ultrasound Stimulation-Aided Bioreactor Configurations  
$533,941  DHHS-NIH-NCRR

Subramanian, Anuradha  Chemical and Biomolecular Engineering  
* ARRA: Free-Standing All-Nanoparticle Thin Fibers: A Novel Building Block for Organic Photovoltaic Applications  
$300,002  NSF

Tan, Li  Engineering Mechanics  
* ARRA: Stabilization and Control in Nonlinear Structural-Acoustics, Magnetic Imaging, and Elasticity  
$96,436  NSF

Toundykov, Daniel  Mathematics  
* ARRA: Stabilization and Control in Nonlinear Structural-Acoustics, Magnetic Imaging, and Elasticity  
$210,000  University of Wisconsin-Madison

Tsymbal, Evgeny  Physics and Astronomy  
* ARRA: FRG: Switchable Two-Dimensional Materials at Oxide Hetero-Interfaces  
$210,000  University of Wisconsin-Madison

Van Etten, James  Plant Pathology  
* ARRA: DNA Replication and Gene Expression of Chlorella Viruses  
$144,281  DHHS-NIH-NIGMS

Whitbeck, Les  Sociology  
* ARRA: Novel Approaches to Understanding Mental Disorder, Substance Abuse and HIV-Risk Among Homeless Women  
$400,715  DHHS-NIH-NICHD
Wood, Charles  
* ARRA: Immunofocusing for Kaposi’s Sarcoma-Associated Herpesvirus Neutralizing Epitopes  
  $990,796  
  DHHS-NIH-National Cancer Institute

* ARRA: Nebraska Center for Virology T1  
  $499,826  
  DHHS-NIH-NCRR

* ARRA: Vaccination Against Mucosal HIV Clade C Transmission  
  $251,363  
  Dana-Farber Cancer Institute

* ARRA: Nebraska Center for Virology  
  $199,000  
  DHHS-NIH-NCRR

  * ARRA: Programs in HIV and AIDS-Associated Diseases/Malignancies  
    $172,800  
    DHHS-NIH-Fogarty International Center

  * ARRA: Kaposi’s Sarcoma and Human Herpesvirus in Africa  
    $149,600  
    DHHS-NIH-National Cancer Institute

Zempleni, Janos  
* ARRA: Novel Histone Biotinylation Sites and Relationships to Other Epigenetic Marks  
  $535,463  
  DHHS-NIH-NIDDK

Zhang, Shunpu  
* ARRA: A Computational Genotyping System for Improved Influenza Surveillance  
  $203,488  
  UNO-University of Nebraska-Omaha

Zhang, Luwen  
* ARRA: Modulation of Apoptosis by IRF-4 in EBV Transformation  
  $545,682  
  DHHS-NIH-National Cancer Institute

  * ARRA: Oncogenic Properties of Interferon Regulatory Factor 7  
    $25,724  
    DHHS-NIH-National Cancer Institute
Early Career Awards
Active awards in 2009
* Indicates new in 2009

NSF CAREER Grants

National Science Foundation CAREER grants are awarded only to untenured junior faculty. NSF emphasizes that the grants recognize research and education “of the highest quality and in the broadest sense.” CAREER grants are unique in requiring a four- to five-year plan for the scientist’s development as both a researcher and an educator.

<table>
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<tr>
<th>Name</th>
<th>Department</th>
<th>Project Description</th>
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<tr>
<td>Binek, Christian</td>
<td>Physics and Astronomy</td>
<td>Education &amp; Research on Nanoscale Spintronic Systems &amp; Heterostructures</td>
<td>$500,000 NSF</td>
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<td>Bloom, Kenneth</td>
<td>Physics and Astronomy</td>
<td>Top-Quark Physics, Computing &amp; Software at Large Hadron Collider</td>
<td>$550,000 NSF</td>
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<td>Cohen, Myra</td>
<td>Computer Science and Engineering</td>
<td>Configuration-Aware Testing Through Intelligent Sampling to Improve Software Dependability</td>
<td>$400,000 NSF</td>
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<td>Dominguez, Aaron</td>
<td>Physics and Astronomy</td>
<td>Superior Silicon Tracking &amp; Discovery as CMS &amp; D0</td>
<td>$550,000 NSF</td>
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<td>Elbaum, Sebastian</td>
<td>Computer Science and Engineering</td>
<td>Leveraging Field Data to Test Pervasive Systems</td>
<td>$412,594 NSF</td>
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<td>Enders, Axel</td>
<td>Physics and Astronomy</td>
<td>Self-Assembled Magnetic Nanostructures</td>
<td>$400,000 NSF</td>
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Frank, Tracy  
Geosciences  
Exploring the Geologic Record of Major Climate Transitions: Causes, Consequences, & Impacts on the Evolution of Earth Systems  
$583,816  
NSF

Gursoy, Mustafa  
Electrical Engineering  
CAREER: Energy-Efficient Wireless Communications under Channel Uncertainty  
$400,000  
NSF

Hebets, Eileen  
Biological Sciences  
Evolution and Function of Complex Signaling in Wolf Spider Genus Schizocosa  
$680,351  
NSF

Kim, Yong Rak  
Civil Engineering  
Research & Education on Advanced Multiscale Modeling-Analysis of Roadway Materials, Mixtures, & Infrastructure Systems  
$402,044  
NSF

Schubert, Eva  
Electrical Engineering  
* Chiral Nanostructure Hybrid Materials for Application in Terahertz Resonator and Magnetic Storage Devices  
$400,000  
NSF

Xu, Lisong  
Computer Science and Engineering  
Stochastic TCP Friendliness: Exploring the Design Space of TCP-Friendly Traffic Control in Best-Effort Internet  
$400,000  
NSF
K Awards

National Institutes of Health K Awards support intensive development experiences leading to research independence in one of the biomedical, behavioral or clinical sciences. The proposed career-development experience must be in a research area new to the applicant and/or one in which an additional supervised research experience will substantially add to the applicant’s research capabilities. Candidates must provide a plan for achieving independent research support by the end of the award, and must be willing to spend a minimum of .75 FTE on research and career development during the award project period.

