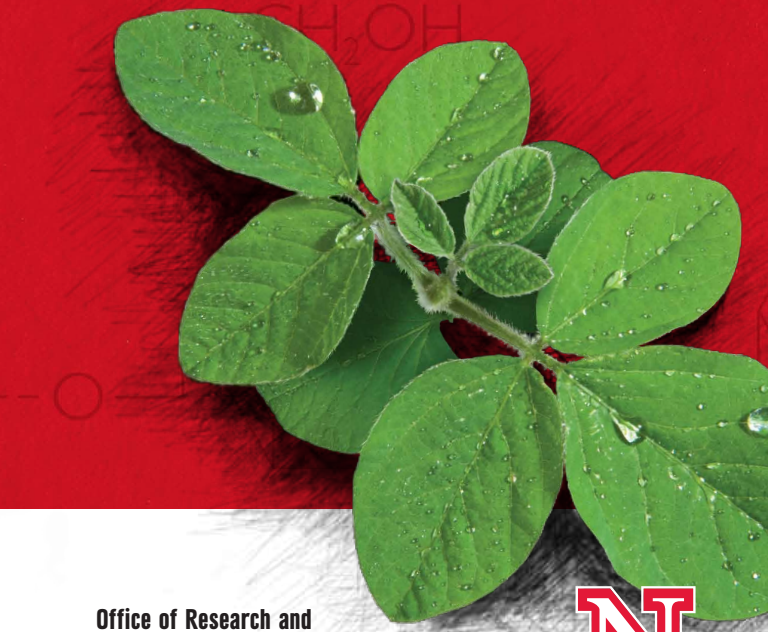
Research and Creative Activity

January-December 2010
Major Sponsored Programs and Faculty Awards for Research and Creative Activity



Office of Research and Economic Development

University of Nebraska–Lincoln

On the Cover: At UNL, discoveries, knowledge and new technologies grow from great ideas for addressing today's complex challenges. Producing enough food with limited water supplies as the world's population almost doubles in the next 40 years is one of the most critical of these challenges. The Robert B. Daugherty Water for Food Institute at the University of Nebraska is a global research, education and policy analysis institute committed to innovative solutions that will help the world sustainably grow more food using less water.

Chancellor Harvey Perlman and Vice Chancellor Prem Paul

This ninth annual "Major Sponsored Programs and Faculty Awards for Research and Creative Activity" booklet highlights the successes of University of Nebraska–Lincoln faculty during 2010. 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 a diverse range of fields—from water, food, energy and human health, to math and science education, digital humanities and nanotechnology—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 $139 million in fiscal year 2010, a 14 percent increase over the previous year.

With an eye to the future, we are enhancing and expanding our strengths by vigorously pursuing interdisciplinary initiatives necessary for tackling today's complex issues. We are cultivating innovative collaborations across disciplinary, institutional, state and national boundaries to solve global challenges, address national needs and enhance Nebraska's economy. And we are partnering with business, industry and entrepreneurs to ensure that we maximize the social, economic and environmental benefits of UNL research.

I invite you to read about our faculty's accomplishments in this booklet and envision the power of UNL's innovative and collaborative research, scholarship and creative activity to solve problems and create opportunities for Nebraska, the nation and the world.

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 2010
*** Indicates new in 2010**

Allen, Craig — Natural Resources

IGERT: Resilience and Adaptive Governance in Stressed Watersheds

$3,116,173 — NSF
8/15/09 – 7/31/14

Fritz, Sherilyn — Earth and Atmospheric Sciences
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, socioeconomic and legal aspects involved in studying and managing complex systems of people and nature.

Becker, Donald — Biochemistry

Redox Biology Center

$10,202,043 — NIH-NCRR
8/1/07 – 7/31/12

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.

Chandra, Namas **Engineering Mechanics**

Army-UNL Center for Trauma Mechanics

$3,261,250 DoD-ARO

10/1/08 – 9/30/10

Namas Chandra, Elmer Koch Professor of Engineering Mechanics, received a grant from the Army Research Office to create the UNL Center for Trauma Mechanics. The center focuses on the effects of blast waves on the head and brain of a fully equipped soldier in the field. The project studies 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 **eXtension**

National eXtension Project

$13,270,000 Association of Public

10/1/04 – 12/31/13 and Land-Grant Universities

eXtension: The Transformation of Cooperative Extension

$5,961,221 USDA-CSREES

8/15/07 – 8/14/12

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 **Psychology/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.

DiLillo, David **Psychology**

* Sexual Revictimization: Emotional and Psychosocial Mechanisms
$3,135,821 NIH-NICHD
7/15/10 – 6/30/15
Hoffman, Lesa Psychology

The National Institute of Child Health and Human Development is supporting the work of psychologist David DiLillo to study the problem of "revictimization" – the phenomenon in which women who suffered abuse during childhood or adolescence are up to 10 times more likely to be sexually victimized again as adults. This multi-site project will examine the processes that link early maltreatment to adult revictimization, in particular focusing on mechanisms related to psychopathology, sexual risk taking and alcohol use. Drawing on recent theoretical and empirical findings, DiLillo's team proposes that difficulties regulating emotions stemming from early abuse create underlying risk factors for the more immediate predictors of revictimization. Together, these findings will permit the testing of a comprehensive model of revictimization.

Ells, Mark **Center on Children, Families and the Law**

Midwest Child Welfare
Technical Assistance Implementation Center

$8,695,645 DHHS-ACF

9/1/08 – 9/29/13

Graef, Michelle Center on Children, Families and the Law

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 system. 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.

Espy, Kimberly Andrews **Psychology**

Executive Function Development in Preschool Children

$3,270,348 NIH-NIMH

8/26/09 – 5/31/14

Wiebe, Sandra Psychology/Research and Economic Development

Sheridan, Susan Educational Psychology/Nebraska Center for Research on Children, Youth, Families and Schools

Carlo, Gustavo Psychology

Schutte, Anne Psychology

With support from the NIH National Institute of Mental Health, Kim Espy, Charles Bessey Professor of Psychology, 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. 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.

Farritor, Shane **Mechanical Engineering**

Track Stability Assessment & Data Transmission

$3,534,439 DOT-FRA

9/17/04 – 12/31/11

Turner, Joseph Engineering Mechanics

Nelson, Carl Mechanical Engineering

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.

Goddard, Stephen **Computer Science and Engineering**

Drought Risk, Impact and Mitigation Information System

$6,407,473 USDA-RMA-FCIC

9/1/05 – 8/31/10

Wilhite, Donald Natural Resources

Stephen Goddard

Donald Wilhite

Stephen Goddard, professor and chair of the computer science department 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, supports 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.

Harwood, David **Earth and Atmospheric Sciences**

ANDRILL: Investigating Antarctica's Role
in Cenozoic Global Environmental Change

$12,978,160 NSF
6/1/05 – 5/31/10
Levy, Richard Earth and Atmospheric Sciences

David Harwood, professor of earth and atmospheric sciences, 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 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.