Angeletti, Peter
Biological Sciences
Maintenance of Human Papilloma Virus Genes
$613,512  DHHS-NIH-NCI

DiLillo, David
Psychology
Family Functioning of Adults Maltreated as Children
$670,286  DHHS-NIH-NIMH

Peterson, Daniel
Food Science and Technology
Adaptive Immune Response to Symbiotic Bacteria as a Mediator of Gut Homeostasis
$379,890  DHHS-NIH-NIAID

Sayood, Khalid
Electrical Engineering
Identification of Biological Materials of Unknown Origin
$764,005  DHHS-NIH-NIAID

Young Investigator Research Program (YIP)
The Department of Defense bestows its Young Investigator Research Program (YIP) award on scientists and engineers at research institutions across the United States who have received Ph.D. or equivalent degrees in the last five years and show exceptional ability and promise for conducting basic research. The objective of the program is to foster creative basic research in science and engineering, and enhance early career development of outstanding young investigators. Those selected receive the grants over a three-year period.

Cohen, Myra
Computer Science and Engineering
$316,551  DOD-Air Force Office of Scientific Research
**Arts and Humanities Awards**

$50,000 or more

*Active awards in 2009
* Indicates new in 2009

**Awakuni-Swetland, Mark**  
**Anthropology/Ethnic Studies**  
**Omaha and Ponca Digital Dictionary**  
$348,800  
National Endowment for the Humanities  
9/1/08 – 8/31/11  
Walter, Katherine  
Center for Digital Research in the Humanities/Libraries

Mark Awakuni-Swetland, assistant professor of anthropology, and colleagues are creating a comprehensive Omaha and Ponca digital dictionary that will be available online for native communities, students, researchers and the public. The National Endowment for the Humanities funds this work through a joint NEH-National Science Foundation-Smithsonian Institution “Documenting Endangered Languages” initiative. It’s also a “We the People” project, a special NEH recognition for model projects advancing the study, teaching and understanding of American history and culture. This project will provide extensive information on the Omaha and Ponca language and will be far more robust and usable than existing resources.

**Behrendt, Stephen**  
**English**  
* The Aesthetics of British Romanticism, Then and Today  
$124,498  
National Endowment for the Humanities  
10/1/09 – 9/30/10

Stephen Behrendt, professor of English, has received support from the National Endowment for the Humanities to offer a five-week summer seminar for college teachers called “the Aesthetics of British Romanticism, Then and Today.” Participants will examine the factors that influenced literary judgments in Romantic-era Britain (c. 1780-1835) leading to the marginalization or exclusion of women, working-class writers and others, and ultimately sanctioning a limited and unrepresentative “canon” of writers. The seminar will explore the complex relations among art, culture, class, and socio-political rhetoric through historical and modern perspectives that consider “art” as a negotiated ground among its producers, consumers and commentators.
Crews, Patricia  
Textiles, Clothing and Design/International Quilt Study Center  
* Byron and Sara Rhodes Dillow Quilt Collection  
David Dillow, Jeffrey Dillow & Ann Dillow Crowley  
$1,268,550

Received 6/23/09  
This gift to the International Quilt Study Center from the estate of collectors Sara Rhodes Dillow and Dr. Byron Dillow is the second-largest gift of quilts to the center, following only that of the center’s original quilt collection gift from Robert and Ardis James. The collection includes examples of early 19th-century antique chintz and 18th-century French quilting. Many other quilts of note include Baltimore Album quilts and rare palampores. The Dillows also collected the works of contemporary studio quilters, including Michael James and Ruth McDowell.

Engen-Wedin, Nancy  
Teaching, Learning and Teacher Education/Lied Center for Performing Arts  
* The Teaching Artist Initiative (Nebraska)  
Dana Foundation  
$50,000  
1/1/09 – 6/30/10

Nancy Engen-Wedin, lecturer in the Department of Teaching Learning and Teacher Education and ArtsREACH coordinator with the Lied Center for Performing Arts, is using funding from the Dana Foundation to support the Nebraska Teaching Artist Initiative. This program helps community and teaching artists plan artist residencies for K-12 students in Nebraska’s rural school districts.

Kooser, Ted  
English  
American Life in Poetry Project  
Poetry Foundation  
$171,800  
1/1/05 – 12/31/09

The Poetry Foundation, in partnership with the Library of Congress, supports the American Life in Poetry project, an initiative of Ted Kooser, the 2004-2006 Poet Laureate Consultant in Poetry to the Library of Congress. American Life in Poetry is a free weekly column for newspapers and online publications featuring a poem written by a contemporary American poet, chosen by Kooser, with a brief introduction written by Kooser. The sole mission of this project is to promote poetry. The Poetry Foundation funds the project, with administrative support provided by the UNL English Department, where the project office is located.
Ken Price, professor of English and Hillegass chair of 19th Century American Literature, is principal investigator for a $500,000 We the People Challenge Grant from the National Endowment for the Humanities. The award is contingent on UNL acquiring a 3-1 match of $1.5 million in the next four years. When fundraising is completed, the $2 million establishes an endowment at the University of Nebraska Foundation, the proceeds of which provide permanent annual operating funding for the Walt Whitman Archive. The Whitman Archive is an electronic research and teaching tool that makes Whitman’s huge body of work easily and conveniently accessible. Whitman amassed a huge volume of work during his life. Some 70,000 manuscripts are housed in about 80 locations, although the bulk is known to be in just five libraries. But the logistics of finding these various documents, let alone assessing and comparing their relevance and content, are daunting. The archive allows scholars to search the entire body of Whitman’s writings and scholarship on those works and offers scholarly analysis.

With grants from the National Endowment for the Humanities, the American Council of Learned Societies and the National Historical Publications and Records Commission, the Walt Whitman Archive will create a comprehensive edition of the Civil War writings of Walt Whitman. The War profoundly shaped Leaves of Grass, the first masterpiece of American poetry, and Whitman extensively depicted and analyzed the Civil War in journals, notebooks, letters, essays, journals, memoirs and manuscript drafts. The hundreds of documents that give voice to Whitman’s experience of the war will be electronically edited, arranged and published. In addition to making these documents freely available, this work will help to model for other scholars best practices in creating, publishing and sustaining electronic editions. The project will provide scholars and students—of the Civil War, of Whitman and of American history in general—a site where they can read, evaluate and experience a set of texts that provide unique insight into the American experience of the Civil War.
Seefeldt, William

* William Cody Research Project

$131,374

7/1/09 – 8/31/12

William Seefeldt, assistant professor of history, has received support from the Buffalo Bill Historical Center to develop a series of thematic digital datasets that can be used to provide historical context for the center’s Cody Papers project. The digital datasets will include the rosters of the various Wild West shows from published programs and other business records and biographical sketches of the participants, including the Show Indians. They will be marked and encoded for inclusion in the larger Buffalo Bill digital archive collection hosted by BBHC. Other research projects may include a database containing encoded full-text transcriptions of newspaper coverage of the tour stops throughout North America and Europe and a geospatial database of Cody’s travels and residences throughout his lifetime that could be used to create maps and visualizations by date or location.

Thomas, William

* Railroads and the Making of Modern America—Tools for Spatio-Temporal Correlation, Analysis and Visualization

$99,493

1/1/10 – 3/31/11

With support from the National Endowment for the Humanities, history professor William Thomas plans to develop useful tools for spatio-temporal visualization of data on the railroad system and the relationships among them. Because the railroad “system” and its spatio-temporal configuration appear differently from locality to locality and region to region, it’s important to adjust how the system is “located” and “seen.” By applying data mining and pattern recognition techniques, software systems can be created that dynamically redefine the way spatial data are represented. Utilizing processes common to analysis in computer science, researchers will develop a software framework that allows these embedded concepts to be visualized and further studied.
Walter, Katherine  
University Libraries/Center for Digital Research in the Humanities  
* centerNet: Cyberinfrastructure for Digital Humanities  
$50,000  National Endowment for the Humanities  
9/1/09 – 8/31/10

Katherine Walter, professor of libraries, with support from the National Endowment of the Humanities, is building a technical infrastructure and institutional framework that will enable centerNet, a nascent international network of digital humanities centers, to play a vital role in developing both national and international cyberinfrastructure and become a stable, self-supporting organization. Included in the plan are a one-time worldwide summit of digital humanities centers and funders to discuss possible emergent programs. Through centerNet, digital humanities centers can collaborate and maximize their capacity for sparking further innovation in the digital humanities.

National Digital Newspaper Program: Nebraska  
$563,012  National Endowment for the Humanities  
7/1/07 – 6/30/11  
Wunder, John  Journalism and Mass Communications  
Mering, Margaret  Center for Digital Research in the Humanities  
Pytlik Zillig, Brian  Center for Digital Research in the Humanities

Walter, who co-directs UNL’s Center for Digital Research in the Humanities, leads the Nebraska Digital Newspapers Project, through which about 100,000 pages of Nebraska newspapers from 1880 through 1910 will be digitized for inclusion in the Library of Congress’ national “Chronicling America” Web site. UNL’s University Libraries is partnering with the College of Journalism and Mass Communications and the Nebraska State Historical Society on the two-year, “We the People” grant. Nebraska is one of nine states selected in the early phases of this project, which eventually will include all 50 states. “We the People” grants recognize model projects that advance the study, teaching and understanding of American history and culture.
**Arts and Humanities Awards**

**$5,000 - $49,999**

*Active awards in 2009*  
*Indicates new in 2009*

- **Dreher, Kwakiutl**, English/Ethnic Studies  
  $5,000  
  *Blacks in Film Festival 2009*  
  Woods Charitable Fund

- **Elias Rowley, Kristen**, University of Nebraska Press  
  Literary Publishing at the University of Nebraska Press  
  $20,000  
  National Endowment for the Arts

- **Engen-Wedin, Nancy**, Teaching, Learning and Teacher Education/Lied Center for Performing Arts  
  *Lied Center Community Engagement Touring Grant – MAAA*  
  $10,819  
  Mid-America Arts Alliance

  Nebraska’s Rural Arts Education Initiative  
  $25,000  
  National Endowment for the Arts

  ArtsReach  
  $50,000  
  Nebraskans for the Arts

  *Umo’ho’ Cultural Arts Program*  
  $15,000  
  Kennedy Center for Performing Arts

- **Jewell, Andrew**, University Libraries/Center for Digital Research in the Humanities  
  The Crowded Page  
  $49,577  
  National Endowment for the Humanities

  Mapping a Writer’s World: A Geographic Chronology of Willa Cather’s Life  
  $7,800  
  Nebraska Humanities Council

- **Richmond, John**, Music  
  2009 Honors Jazz Weekend & Summer Camp  
  $10,000  
  Berman Music Foundation

  Haar, Ora  
  $20,000  
  Berman Music Foundation

- **Stubbendieck, James**, Agronomy and Horticulture/Center for Great Plains Studies  
  Celebrating Darwin’s Legacy  
  $8,960  
  Nebraska Humanities Council