Hogan, Tiffany **Special Education and Communication Disorders**

* Language Bases of Skilled Reading Comprehension
$4,344,886 ED-IES through The Ohio State University
7/1/10 – 6/30/15
Bovaird, James Educational Psychology/
Nebraska Center for Research on
Children, Youth, Families and Schools
Nelson, J. Ron Special Education and
Communication Disorders

A UNL team led by Tiffany Hogan in the Department of Special Education and Communication Disorders will collaborate with researchers at The Ohio State University, University of Kansas and Arizona State University to study the language bases of skilled reading comprehension in 4- to 8-year-old children. The UNL researchers will work with local school districts to assess reading comprehension in approximately 300 children aged 4 to 8. They also will work with other teams to develop instructional materials and procedures to improve reading comprehension and will then examine the effectiveness of those materials and procedures. The primary goal is to determine the feasibility and efficacy of instruction focused on basic and higher-order language skills for improving children's reading comprehension in the short- and long-term.

Jose, H. Douglas **Agricultural Economics**

North Central Risk Management Education Center

$3,506,736 USDA-CSREES

11/15/09 – 11/14/12

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.

Josiah, Scott **Nebraska State Forest Service**

Cooperative Forestry Program

$3,151,115 USDA-FS

10/1/09 – 9/30/14

Scott Josiah, as director of the Nebraska Forest Service, has received more than $3.1 million from the U.S. Department of Agriculture through the U.S. Forest Service State and Private Forestry Program, which assists in implementing cooperative state forestry programs. The Nebraska Forest Service improves lives by protecting, enhancing and utilizing Nebraska's tree and forest resources by providing statewide technical assistance and financial support in five major program areas: Wildland Fire Protection, Forest Stewardship, Community Forestry and Sustainable Landscapes, Forest Health, and Forest Product Marketing and Utilization. Working with wide array of federal, state and local government partners, volunteer fire districts, non-profits, communities, landowners and businesses, these programs protect life, property and tree and forest health statewide.

Lewis, Jim — **Mathematics/Center for Science, Mathematics and Computer Education**

* Nebraska NOYCE: NSF Mathematics Teaching and Master Teaching Fellows Program

$3,000,000 — NSF

9/1/10 – 8/31/16

Fowler, David	Teaching, Learning and Teacher Education
Kauffman, Douglas	Educational Psychology
Papick, Ira	Center for Science, Mathematics and Computer Education/Mathematics
Smith, Wendy	Center for Science, Mathematics and Computer Education
Swidler, Scott	Teaching, Learning and Teacher Education

A team led by Jim Lewis, Aaron Douglas Professor of Mathematics and director of UNL's Center for Science, Mathematics and Computer Education, has secured a six-year, $3 million grant from the National Science Foundation to improve math education. The grant is through NSF's Robert Noyce Teacher Scholarship program, which aims to encourage talented science, technology, engineering and mathematics majors and professionals to become K-12 mathematics and science teachers in "high-need" classrooms. The new math program will cover tuition, fees and a stipend for 16 students who are pursuing master's degrees from the Department of Teaching, Learning and Teacher Education and certification to teach math for grades 7-12. Fellowship recipients also will receive a supplementary stipend from UNL while they teach for four years in a high-need school district. The grant also will provide professional development and stipends for 24 strong, master's-degree-holding, K-12 teachers who commit to teaching in a high-need district for five years. The selected "master teaching fellows" will take courses that will give them the skills they need to improve math education in their schools and school districts. The program builds on previous successful efforts to enhance mathematics teaching and learning in Nebraska schools, including the Math in the Middle Institute and NebraskaMATH.

NebraskaMATH

$9,235,407 — NSF

1/1/09 – 12/31/13

Heaton, Ruth	Teaching, Learning and Teacher Education/ Center for Science, Mathematics and Computer Education
McGowan, Thomas	Teaching, Learning and Teacher Education
Stroup, Walter	Statistics
Edwards, Carolyn	Psychology/Child, Youth and Family Studies
Papick, Ira	Mathematics/Center for Science, Mathematics and Computer Education
Jacobson, Barbara	Lincoln Public Schools

Jim Lewis, professor of mathematics; Ruth Heaton, associate professor of teaching, learning and teacher education; Thomas 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 NSF
8/1/04 – 7/31/11
Heaton, Ruth — Teaching, Learning and Teacher Education/ Center for Science, Mathematics and Computer Education
McGowan, Thomas — Teaching, Learning and Teacher Education
Jacobson, Barbara — Lincoln Public Schools

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.

Lu, Yongfeng — Electrical Engineering

Multi-Energy Processing for Novel Coating Technologies
$4,138,000 DoD-ONR
4/10/09 – 4/9/12

With the support of the Department of Defense's Office of Naval Research, Lott Professor of Electrical Engineering, 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 coatings in open atmosphere. The multi-energy processing approach is a marked improvement over conventional coating techniques that require high vacuum and high temperature. 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 minimal thermal stress.

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

$5,014,954 DoD-ONR-MURI
3/15/05 – 7/31/10
Zeng, Xiao Cheng Chemistry

With support from the Department of Defense, Yongfeng 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

* Therapeutic Countermeasures against the Botulinum Neurotoxin in Support of USAMRIID Botulinum Therapeutic Program

$3,875,000 DoD-DTRA
8/16/10 – 8/15/13

Michael Meagher, Donald L. Othmer Professor of Chemical and Biomolecular Engineering, directs the Biological Process Development Facility, which provides clients with process research and early manufacture of new therapeutic molecules for clinical testing. Supported in part by funding from the Department of Defense, the BPDF also develops vaccines against biological warfare agents, as well as products that can be used as therapeutic countermeasures to treat people who have been exposed to biological agents.

* Process Research, Development and Manufacturing of 5P12 RANTES

$3,793,418 Mintaka Foundation for Medical Research
3/1/10 – 3/31/12
Van Cott, Kevin Chemical and Biomolecular Engineering

Mintaka Foundation for Medical Research is supporting the BPDF's development of a process to produce a cream containing 5P12-RANTES, a protein widely considered to be one of the most promising candidates for use as a topical HIV prevention agent.

Paul, Prem **Research and Economic Development**

Nebraska Center for Energy Sciences Research

$5,000,000 Nebraska Public Power District

11/24/09 – 3/31/16

The Nebraska Center for Energy Sciences Research is 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.

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	Earth and Atmospheric Sciences
McQuillan, Julia	Sociology
Manderscheid, David	Arts and Sciences
Fritz, Susan	Institute of Agriculture and Natural Resources
Chandra, Namas	Engineering

The National Science Foundation funds ADVANCE-Nebraska, a program intended to significantly increase the gender 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 earth and atmospheric sciences, coordinates recruitment and retention-enhancing activities, disseminates information to the campus and the academic community at large, and serves 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 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**

Region 7 University Transportation Center

$7,629,000 — DOT-RITA

10/1/06 – 6/30/12

The U.S. Department of Transportation's Research and Innovative Technology Administration has designated UNL's Mid-America Transportation Center (MATC) 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.