- **Wahlqvist, Petra**, Lied Center for Performing Arts  
  Loop Divers by Troika Ranch  
  $35,000  
  Woods Charitable Fund/Lincoln Community Foundation
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<td>Weiss, Wendy</td>
<td>Textiles, Clothing and Design</td>
<td>Hillestad Textiles Gallery</td>
<td>$12,635</td>
<td>Friends of the Hillestad Textiles Gallery</td>
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<td>Yoon, Hye Yung</td>
<td>Music</td>
<td>* Commissioning/USA Meet the Composer: Amerindia</td>
<td>$10,000</td>
<td>Meet the Composer</td>
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<td>Sirota, Jonah</td>
<td>Music</td>
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<td>Beaver, Gregory</td>
<td>Music</td>
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NUtech Ventures is the newly established nonprofit corporation that helps move university research into the marketplace through innovative partnerships with the private sector. If you are interested in starting a company, licensing your technologies or securing developmental funding for your leading-edge research, we can help you connect with industry partners, entrepreneurs and investors. We’re not the same old technology transfer office. Because we’re commercialization agents and not just brokers of intellectual property, we represent your interests to external partners. We add value to your research by enabling a fully collaborative process for joint creation, development and commercialization so your technologies can change the world.

We would like to recognize the following UNL inventors and creators whose technologies have formed the basis of UNL startup companies and commercialization agreements with our industry partners in 2009.

2009 STARTUPS

**Chris Calkins**, Animal Science; **Jeyamkondan Subbiah**, Biological Systems Engineering; **Ashok Samal**, Computer Science and Engineering

*Technologies*: Algorithms to Analyze Hyperspectral Images to Predict Beef Tenderness; Methodologies to Identify Key Wavelengths for Developing Multispectral Imaging to Predict Material Properties (Beef Tenderness)

---

**Bing Chen, Roger Sash, Herb Detloff** and **Alisa Gilmore**, all Computer and Electronics Engineering

*Technology*: CEENBoT™

---

**Shane Farritor**, Mechanical Engineering

*Technology*: Measurement of Vertical Track Modulus Using Space Curves

**Shane Farritor, Richard Arnold** and **Chris Norman**, all Mechanical Engineering

*Technology*: Method and Apparatus for Noncontact Relative Rail Displacement, Track Modulus and Stiffness Measurement by a Moving Rail Vehicle

**Shane Farritor** and **Sheng Lu**, both Mechanical Engineering

*Technology*: Vertical Track Modulus Trending
Shane Farritor, Mechanical Engineering; **Joseph Turner,** Engineering Mechanics
*Technology:* System and Methods to Determine and Monitor Changes in Rail Conditions over Time

**Joseph Turner,** Engineering Mechanics
*Technology:* Systems and Methods to Determine and Monitor Changes in Microstructural Properties

---

**Michael Fromm,** Agronomy and Horticulture
*Technology:* Drug Combination Formulation for Reducing Fat

**Michael Fromm,** Agronomy and Horticulture; **Shan Jiang** and **Jess Miner,** both Animal Science
*Technologies:* Method for Fat Loss in Mammals; Method for Fat Loss in Mammals: Effective Combinations Using Receptors; Method for Fat Loss in Mammals: Effective Combinations with Statins

**Michael Fromm,** Agronomy and Horticulture; **Jess Miner,** Animal Science
*Technology:* Method for Fat Loss in Mammals Using a Combination Including Prostaglandins

---

**George Gogos,** Mechanical Engineering; **Stevan Knezevic,** Agronomy and Horticulture; **Christopher Bruening,** Mechanical Engineering
*Technology:* A Hood/Torch Propane Flaming Device for Weed Control in Early-season Corn
2009 LICENSE AGREEMENTS

P. Stephen Baenziger, Agronomy and Horticulture
Technology: ‘Camelot’ Hard Red Winter Wheat
Technology: ‘Mace’ Hard Red Winter Wheat (licensed to three companies)
Technology: ‘Settler CL’ Hard Red Winter Wheat (licensed to two companies)
Technology: NE01643 (Overland) Hard Red Winter Wheat (licensed to two companies)

P. Stephen Baenziger and Mary Shipman, both Agronomy and Horticulture; Drew Lyon, Panhandle Research and Extension Center; Alexander Martin, Agronomy and Horticulture
Technology: ‘Infinity’ Hard Red Winter Wheat, formerly NH01046

CALMIT
Technology: Supplemental Type Certificate for Piper Saratoga Camera Ports

George Graef, Leslie Korte and Dennis White, all Agronomy and Horticulture
Technology: U98-311442 Soybean

Dale Lindgren, Agronomy and Horticulture
Technology: Clematis Groundcover Hybrid 26045

Fernando Osorio, Veterinary and Biomedical Sciences
Technology: mAb Anti-peptide 201 Hybridoma Cell Line

Jody Redepenning, Chemistry
Technologies: Electrolytic Deposition of Coatings for Prosthetic Metals and Alloys; Bioreparable Composites and Method of Formation Thereof; Bioreparable Polymer Reconstituted Bone and Methods of Formation Thereof; Chemical Vapor Deposition (CVD) Polymerization onto Nucleophillic Surfaces; Bioreparable Polymer/Calcium Sulfate Composites and Method of Formation Thereof; Electrolytic Deposition of Coatings for Prosthetic Metals and Alloys

Blair Siegfried, Entomology
Technology: European Corn Borer Displaying Resistance to Cry1Ab Bt Toxin
Blair Siegfried and Andre Crespo, both Entomology
Technology: A Cry1Ab Resistant Strain of the European Corn Borer, Ostrinia nubilalis (Lepidoptera: Crambidae)