Rothermel, Gregg **Computer Science and Engineering**

* Safeguarding End-User Military Software

$3,975,935 DoD-AFOSR

9/1/10 – 8/31/14

Cohen, Myra Computer Science and Engineering
Dwyer, Matthew Computer Science and Engineering
Elbaum, Sebastian Computer Science and Engineering
Sarma, Anita Computer Science and Engineering
Srisa-An, Witawas Computer Science and Engineering

A team of University of Nebraska–Lincoln software engineering researchers, headed by Gregg Rothermel, has received a nearly $4 million grant from the U.S. Air Force's Office of Scientific Research for a project to help find and fix faults in modern military systems. Military systems are a complex assembly of hardware systems, software systems and human beings all interacting to achieve an overall mission objective. The goal of UNL's ESQuaRed team (Laboratory for Empirically-based Software Quality Research and Development), part of the Department of Computer Science and Engineering, is to develop methods for modeling how people interact with software and hardware components and with each other in order to analyze the quality of the system as a whole. The information obtained as a result will be used to improve the dependability and safety of the systems.

Sellmyer, David — **Physics and Astronomy/Nebraska Center for Materials and Nanoscience**

* Research and Develop Nanoscale Magnetoelectronic, Sensor and Energy Materials and Devices

$5,864,300 — DoD-ARO

9/24/10 – 9/23/13

Cheung, Chin Li	Chemistry
Liou, Sy-Hwang	Physics and Astronomy
Shield, Jeffrey	Mechanical Engineering
Skomski, Ralph	Physics and Astronomy
Zeng, Xiao Cheng	Chemistry/Physics and Astronomy

David Sellmyer, professor of physics and astronomy, and colleagues in the Nebraska Center for Materials and Nanoscience, have received funding from the Army Research Office to support several efforts of high current interest in nanoscience and nanotechnology: 1) magnetoelectronic and sensor materials and devices, 2) nanomaterials for energy applications, and 3) development of a nanofabrication and characterization facility to support related research. Goals of the first project are to develop a high-sensitivity magnetoresistive sensor for both DC and high-frequency-band EMI magnetic field mapping; investigate new magnetic semiconductor systems for room-temperature spintronic applications; and research the fabrication of nanodot arrays for magnetic logic and information-processing operations. Research on nanomaterials for energy systems will involve fabrication of new nanomagnets for applications in motors and hybrid vehicles, as well as research on nanoparticles and nanoclusters on oxide structures likely to have applications in energy production and environmental science. The third general area of this project involves the purchase and installation of a variety of state-of-the-art nanofabrication and characterization tools to be housed in the new NIST ARRA-supported Nanoscience Metrology Facility.

Cooperative Agreement to Research and Develop High-Sensitivity Nanosensors for Defense Applications

$4,260,001 — DoD-ARO

9/25/09 – 9/24/12

Liou, Sy-Hwang	Physics and Astronomy
Skomski, Ralph	Physics and Astronomy
Lai, Rebecca	Chemistry
Dussault, Patrick	Chemistry

The Department of Defense's Army Research Office also supports research 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

Educational Psychology/ Nebraska Center for Research on Children, Youth, Families and Schools

Nebraska Center for Research on Rural Education (R2Ed)
$9,997,852 ED-IES
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 — 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, George Holmes University Professor of Educational Psychology, heads the 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 conducts cutting-edge rural education research to improve student learning in reading, science and math. Researchers 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 NIH-NICHD
9/26/03 – 7/31/10
Edwards, Carolyn — Psychology

Susan Sheridan and co-investigator Carolyn Edwards, Willa Cather Professor of Psychology, 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.

Swanson, David — **Computer Science and Engineering**

US CMS Tier 2 Center

$3,445,767 — NSF through UCLA

5/1/05 – 12/31/11

Bloom, Kenneth — Physics and Astronomy

Dominguez, Aaron — Physics and Astronomy

David Swanson, research associate professor of computer science and engineering, directs the Holland Computing Center, which hosts a US CMS Tier 2 computing site, funded by the National Science Foundation's US Compact Muon Solenoid (CMS) Research Program through a subcontract with UCLA. Ken Bloom and Aaron Dominguez, both associate professors of physics at UNL, are collaborating with Swanson and HCC staff to analyze data from particle collisions at the Large Hadron Collider at the European Organization for Nuclear Research near Geneva, Switzerland. UNL researchers are involved in one of the two largest experiments. CMS is designed to investigate a wide range of physics, including the search for the Higgs boson, extra dimensions and particles that could make up dark matter. The experiment creates so much data that a 'tiered' hierarchy of computing facilities has been created to analyze it; UNL is a member of that hierarchy, hosting a subset of the data.

Tsymbal, Evgeny — **Physics and Astronomy/Nebraska Center for Materials and Nanoscience**

Materials Research Science & Engineering Center: Quantum Spin

$6,321,899 — NSF

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 (MRSEC). 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 DoD-AFOSR
5/15/08 – 5/14/11
Banerjee, Sudeep Physics and Astronomy
Shadwick, Bradley Physics and Astronomy

With support from the Department of Defense Air Force Office of Scientific Research, Donald Umstadter, Leland and Dorothy Olson 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 DHS-DNDO
3/1/07 – 8/31/11
Banerjee, Sudeep Physics and Astronomy

With support from the Department of Homeland Security Domestic Nuclear Detection Office, Donald 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 NIH-NHLBI
9/6/05 – 8/31/11
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-AMR
8/1/05 – 8/30/10
Van Cott, Kevin Chemical and Biomolecular Engineering

William 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.

Whitbeck, Les **Sociology**

Ojibwe Pathways Through the High School Years
$3,121,678 NIH-NIDA
9/3/05 – 6/30/12
Johnson, Kurt Sociology

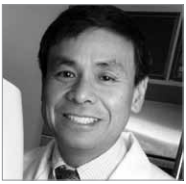
Les Whitbeck, John G. Bruhn Professor of Sociology, is coordinating a seven-year project, funded by the National Institute on Drug Abuse, to investigate risk and resilience for early onset substance use and abuse among pre-teen Native children in the Upper Midwest.

Wood, Charles

Biological Sciences/ Nebraska Center for Virology

Nebraska Center for Virology

$5,565,196 NIH-NCRR
9/16/10 – 7/31/15



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.

Kaposi's Sarcoma & Human Herpesvirus in Africa

$3,599,105 NIH-NCI
7/16/10 – 4/30/15

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. The project seeks 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

Agronomy and Horticulture/ International Sorghum and Millet Collaborative Research Support Program

International Sorghum/Millet Collaborative Research Support Program (INTSORMIL)

$12,900,000 USAID
9/30/06 – 9/29/11

Heinrichs, Elvis — Entomology/INTSORMIL
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 USAID
10/1/07 – 9/30/12

John 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
7/1/07 – 7/31/10

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 are creating nano-devices for delivering molecules into cells for better understanding the role of chromatin in cell function and its response to the environment.

Awards of $1 Million to $2,999,999

Active awards in 2010

* Indicates new in 2010

Alfano, James — **Plant Pathology/ Center for Plant Science Innovation**

Suppression of Innate Immunity by ADP Ribosyltransferase Type III Effectors

$1,804,617 — NIH-NIAID

Azizinamini, Atorod — **Civil Engineering/ Nebraska Transportation Center**

Bridges for Service Life Beyond 100 Years: Innovative Systems

$1,999,637 — NAS-TRB

Tadros, Maher — Civil Engineering

Barker, Bradley — **4-H Youth Development**

Scale-UP: National Robotics in 4-H: Workforce Skills for the 21st Century

$2,498,908 — NSF

Nugent, Gwen — Nebraska Center for Research on Children, Youth, Families and Schools

Adamchuk, Viacheslav — Biological Systems Engineering

Barycki, Joseph — **Biochemistry**

Structural Insights into Redox Homeostasis

$1,065,673 — NIH-NIGMS

Becker, Donald — **Biochemistry**

Role of Proline in Redox Homeostasis and Apoptosis

$1,092,209 — NIH-NIGMS

Mechanistic Studies of Functional Switching in the PutA Flavoprotein

$1,215,139 — NIH-NIGMS

Bellows, Laurie — **Graduate Studies**

McNair Scholars Project and the University of Nebraska–Lincoln

$1,125,000 — ED

Black, Paul — **Biochemistry**

* Research for Developing Renewable Biofuels from Algae

$1,903,000 — DOE

Van Etten, James — Plant Pathology

Weeks, Donald — Biochemistry

Bloom, Kenneth — **Physics and Astronomy**

* Searching for and Discovering New Physics at the Large Hadron Collider, the Tevatron, and in Cosmic Ray

$1,960,000 — NSF

Claes, Daniel — Physics and Astronomy

Dominguez, Aaron — Physics and Astronomy

Kravchenko, Ilya — Physics and Astronomy

Snow, Gregory — Physics and Astronomy

Blum, Paul — **Biological Sciences**

Value-Added Products from Renewable Biofuels

$1,968,000 — DOE

Cassman, Kenneth — Agronomy and Horticulture

Bond, Alan — **Biological Sciences**

Mechanisms of Social Cognition

$1,465,500 — NIH-NIMH

Kamil, Alan — Biological Sciences

Bulling, Denise — **Public Policy Center**

Nebraska Youth Suicide Prevention and Early Intervention

$1,500,000 — Nebraska Department of Health and Human Services

Cady, Daniel — **Extension**

Development of Tools for Rating Bridges & Application to State Bridges

$1,155,292 — Nebraska Department of Roads

Azizinamini, Atorod — Civil Engineering

Cerutti, Heriberto — **Biological Sciences/ Center for Plant Science Innovation**

RNA-Mediated Silencing: Mechanisms and Biological Roles in Chlamydomonas

$1,020,169 — NIH-NIGMS

Chandra, Namas — **Engineering Mechanics**

* Effect of Protective Devices on Brain Trauma Mechanics under Idealized Shock Wave Loading

$2,300,000 — DoD-ARO

Feng, Ruqiang — Engineering Mechanics

Gu, Linxia — Mechanical Engineering

Lim, Jung Yul — Engineering Mechanics

Negahban, Mehrdad — Engineering Mechanics

Nelson, Carl — Mechanical Engineering

Turner, Joseph — Engineering Mechanics

Chen, Bing — **Computer and Electronics Engineering**

SPIRIT^2.0 Silicon Prairie Initiative for Robotics in IT

$2,999,963 — NSF

Cotton, Dan — **eXtension**

* Supporting Military Families and Youth Partnership

$2,500,000 — USDA-NIFA

Cupp, Andrea — **Animal Science**

Role of VEGF in Testis Morphogenesis

$1,063,552 — NIH-NICHD

Weber, John — Animal Science

White, Brett — Animal Science

Diamond, Judy — **University of Nebraska State Museum**

Omaha Science Media Project:
Improving Science Literacy through Media Experiences

$1,471,768 — NSF through Omaha Public Schools
Struthers, Amy — Journalism and Mass Communications
Angeletti, Peter — Biological Sciences

World of Viruses

$1,266,290 — NIH-NCRR
Wood, Charles — Biological Sciences/ Nebraska Center for Virology

DiRusso, Concetta — **Biochemistry/ Nutrition and Health Sciences**

* High Throughput Screens for Fatty Acid Uptake Inhibitors

$1,305,687 — NIH-NIDDK
Black, Paul — Biochemistry

Dvorak, Bruce — **Natural Resources**

DNR Ground Water Management and
Protection Act Service Agreement

$1,500,000 — Nebraska Department of Natural Resources

Dzenis, Yuris — **Engineering Mechanics**

NIRT: Nanomanufacturing and Analysis of
Active Hierarchical Nanofilamentary Nanostructures

$1,000,000 — NSF
Zeng, Xiao Cheng — Chemistry
Feng, Ruqiang — Engineering Mechanics
Turner, Joseph — Engineering Mechanics
Poser, Susan — Law/Center for the Teaching and Study of Applied Ethics
Tomkins, Alan — Law/Public Policy Center

Eccarius, Malinda — **Special Education and Communication Disorders**

* Mountain Prairie Upgrade Partnership-Itinerant

$1,199,400 — ED
Bovaird, James — Nebraska Center for Research on Children, Youth, Families and Schools
Welch, Greg — Nebraska Center for Research on Children, Youth, Families and Schools

Eisloeffel, Deborah — **Student Involvement**

Midwest Consortium for Service-Learning in Higher Education

$1,411,709 — CNS
Major, Linda — Student Involvement

Epstein, Michael — **Special Education and Communication Disorders**

On the Way Home: A Family-Centered Academic
Reintegration Intervention Model

$1,443,284 — ED
Torkelson-Trout, Alexandra — Special Education and Communication Disorders

Espy, Kimberly Andrews — **Psychology**

Prenatal Smoking and the Substrates of Disruptive Behavior in Early Life

$2,130,842 — NIH-NIDA

Wiebe, Sandra — Psychology

Farrell, Michael — **University Television**

IPY: Engaging Antarctica

$1,246,068 — NSF

Diamond, Judy — University of Nebraska State Museum

Farritor, Shane — **Mechanical Engineering**

* Robots for Telesurgery Research

$1,485,000 — DoD-AMR through UNMC

Goddard, Stephen — Computer Science and Engineering

Nelson, Carl — Mechanical Engineering

Perez, Lance — Electrical Engineering

* Supporting Surgical Options in Space

$1,350,000 — NASA through UNMC

Goddard, Stephen — Computer Science and Engineering

Nelson, Carl — Mechanical Engineering

Perez, Lance — Electrical Engineering

Fritz, Susan — **Agricultural Research Division**

North Central Regional Sustainable Agriculture Research & Education Program – SARE