Maher Tadros, Civil Engineering; Terence Foster, Construction Systems; Audra Hansen and Sherif Yehia, both Civil Engineering
Technology: Pre-cast Post-tensioned Segmental Concrete Pole System

Carlos Urrea Florez, Panhandle Research and Extension Center; Dale Lindgren, Agronomy and Horticulture; James Steadman, Plant Pathology; Dermot Coyne, Agronomy and Horticulture
Technology: Great Northern Common Bean Cultivar ‘Coyne’
2009 OPTION AGREEMENTS

David Berkowitz and Sylvain Broussy, both Chemistry
Technology: Analogues of (−)-Picropodophyllin, Synthesis and Uses Thereof

Haorong Li, Architectural Engineering
Technology: Optimal Coordination Control and Soft Repair of Multi-RTU

Yiqi Yang and Narendra Reddy, both Textiles, Clothing and Design
Technology: Natural Cellulosic Fiber Bundles from Cellulosic Sources and a Method for Making the Same
Faculty who created, exhibited, performed or produced creative works in fine and performing arts and architecture, nationally or internationally, in 2009

Submitted by faculty, chairs/heads or deans

**John Bailey**
Music
Conductor, *International Flute Orchestra*, Krakow, Zakopane, Warsaw and Gdansk, Poland

**Chris Ford**
Architecture

**Dana Fritz**
Art and Art History

**Xia Gao**
Textiles, Clothing and Design
Artist, textile installation, *Relocation, Connection, In a Different Light*, Spaces Gallery, Cleveland, OH
Artist, textile surface design, *Cycle*, Belger Arts Center, Kansas City, MO

**Michael James**
Textiles, Clothing and Design

**Karen Kunc**
Art and Art History
Artist, prints, *Solo Exhibition*, Kaiku Gallery, Finnish Academy of Fine Art, Helsinki, Finland
Artist, print, *The Wanting Pool*, International Print Triennial-Krakow, Contemporary Art Gallery, Krakow, Poland

**Wendy Weiss**
Textiles, Clothing and Design
Artist, handwoven fabrics with triggered sound and movement, *Landscape with Floating Biology*, The Cocoon Gallery at the Arts Incubator, Kansas City, MO
Artist, handwoven fabrics with triggered sound and movement, *Landscape with Floating Biology*, Living Arts of Tulsa, Tulsa, OK
<table>
<thead>
<tr>
<th>Author</th>
<th>Department</th>
<th>Book Title</th>
<th>Publisher</th>
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<tbody>
<tr>
<td>Bradley Barker</td>
<td>4-H Youth Development</td>
<td>Evaluating Adult Distributed Training Programs: A Comparison Research Model</td>
<td>Beau Bassin, Mauritius: VDM</td>
</tr>
<tr>
<td>Susan Belasco</td>
<td>English</td>
<td>Stowe in Her Own Time</td>
<td>Iowa City, IA: University of Iowa Press.</td>
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<tr>
<td>David R. Beukelman</td>
<td>Special Education and Communication Disorders</td>
<td>Clinical Management of Speakers With Motor Speech Disorders</td>
<td>Austin, TX: Pro-Ed.</td>
</tr>
<tr>
<td>Brian H. Bornstein</td>
<td>Psychology</td>
<td>God in the Courtroom: Religion’s Role at Trial</td>
<td>New York, NY: Oxford University Press.</td>
</tr>
</tbody>
</table>
Song Ci  Computer and Electronics Engineering

Patricia C. Crews  Textiles, Clothing and Design/International Quilt Study Center
Editor, with Marin F. Hanson, Textiles, Clothing and Design/International Quilt Study Center. American Quilts in the Modern Age, 1870-1940. Lincoln, NE: University of Nebraska Press.

Rochelle L. Dalla  Child, Youth and Family Studies

Rafael J. de Ayala  Educational Psychology

Robert C. Denicola  Law

Judy Diamond  University of Nebraska State Museum

Wheeler Winston Dixon  English

Beth Doll  Educational Psychology

Allan P. Donsig  Mathematics

Peter A. Dowben  Physics and Astronomy

Judy A. Driskell  Nutrition and Health Sciences

Editor. Nutrition and Exercise Concerns of Middle Age. Boca Raton, FL: Taylor and Francis Group, CRC Press.
Bruce I. Dvorak  Biological Systems Engineering
Author, with Stacey A. Hawkey, Biological Systems Engineering/Extension. Partners In Pollution Prevention Source Reduction and Recycling Success Stories. Lincoln, NE: University of Nebraska Printing and Publications.

Carolyn Pope Edwards  Psychology/Child, Youth and Family Studies

Michael H. Epstein  Special Education and Communication Disorders
Author, with Lori Synhorst, Special Education and Communication Disorders. Preschool Behavioral and Emotional Rating Scale. Austin, TX: Pro-Ed.

Robert G. Fuller  Physics and Astronomy

Russell Ganim  Modern Languages and Literature
Editor, with Thomas M. Carr, Jr., Modern Languages and Literature. Origenes. Tübingen, Germany: Gunter Narr Verlag.

Thomas C. Gannon  English/Ethnic Studies
Author. Skylark Meets Meadowlark: Reimagining the Bird in British Romantic and Contemporary Native American Literature. Lincoln, NE: University of Nebraska Press.

Joan R. Giesecke  University Libraries

Iker Gonzalez-Allende  Modern Languages and Literature

Marilyn L. Grady  Educational Administration

William M. Grange  Johnny Carson School of Theatre and Film

Mark A. Griep  Chemistry

Edmund T. Hamann  Teaching, Learning and Teacher Education
Robert M. Harveson  
Panhandle Research and Extension Center

Mark HInchman  
Interior Design Program

Margaret D. Jacobs  
History/Women’s and Gender Studies
Author. White Mother to a Dark Race: Settler Colonialism, Maternalism, and the Removal of Indigenous Children in the American West and Australia, 1880-1940. Lincoln, NE: University of Nebraska Press.