$2,707,719 — USDA-CSREES

Green, Jordan — **Special Education and Communication Disorders**

Bulbar Motor Deterioration in ALS

$2,370,005 — NIH-NIDCD

Early Speech Motor Development

$1,754,412 — NIH-NIDCD

Heinrichs, Elvis — **Entomology/INTSORMIL**

* Identification and Release of Brown Midrib (BMR) Sorghum Varieties to Producers in Central America and Haiti

$1,100,000 — USAID

Hubbard, Kenneth — **Natural Resources**

Regional Climate Services Support in the High Plains Region: The High Plains Regional Climate Center

$1,812,692 — DOC-NOAA

Hygnstrom, Scott — **Natural Resources**

Development of Spatially Explicit Models of Wildlife Diseases

$1,002,945 — USDA-APHIS

Jones, David — **Biological Systems Engineering**

Strengthening Transitions into Engineering Program

$1,993,942 — NSF

Ballard, John — Industrial and Management Systems Engineering

Perez, Lance — Electrical Engineering

Kirby, Roger — **Physics and Astronomy**

Track 2, GK-12: Project Fulcrum: Phase II

$1,987,732 — NSF

Claes, Daniel — Physics and Astronomy

Knoche, Lisa — **Nebraska Center for Research on Children, Youth, Families and Schools**

Rural Language and Literacy Connections (Rural LLC)

$2,741,563 — ED

Raikes, Helen — Child, Youth and Family Studies

Koszewski, Wanda — **Nutrition and Health Sciences**

Supplemental Nutrition Assistance Program (SNAP-ED)

$1,461,061 — Nebraska Department of Health and Human Services

Birnstihl, Elizabeth — Extension

Schnepf, Marilynn — Nutrition and Health Sciences

Lee, Jaekwon — **Biochemistry**

Mechanistic Insights into Cellular Metal Detoxification

$1,394,293 — NIH-NIEHS

Mechanistic Insights into Homeostatic Copper Ion Acquisition

$1,056,632 — NIH-NIDDK

Li, Ming — **Psychology**

* Behavioral Mechanisms of Antipsychotic Action

$1,447,532 — NIH-NIMH

Li, Qingsheng — **Biological Sciences**

* The Early Events Determining SIV Rectal Transmission

$1,273,641 — NIH-NIDDK

Lou, Marjorie — **Veterinary Medicine and Biomedical Sciences**

Protein-Thiol Mixed Disulfide in Cataractogenesis

$2,105,780 — NIH-NEI

Mackenzie, Sally — **Biological Sciences/ Agronomy and Horticulture/ Center for Plant Science Innovation**

TRMS: An Integrative Study of Plant Mitochondrial Biology

$1,420,753 — NSF

Christensen, Alan — Biological Sciences

Elthon, Thomas — Agronomy and Horticulture

Wang, Dong — Statistics

Marley, Tom — **Mathematics**

EMSW21-MCTP: Nebraska Mentoring through Critical Transition Points

$2,225,689 — NSF

Walker, Judy — Mathematics

Donsig, Allan — Mathematics

Meagher, Michael — **Chemical and Biomolecular Engineering**

Technical Transfer and cGMP Production of a Trivalent Vaccine
$2,302,839 — Industry client

USAMRAA CGMP Production Contract #1
$2,164,301 — DoD-AMR
Van Cott, Kevin — Chemical and Biomolecular Engineering

Mendoza-Gorham, Joan — **Student Affairs**

Classic Upward Bound
$1,250,000 — ED

Upward Bound Math/Science Program
$1,000,000 — ED

Paul, Prem — **Research and Economic Development**

Great Plains National Security
Education Consortium (GP-NSEC)
$1,200,000 — DoD-NGIA
Adenwalla, Shireen — Physics and Astronomy
LeSueur, James — History
McMahon, Patrice — Political Science
Wedeman, Andrew — Political Science
Wood, Simon — Classics and Religious Studies
Weissinger, Ellen — Educational Psychology

Pedersen, Jon — **Teaching, Learning and Teacher Education/ Center for Science, Mathematics and Computer Education**

* UNL Science Scholars Program
$1,194,387 — NSF
Bonnstetter, Ron — Teaching, Learning and Teacher Education
Claes, Daniel — Physics and Astronomy
Gosselin, David — Natural Resources
Heng-Moss, Tiffany — Entomology
Lewis, Elizabeth — Teaching, Learning and Teacher Education
Swidler, Scott — Teaching, Learning and Teacher Education

Redepenning, Jody — **Chemistry**

Bioceramic Bones for Battlefield Traumas
$1,358,000 — DoD-AMR

Robertson Jr., Vaughn — **Student Affairs**

UNL Educational Talent Search
$2,091,823 — ED

Rutenbeck, Kathy — **Student Affairs**

Upward Bound-Northeast Nebraska
$1,458,320 — ED

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

$1,371,121	NSF
Soh, Leen-Kiat	Computer Science and Engineering
Henninger, Scott	Computer Science and Engineering
Jameson, Mary Liz	University of Nebraska State Museum
Moriyama, Etsuko	Biological Sciences/ Center for Plant Science Innovation

Sellmyer, David — **Physics and Astronomy**

* Beyond Rare Earth Magnets

$1,197,462	DOE-Ames Laboratory
Shield, Jeffrey	Mechanical Engineering
Skomski, Ralph	Physics and Astronomy

Shapiro, Charles — **Northeast Research and Extension Center**

Improving Organic Farming Systems and Assessing Their Environmental Impacts across Agro-Ecoregions

$1,419,710	USDA-CSREES
Brandle, James	Natural Resources
Francis, Charles	Agronomy and Horticulture
Knezevic, Stevan	Northeast Research and Extension Center
Schlegel, Vicki	Food Science and Technology
Wright, Robert	Entomology
Wortmann, Charles	Agronomy and Horticulture
Bernards, Mark	Agronomy and Horticulture
Hergert, Gary	Panhandle Research and Extension Center
Ferguson, Richard	Agronomy and Horticulture
Quinn, John	Natural Resources
Lyon, Drew	Panhandle Research and Extension Center

Sheridan, Susan — **Educational Psychology/ Nebraska Center for Research on Children, Youth, Families and Schools**

* A Randomized Trial of Conjoint Behavioral Consultation (CBC) in Rural Educational Settings: Efficacy for Elementary Students with Disruptive Behaviors

$2,999,994	ED-IES
Bovaird, James	Educational Psychology
Glover, Todd	Nebraska Center for Research on Children, Youth, Families and Schools
Kunz, Gina	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	ED-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	ED
Glover, Todd	Nebraska Center for Research on Children, Youth, Families and Schools

Shi, Jonathan — **Durham School of Architectural Engineering and Construction**

Advanced Decentralized Water/Energy Network Design for Sustainable Infrastructure

$1,249,995	EPA
Zhang, Tian	Civil Engineering
Berryman, Charles	Durham School of Architectural Engineering and Construction
Shen, Zhigang	Durham School of Architectural Engineering and Construction
Stansbury, John	Civil Engineering
Alahmad, Mahmoud	Durham School of Architectural Engineering and Construction
Li, Haorong	Durham School of Architectural Engineering and Construction
Schwer, Avery	Durham School of Architectural Engineering and Construction
Lau, Siu Kit	Durham School of Architectural Engineering and Construction

Simpson, Melanie — **Biochemistry**

Role of Hyaluronan Matrix in Prostate Cancer Progression

$1,084,884	NIH-NCI

Somerville, Greg — **Veterinary Medicine and Biomedical Sciences**

* Citric Acid Cycle Regulation of Exopolysaccharide Synthesis in Staphylococci

$1,416,624	NIH-NIAID
Powers, Robert	Chemistry

Spreitzer, Robert — **Biochemistry**

Role of the Rubisco Small Subunit

$1,166,500 — DOE

Starace, Anthony — **Physics and Astronomy**

Dynamics of Few-Body Atomic Processes

$1,456,554 — DOE

Storz, Jay — **Biological Sciences**

Mechanisms of Hemoglobin Adaptation to Hypoxia in High-Altitude Rodents

$1,371,197 — NIH-NHLBI

Moriyama, Hideaki — Center for Biotechnology

Tsymbal, Evgeny — **Physics and Astronomy**

* Cyberinfrastructure-Enabled Computational Nanoscience for Energy Technologies

$2,587,878 — NSF

Swanson, David — Computer Science and Engineering

Van Etten, James — **Plant Pathology**

DNA Replication & Gene Expression of Chlorella Viruses

$1,215,694 — NIH-NIGMS

Dunigan, David — Plant Pathology

Kang, Ming — Plant Pathology

Agarkova, Irina — Plant Pathology

Gurnon, James — Plant Pathology

Verma, Shashi — **Natural Resources**

Carbon Sequestration in Dryland & Irrigated Agroecosystems

$2,364,500 — DOE

Cassman, Kenneth — Agronomy and Horticulture

Knops, Johannes — Biological Sciences

Hubbard, Kenneth — Natural Resources

Arkebauer, Timothy — Agronomy and Horticulture

Walters, Daniel — Agronomy and Horticulture

Suyker, Andrew — Natural Resources

Viljoen, Hendrik — **Chemical and Biomolecular Engineering**

A Rational Design of a Platform for de novo Gene Synthesis

$1,312,056 — NIH-NCRR

Subramanian, Anuradha — Chemical and Biomolecular Engineering

Vortex-Tube Based Thermocycler w/Intelligent Software

$1,068,925 — NIH-NCRR

Gogos, George — Mechanical Engineering

Weeks, Donald — **Biochemistry**

Development of Dicamba-Resistant Crops

$2,550,000 — Monsanto Co.

Whitbeck, Les — **Sociology**

Resilience through the High School Years

$2,634,499 — NIH-NIMH

Wilhite, Donald — **Natural Resources**

Rangeland and Forage Geospatial Decision Support System for Drought Risk Management

$1,023,038 — USDA-RMA

Wilson, Mark — **Biochemistry/ Nebraska Center for Redox Biology**

* Redox Regulation of DJ-1 Function

$1,350,526 — NIH-NIGMS

Wood, Charles — **Biological Sciences/ Nebraska Center for Virology**

Programs in HIV & AIDS Assoc Diseases/Malignancies

$2,376,315 — NIH-FIC

Research Training in Comparative Viral Pathogenesis

$1,308,669 — NIH-NIAID

Vaccination against Mucosal HIV Clade C Transmission

$1,026,274 — NIH-DFCI

Yamamoto, Catherine — **Student Affairs**

Student Support Services Program

$2,559,875 — ED

Zempleni, Janos — **Nutrition and Health Sciences**

Biotin Deficiency Impairs Silencing of Repeat Regions and Retrotransposons

$1,227,020 — NIH-NIDDK

Zhang, Luwen — **Biological Sciences/ Nebraska Center for Virology**

Oncogenic Properties of Interferon Regulatory Factor 7

$1,105,123 — NIH-NCI

Awards of $200,000 - $999,999

Active awards in 2010

* Indicates new in 2010

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 Diverse Families with Young Children

$554,302 — USDA-NIFA

Alexander, Dennis — **Electrical Engineering**

Ultrafast Laser Interaction Processes
for Libs & Other Sensing Technologies

$702,784 — DoD-ARO through 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 — USDA-NRICGP

Allen, Craig — **Natural Resources**

* Nebraska Wetland Conditions Assessment:
An Intensification Study in Support of the 2011 National Survey

$338,250 — Nebraska Game and Parks Commission

* NCFWRU: Adaptive Management
for Nebraska Legacy Program Goals

$200,000 — Nebraska Game and Parks Commission

Fontaine, Joseph — Natural Resources

Missouri River Mitigation: Implementation of Amphibian
Monitoring and Adaptive Management
for Wetland Restoration Evaluation

$601,886 — DOI-GS

Anderson, Mark — **Earth and Atmospheric Sciences**

Development of Northern Hemisphere
Snow & Ice Climate Data Records

$213,461 — NASA through Rutgers University

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?

$462,000 — 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

Simple for Dead-Continuous for Live Load System with Partial Pre-Fabricated Deck System
$242,038 — 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

Baenziger, P. Stephen — **Agronomy and Horticulture**

Developing Small Grains Cultivars Optimally Suited for Organic Production
$755,937 — USDA-NRICGP

Flores, Rolando — Food Science and Technology
Wegulo, Stephen — Plant Pathology
Russell, William — Agronomy and Horticulture
Shapiro, Charles — Agronomy and Horticulture
Schlegel, Vicki — Food Science and Technology
Wehling, Randy — Food Science and Technology
Knezevic, Stevan — Northeast Research and Extension Center
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 — DOE

Hoffman, Michael — Electrical Engineering

Barker, Bradley — **4-H Youth Development**

4-H Robotics: Engineering for Today and Tomorrow
$496,025 — USDA-CSREES-National 4-H Headquarters

Robotics & GPS/GIS in 4-H: Workplace Skills for the 21st Century
$864,139 — NSF

Adamchuk, Viacheslav — Biological Systems Engineering

Barletta-Chacon, Ofelia — **Veterinary Medicine and Biomedical Sciences**

* Essentiality of Mycobacterium tuberculosis D-alanine Racemase
$394,965 — NIH-NIAID

Barletta, Raul — Veterinary Medicine and Biomedical Sciences
Powers, Robert — Chemistry