Kerry John-Elsen  
4-H Youth Development
Author, with Patricia Fairchild, 4-H State Office/Extension. Insectigator - Bug or Insect - Do You Know the Difference? Lincoln, NE: University of Nebraska Printing and Publications.

Ron J. Johnson  
4-H Youth Development

Erick C. Jones  
Industrial and Management Systems Engineering
Author, with Christopher A. Chung. RFID in Logistics: A Practical Introduction. Boca Raton, FL: CRC Press.

Patrick D. Jones  
History/Ethnic Studies
Author. The Selma of the North: Civil Rights Insurgency in Milwaukee. Cambridge, MA: Harvard University Press.

Chantal Kalisa  
Modern Languages and Literature/Women’s and Gender Studies

Kenneth Kiewra  
Educational Psychology

Ted Kooser  
English
Author. Lights on a Ground of Darkness: An Evocation of a Place and Time. Lincoln, NE: University of Nebraska Press.

Marjorie J. Kostelnik  
Education and Human Sciences
Karen S. Kunc  Art and Art History

Stephen E. Lahey  Classics and Religious Studies

Brian D. Lepard  Law

Carole Levin  History/Medieval & Renaissance Studies

Peter Maslowski  History

Colleen E. Medill  Law

Amelia M.L. Montes  English/Ethnic Studies

David Moshman  Educational Psychology

Yunwoo Nam  Community and Regional Planning Program
Author. *Spatial Variation of Land Consumption Patterns in a Metropolitan Area: Residential and Employment Land Use Intensity*. Germany: VDM Publishing.

Shirley Niemeyer  Textiles, Clothing and Design

David L. Olson  Management

Tom Osborne  Athletics
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<tr>
<th>Author</th>
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<tr>
<td>Jon E. Pedersen</td>
<td>Teaching, Learning and Teacher Education</td>
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<tr>
<td>E. Wesley F. Peterson</td>
<td>Agricultural Economics</td>
<td>A Billion Dollars a Day: The Economics and Politics of Agricultural Subsidies</td>
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<tr>
<td>Helen H. Raikes</td>
<td>Child, Youth and Family Studies</td>
<td>Extending the Dance in Infant and Toddler Caregiving: Enhancing Attachment and Relationships</td>
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<tr>
<td>Hilda Raz</td>
<td>English</td>
<td>Loren Eiseley: Commentary, Biography, and Remembrance</td>
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<tr>
<td>Guy Reynolds</td>
<td>English</td>
<td>Youth and the Bright Medusa</td>
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<tr>
<td>Lowell Sandell</td>
<td>Agronomy and Horticulture</td>
<td>Guide for Weed Management with Insecticide and Fungicide Information</td>
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<tr>
<td>Khalid Sayood</td>
<td>Electrical Engineering</td>
<td>Joint Source Channel Using Arithmetic Codes</td>
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<tr>
<td>Robert F. Schopp</td>
<td>Law</td>
<td>Mental Disorder and Criminal Law</td>
</tr>
</tbody>
</table>
David J. Sellmyer  
Physics and Astronomy/Nebraska Center for Materials and Nanoscience

Editor, with J. Ping Liu, Eric Fullerton and Oliver Gutfleisch. *Nanoscale Magnetic Materials and Applications*. Berlin, Germany: Springer.

Keng L. Siau  
Management


Victoria Smith  
History/Ethnic Studies

Author. *Captive Arizona, 1851-1900*. Lincoln, NE: University of Nebraska Press.

Susan M. Swearer  
Educational Psychology


Steve L. Taylor  
Food Science and Technology


Elizabeth Theiss-Morse  
Political Science


Hendrik Van Den Berg  
Economics


James L. Van Etten  
Plant Pathology/Nebraska Center for Virology

Editor. *Lesser Known Large dsDNA Viruses*. Berlin, Germany: Springer-Verlag.

Jerry D. Volesky  
West Central Research and Extension Center


Frans G. von der Dunk  
Law


Michael W. Wagner  
Political Science


William Walstad  
Economics

Elaine L. Westbrooks, University Libraries

Les B. Whitbeck, Sociology

Donald A. Wilhite, Natural Resources

Rachelle Winkle-Wagner, Educational Administration
Author. The Unchosen Me: Race, Gender, and Identity Among Black Women in College. Baltimore, MD: Johns Hopkins Press.


Tian C. Zhang, Civil Engineering
Editor, with Song-Kai Yan, Rao Yadagiri Surampalli, R.D. Tyagi, Chih-Ming Kao and B.N. Lohani. Sustainable Sludge Management: Production of Value Added Products. Reston, VA: ASCE.

Editor, with Say Kee Ong, Rao Yadagiri Surampalli, Rajeshwar Dayal Tyagi, Pascale Champagne, Craig David Adams and Alok Bhandari. Contaminants of Emerging Environmental Concern. Reston, VA: ASCE.