Bartelt-Hunt, Shannon — **Civil Engineering**

* Fate and Bioavailability of Steroids in Aquatic Sediment

$220,050 — NSF

Snow, Daniel — Natural Resources

Basolo, Alexandra — **Biological Sciences**

Behavioral Plasticity in Preexisting Receiver Bias

$390,000 — NSF

Basset, Gilles — **Agronomy and Horticulture/Biochemistry/Center for Plant Science Innovation**

Phylloquinone Biosynthesis in Plants:
Enzyme Discovery and Pathway Flux Control

$440,356 — NSF

Batelaan, Herman — **Physics and Astronomy**

Coherent Electron Control

$473,000 — NSF

Baumert, Joseph — **Food Science and Technology**

* Comparison of Gnotobiotic and Conventional Mice for Predicting the Allergenic Potential Proteins Introduced into Genetically Engineered Plants

$423,546 — EPA

Goodman, Richard — Food Science and Technology

Peterson, Daniel — Food Science and Technology

Becker, Donald — **Biochemistry**

* Coordination of Functions by Proline Metabolic Proteins

$402,000 — NIH-NIGMS through University of Missouri-Columbia

REU Site: Training in Redox Biology

$252,250 — NSF

Stone, Julie — Biochemistry/Center for Plant Science Innovation

Benson, Andrew — **Food Science and Technology**

Pyrosequencing and Community Profiling for Risk Assessment in Leafy Greens

$370,927 — USDA-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.

Beukelman, David — **Special Education and Communication Disorders**

Rehabilitation Engineering Research
Center on Communication Enhancement

$534,990 — ED through Duke University Medical Center

Bevins, Rick — **Psychology**

Altering Nicotine Reward through Conditioning
$339,446 — NIH-NIDA

Bilder, Christopher — **Statistics**

Disease Detection and Prevalence Estimation through Informative Group Testing
$713,250 — NIH-NIAID

Billesbach, David — **Biological Systems Engineering**

Development & Field Testing of a Rapidly Deployable Carbon Dioxide Flux Management System
$607,405 — DOE-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 — USDA-CSREES
Springer, Paul — Child, Youth and Family Studies
Reisbig, Allison — Child, Youth and Family Studies

Blum, Paul — **Biological Sciences**

Uranium Mobilization by Extremely Thermoacidophilic Archaea
$513,000 — DoD-DTRA through North Carolina State University

REU Site: Integrated Development of Bioenergy Systems
$279,592 — NSF
Cerutti, Heriberto — Biological Sciences

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

Bobaru, Florin — **Engineering Mechanics**

* Predictive Models for Dynamic Brittle Fracture and Damage at High-Velocity Impact in Multilayered Targets
$257,020 — DoD-ARO

Adaptivity in Peridynamics for Composite Plates
$305,278 — DOE–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-DTRA
Belashchenko, Kirill — Physics and Astronomy
Dowben, Peter — Physics and Astronomy

Direct Energy Conversion with Heteroisomeric Boron Carbide Diode Devices
$238,398 — CIA

Brisson, Jennifer — **Biological Sciences**

Contrasting Environmental and Genetic Controls of Alternative Phenotypes
$782,884 — NIH-NIEHS

Brown, Deborah — **Biological Sciences**

* Vaccine Strategies that Target Cytolic CD4 T Cells to the Lung
$401,110 — NIH-NIAID

Brown, Mary — **Natural Resources**

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

Bulling, Denise — **Public Policy Center**

* Developing Nebraska's Homeland Security Planning Capacity
$324,195 — DHS through Nebraska Military Department-NEMA

* Tri-County Urban Area Security Initiative (UASI) Planning
$200,000 — DHS through Nebraska Military Department-NEMA

Development of Nebraska's Homeland Security Planning Capacity
$385,987 — DHS through Nebraska Military Department-NEMA

Cady, Daniel — **Extension**

Nebraska Technology Transfer Center at UNL
$817,522 — Nebraska Department of Roads

Cahoon, Edgar — **Biochemistry/ Center for Plant Science Innovation**

* Development of Bio-Based Lubricants in a Dedicated Industrial Oilseed Crop
$500,000 — USDA-NIFA
Clemente, Thomas — Agronomy and Horticulture/ Center for Biotechnology/ Center for Plant Science Innovation

Probing the Metabolic and Physiological Significance of Sphingolipid Long-Chain Base Desaturation in Plants
$550,500 — NSF

Biochemical Genomics: Quizzing the Chemical Factories of Oilseeds
$695,986 — NSF through Washington State University

Center for Metabolic Channeling for Enhanced Biofuel Systems
$583,645 — DOE through Donald Danforth Plant Science Center

BioCassava Plus
$234,325 — Bill & Melinda Gates Foundation through Donald Danforth Plant Science Center

Metabolic Profiling to Understand the Biochemical Basis for Genetic Enhancement of Soybean
$200,000 — Nebraska Soybean Board

Cantrell, Randolph — **Center for Applied Rural Innovation**

Marketing Rural Communities to Attract and Retain Workers
$498,558 — USDA-NRICGP
Burkhart-Kriesel, Cheryl — Panhandle Research and Extension Center

Carlo, Gustavo — **Psychology**

* An Ecological Model of Latino Youth Development

$315,000 — NSF

Buhs, Eric — Educational Psychology
Carranza, Miguel — Sociology/Institute for Ethnic Studies
Crockett, Lisa — Psychology
De Guzman, Maria — Child, Youth and Family Studies

Carr, Timothy — **Nutrition and Health Sciences**

Regulation of Cholesterol Absorption by Plant Sterol & Stanol Esters

$466,915 — USDA-NRICGP

Cassman, Kenneth — **Agronomy and Horticulture**

Demonstration/Validation of a Dynamic Real-Time Decision Support System for Irrigation Management with Limited Water Supply

$230,537 — Nebraska Corn Board

Dobermann, Achim — Agronomy and Horticulture
Walters, Daniel — Agronomy and Horticulture
Yang, Haishun — Agronomy and Horticulture
Irmak, Suat — Biological Systems Engineering
Kranz, William — Northeast Research and Extension Center
Shapiro, Charles — Northeast Research and Extension Center
Tarkalson, David — West Central Research and Extension Center

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 — DOE-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

Alahmad, Mahmoud — Durham School of Architectural Engineering and Construction
Sharif-Kashani, Hamid — Computer and Electronics Engineering

Claes, Daniel — **Physics and Astronomy**

Experimental High Energy Physics

$573,000 — NSF

Snow, Gregory — Physics and Astronomy
Bloom, Kenneth — Physics and Astronomy
Dominguez, Aaron — Physics and Astronomy

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 — NSF through University of Georgia

Functional Analysis of Soybean Genes through Transposon Mutagenesis
$532,229 — United Soybean Board/SmithBucklin
Specht, James — Agronomy and Horticulture

Comfort, Steven — **Natural Resources**

Field-Scale Demonstrations of Innovative Remediation Techniques for Contaminated Soil and Water
$994,100 — EPA