RECOGNITIONS AND HONORS
Faculty who have been elected to honor academies or who received competitive national or international honors or awards in 2009
Submitted by faculty, chairs/heads or deans

Brian Larkins  Agronomy and Horticulture/Research and Economic Development
National Academy of Science

William Splinter  Biological Systems Engineering, Emeritus/Larsen Tractor Test and Power Museum
National Academy of Engineers

James Van Etten  Plant Pathology
National Academy of Science

Department of Mathematics
Exemplary Program or Achievement in a Mathematics Department, American Mathematical Society

University of Nebraska Press
Independent Publisher of the Year, ForeWord Magazine

Viacheslav I. Adamchuck  Biological Systems Engineering
Blue Ribbon Award, American Society of Agricultural and Biological Engineers

Kathleen P. Anderson  Animal Science
Outstanding Community of Practice Award, National eXtension Web-based Education

Cheryl P. Bailey  Biochemistry
Teacher Fellow, North American Colleges and Teachers of Agriculture

Bradley S. Barker  4-H State Office
Blue Ribbon Award, American Society of Agricultural and Biological Engineers

Dawn O. Braithwaite  Communication Studies
President, National Communication Association

David W. Brooks  Teaching, Learning and Teacher Education
Fellow, American Education Research Association

Roger H. Bruning  Educational Psychology
Fellow, American Educational Research Association

Miles T. Bryant  Educational Administration
Fulbright Scholar, Georgia, Council for International Exchange of Scholars

Stephen G. Burnett  Classics and Religious Studies/History
Member, Institute for Advanced Studies, Princeton, N.J.
Amy N. Burnett  
History  
Sabbatical Fellowship, American Philosophical Society

Roger B. Butters  
Economics  
2009 Rising Star Award, National Council for Economic Education

Chris R. Calkins  
Animal Science  
Harry L. Rudnick Educator’s Award, North American Meat Processors Association

Les C. Carlson  
Marketing  
2009 Outstanding Contribution to Research Award, American Academy of Advertising

Scott E. Cotton  
Panhandle Research and Extension Center  
Partnership Award for Effective Communication, USDA National Institute of Food and Agriculture

Patricia C. Crews  
Textiles, Clothing and Design/International Quilt Study Center  
MUSE Award, American Association of Museums, Media and Technology

Jeffrey L. Day  
Architecture  
Design Vanguard 2009, Architectural Record Magazine

Rafael J. De Ayala  
Educational Psychology  
Fellow, American Educational Research Association

John D. DeFrain  
Child, Youth and Family Studies  
Certificate for an Educational Curriculum Package, Central Region Winner, National Extension Association of Family and Consumer Sciences

Bruce I. Dvorak  
Civil Engineering/Biological Systems Engineering  
2009 Samuel Arnold Greeley Award, American Society of Civil Engineers

Carolyn P. Edwards  
Psychology/Child, Youth and Family Studies  
Lifetime Achievement Award, North American Reggio Emilia Alliance

Galen E. Erickson  
Animal Science  
Early Career Achievement Award, American Society of Animal Science
Kelly A. Feehan  
Northeast Research and Extension Center  
Blue Ribbon Award, American Society of Agricultural and Biological Engineers

Ruqiang Feng  
Engineering Mechanics  
Fellow, American Society of Mechanical Engineers

Chris T. Ford  
Architecture Program  
2009 AIA Upjohn Research Initiative Award, American Institute of Architects (AIA) Board Knowledge Committee and the AIA College of Fellows

David P. Forsythe  
Political Science  
Fulbright Scholar, Denmark, Council for the International Exchange of Scholars  

Terence Foster  
Construction Systems  
Klinger Construction Education Award, American Institute of Constructors

Charles A. Francis  
Agronomy and Horticulture  
Education Award, Sustainable Agriculture Education Association

Kurt F. Geisinger  
Educational Psychology  
Fellow, American Educational Research Association

James W. Gentry  
Marketing  
People’s Choice Award for Best Research Video, Association for Consumer Research Conference

Loren J. Giesler  
Plant Pathology  
Top Educational Crop Production Program in the Nation, National Association of County Agricultural Agents

James D. Goedert  
Construction Systems  
Fellow, National Society of Professional Engineers

Andrew R. Graybill  
History  
Faculty Fellowship, National Endowment for the Humanities

Mustafa Cenk Gursoy  
Electrical Engineering  
Best Paper Award, *Journal of Wireless Communications and Networking*

Susan A. Hansen  
Northeast Research and Extension Center  
Grace Frysinger Fellowship, National Extension Association of Family and Consumer Sciences

Jeffrey G. Hart  
Southeast Research and Extension Center  
Program of Distinction and MetLife Award of Excellence, National 4-H Headquarters, MetLife
Alice C. Henneman  Southeast Research and Extension Center
Helen Denning Ullrich Annual Award of Excellence, Society for Nutrition Education

Kyle D. Hoagland  Natural Resources
Outstanding Service Award, National Institutes for Water Resources

Laurie Hodges  Agronomy and Horticulture
Outstanding Horticultural Education Publication, American Society for Horticultural Science

Lesa R. Hoffman  Psychology
Elected member, Society for Multivariate Experimental Psychology

Tiffany P. Hogan  Special Education and Communication Disorders
Fellow, American Speech Language Hearing Association

Debra Anne Hope  Psychology
President, Association of Behavioral and Cognitive Therapies

Terry J. Housh  Nutrition and Health Sciences
Terry J. Housh Young Investigator Award, National Strength and Conditioning Association

Roger M. Hoy  Biological Systems Engineering
Standards Developer Award, American Society of Agricultural and Biological Engineers

Thomas E. Hunt  Northeast Research and Extension Center
National Excellence in Multistate Research Award, Association of Public and Land-Grant Universities

Scott H. Hutchins  Entomology
Fellow, Entomological Society of America

Suat Irmak  Biological Systems Engineering
Innovative Extension Methods and Impact Assessment-Educational Programs Competition, American Society of Agricultural and Biological Engineers

David D. Jones  Biological Systems Engineering
Presidential Citation, Institute of Biological Engineering

Scott J. Josiah  Nebraska State Forest Service
Two Chiefs Partnership Award, U.S. Forest Service and USDA Natural Resources Conservation Service

Shripat T. Kamble  Entomology
Honorary Member, Entomological Society of America

Deepak R. Keshwani  Biological Systems Engineering
Boyd-Scott Graduate Research Award, American Society of Agricultural and Biological Engineers
Robert N. Klein  West Central Research and Extension Center
Fellow, North Central Weed Science Society

Terry J. Klopfenstein  Animal Science
Morrison Award, American Society of Animal Science

Wanda M. Koszewski  Nutrition and Health Sciences
Nutrition Education Award, USDA Food and Nutrition Services

Karen S. Kunc  Art and Art History
Fulbright Scholar, Finland, Council for International Exchange of Scholars
Purchase Prize, 2nd Bangkok Triennale International Print and Drawing Exhibition, Thailand
Leavin/Maynard Prize, 184th Annual Exhibition, National Academy Museum, New York

Yijia Lin  Finance
Annual Prize for the Best Paper Published in 2007, North American Actuarial Journal

Dale T. Lindgren  West Central Research and Extension Center
Extension Materials Award, American Society for Horticultural Science

Marjorie F. Lou  Veterinary and Biomedical Sciences
Kinoshita Lectureship, National Foundation for Eye Research

Thomas P. Lynch  English
Thomas J. Lyon Award in Western American Literary and Cultural Studies, Western Literature Association

Darrell R. Mark  Agricultural Economics
Teacher Fellow, North American Colleges and Teachers of Agriculture

George E. Meyer  Biological Systems Engineering
Blue Ribbon Award, American Society of Agricultural and Biological Engineers

Nancy J. Miller  Textiles, Clothing and Design

Glenn E. Nierman  Music
President, North Central Division, MENC: The National Association for Music Education

Terri R. Norton  Construction Systems
National Alumni Extension Mentor of the Year, National Society of Black Engineers

Larkin A. Powell  Natural Resources
Fulbright Scholar, Namibia, Council for the International Exchange of Scholars
Kenneth M. Price  English/Center for Digital Research in the Humanities
President, Association for Documentary Editing

Helen H. Raikes  Child, Youth and Family Studies
Comprehensive Members Book Selection, National Association for the Education of Young Children (NAEYC)

Kamlakar P. Rajurkar  Industrial and Management Systems Engineering
SME Gold Medal, Society of Manufacturing Engineers

Richard J. Rasby  Animal Science
Award for Excellence in Extension, National Association of State Universities and Land-Grant Colleges

Brett C. Ratcliffe  Entomology
Outstanding Paper Presentation at the SOLA Symposium, Entomological Society of America
Charles E. Bessey Award for Best Natural Science Article Published in Great Plains Research in 2008, Center for Great Plains Studies

Bryan A. Reiling  Animal Science
Fellow Award, North American Colleges and Teachers of Agriculture

Sheila E. Scheideler  Animal Science
Certificate of Achievement, International Poultry Scientific Forum

James W. Schneider  Southeast Research and Extension Center
Innovative Extension Methods and Impact Assessment, American Society of Agricultural and Biological Engineers

David P. Shelton  Biological Systems Engineering/Northeast Research and Extension Center
Blue Ribbon Award, American Society of Agricultural and Biological Engineers

Janice E. Stauffer  Johnny Carson School of Theatre and Film
Gold Medallion Award, Kennedy Center American College of Theater Festival

James R. Steadman  Plant Pathology
Outstanding Career Service Award, American Phytopathological Society

David J. Steffen  Veterinary and Biomedical Sciences
Distinguished Service Award, American Association of Veterinary Laboratory Diagnosticians

Paul A. Steger  Johnny Carson School of Theatre and Film
Invited Member, National Theatre Conference
Alison G. Stewart  Art and Art History
Visiting Scholar at NEH Summer Seminar: German Exile Culture in California, Professor Russell Berman, Stanford University

Stephen L. Taylor  Food Science and Technology
Babcock-Hart Award, Institute of Food Technologists

Kim A. Todd  Agronomy and Horticulture
Outstanding Extension Publication, American Society for Horticultural Science

Christopher Y. Tuan  Civil Engineering
ASCE Fellow, American Society of Civil Engineers (ASCE)

Judy L. Walker  Mathematics
George Polya Lecturer, Mathematical Association of America

Steven S. Waller  Agricultural Sciences and Natural Resources
Distinguished Educator Award, North American Colleges and Teachers of Agriculture

Sergio Wals  Political Science/Ethnic Studies
Paul Lazarsfeld Award for Best Paper on Political Communications, American Political Science Association

William Walstad  Economics
Best Research Paper Award (with Ken Rebeck & Richard MacDonald), National Association of Economic Educators

Clarence E. Waters  Architectural Engineering
Fellow, Architectural Engineering Institute

Donald P. Weeks  Biochemistry
Fellow, American Association for the Advancement of Science

Stephen N. Wegulo  Plant Pathology
Outstanding Extension Publication Award, American Society for Horticultural Science

Wendy R. Weiss  Textiles, Clothing and Design
Fulbright Scholar, India, Council for International Exchange of Scholars

Timothy Wentz  Construction Management
Distinguished Service Award 2009, Mechanical Contractors Association of America

Tyler G. White  Music
Commission for the National Symphony Orchestra, John F. Kennedy Center for the Performing Arts

Mary S. Willis  Anthropology
Fellow, Society for Applied Anthropology
Ronald E. Yoder  
Biology Systems Engineering  
Fellow, American Society of Agricultural and Biological Engineers  
President, American Society of Agricultural and Biological Engineers

Gary L. Zoubek  
Southeast Research and Extension Center  
Blue Ribbon Award, American Society of Agricultural and Biological Engineers
Every effort has been made to verify the accuracy and completeness of submissions. Faculty, department chairs and heads and the deans were invited to submit entries online regarding published books, national and international recognitions, and creative works in fine and performing arts and architecture. Information on major sponsored program awards was gathered by the Office of Sponsored Programs. Reports on startups and license agreements were produced by NUtech Ventures.

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