Conley, Dennis — **Agricultural Economics**

* Developing Economic Improvements through Cooperative Businesses in Rural Nebraska
$224,982 — USDA-RD
Burkhart-Kriesel, Cheryl — Panhandle Research and Extension Center
Narjes, Charlotte — Center for Applied Rural Innovation

Daly, Edward — **Educational Psychology**

School Psychology Leadership Specialization in Response-to-Intervention Research & Systems Change
$800,000 — ED
McCurdy, Merilee — Educational Psychology
Sheridan, Susan — Educational Psychology
Kunz, Gina — Nebraska Center for Research on Children, Youth, Families and Schools

De Ayala, Rafael — **Educational Psychology**

* GAANN Fellowship Program for Educational Psychology
$525,060 — ED
Ansorge, Charles — Educational Psychology
Bellows, Laurie — Graduate Studies
Bovaird, James — Educational Psychology
Geisinger, Kurt — Educational Psychology

DeKraai, Mark — **Psychology/Public Policy Center**

* Transformation Transfer Initiative (TTI) Peer Support Training Implementation
$221,000 — Nebraska Department of Health and Human Services

Evaluation of Public Engagement Demonstration Projects on Pandemic Influenza (E-PEDPPI)
$348,716 — DHHS-CDC
Bulling, Denise — Public Policy Center

DiMagno, Stephen — **Chemistry**

Anhydrous Fluoride Salts
$420,000 — NSF

New Approaches to Catalyst Screening & Development
$435,000 — NSF

DiRusso, Concetta — **Nutrition and Health Sciences/ Biochemistry**

High Throughput Screens for Fatty Acid Uptake Inhibitors
$325,983 — 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
$549,947 — NSF through 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 — DoD-DTRA through University of North Texas

Drijber, Rhae — **Agronomy and Horticulture**

Developing Technologies to Improve Soil & Nutrient Management
$291,000 — USDA-ARS

Ducharme, Stephen — **Physics and Astronomy/Nebraska Center for Materials and Nanoscience**

Rational Design of Molecular Ferroelectric Materials and Nanostructures
$449,054 — DOE
Takacs, James — Chemistry

Nanostructure-Designed Dielectric Material for High-Energy-Density Capacitors
$586,000 — DoD

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 — 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 — DOE
Clemente, Thomas — Biotechnology/Agronomy and Horticulture/
Center for Plant Science Innovation
Weeks, Donald — Biochemistry

Dwyer, Matthew — **Computer Science and Engineering**

* Differential Symbolic Execution:
Supporting Evolution of High-Assurance Software
$674,959 — NASA through UNO
Elbaum, Sebastian — 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
$515,950 — 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 — ED
Marvin, Chris — Special Education and
Communication Disorders

Efting, 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

Elbaum, Sebastian — **Computer Science and Engineering**

Enhancing the Dependability of Complex Missions through Automated Analysis

$548,852 — DoD-AFOSR

Dwyer, Matthew — Computer Science and Engineering

T2T: A Framework for Amplifying Testing Resources

$491,688 — NSF

Dwyer, Matthew — Computer Science and Engineering

Engen-Wedin, Nancy — **Teaching, Learning and Teacher Education/ Lied Center for Performing Arts**

Indigenous Roots Teacher Education Program

$704,730 — ED

McGowan, Thomas — Teaching, Learning and Teacher Education

Epstein, Michael — **Special Education and Communication and Disorders**

Evaluation of Family Reunification Program

$271,881 — Father Flanagan's Boys' Home

Leadership Training in Emotional Disturbance Disorders

$601,733 — ED

Duppong Hurley, Kristin — Special Education and Communication and Disorders

Torkelson-Trout, Alexandra — Special Education and Communication and Disorders

Eskridge, Kent — **Statistics**

* GAANN Fellowship Program for Statistics

$393,795 — ED

Batman, Renee — Graduate Studies

Bellows, Laurie — Graduate Studies

Bilder, Christopher — Statistics

Blankenship, Erin — Statistics

Parkhurst, Anne — Statistics

Stroup, Walter — Statistics

Weissinger, Ellen — Educational Psychology

Zhang, Shunpu — Statistics

Fabrikant, Ilya — **Physics and Astronomy**

Electron-Molecule Collisions in Different Environments

$240,000 — NSF

Faller, Ronald — **Civil Engineering/ Midwest Roadside Safety Facility**

Wisconsin DOT Roadside Safety Research Program FY 2010
$601,736 — Nebraska Department of Roads
Sicking, Dean — Civil Engineering/ Midwest Roadside Safety Facility
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 — DOT-FHWA
Sicking, Dean — Civil Engineering/ Midwest Roadside Safety Facility
Rohde, John — Civil Engineering/ Midwest Roadside Safety Facility
Reid, John — Mechanical Engineering

Farritor, Shane — **Mechanical Engineering**

Robotic Devices to Support Long-Term Human Space Flight
$675,000 — NASA through UNO

Flores, Rolando — **Food Science and Technology**

Midwest Advanced Food Manufacturing Alliance
$340,764 — USDA-CSREES

Fontaine, Joseph — **Natural Resources**

* Assessing Landscape Constraints on Habitat Management of Upland Birds
$243,845 — Nebraska Game and Parks Commission
Powell, Larkin — Natural Resources

Franti, Thomas — **Biological Systems Engineering**

Heartland Regional Water Coordination Initiative
$571,988 — USDA-CSREES through 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**

Mongolia Vertebrate Parasite Project
$627,491 — NSF

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

$290,000 — NSF
Batelaan, Herman — Physics and Astronomy
Uiterwaal, Kees — Physics and Astronomy

Polarized Electron and Photon Physics

$385,000 — NSF

Geisinger, Kurt — **Educational Psychology**

* Technical Support for the Development and Delivery of the Hawaii Alternate Assessment

$593,103 — Keystone Alternate Assessment Design
Chin, Tzu-Yun — Educational Psychology
Foley, Brett — Educational Psychology

Giesler, Loren — **Plant Pathology**

Improving Management of Soybean Cyst Nematode through Extension Demonstration and Outreach

$292,000 — North Central Soybean Research Program

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 — NASA
Verma, Shashi — Natural Resources
Suyker, Andrew — Natural Resources

Land Cover Land Use Change Effects on Surface Water Quality: Integrated MODIS & SeaWiFS Assessment of Dnieper & Don River Basins

$598,130 — NASA

Glover, Todd — **Nebraska Center for Research on Children, Youth, Families and Schools**

State-Wide Response-to-Intervention Consortium for Training & Evaluation

$432,243 — Nebraska Department of Education
Ihlo, Tanya — Nebraska Center for Research on Children, Youth, Families and Schools

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 — NSF
Ci, Song — Computer and Electronics Engineering
Peng, Dongming — Computer and Electronics Engineering
Sharif-Kashani, Hamid — Computer and Electronics Engineering
Hudgins, Jerry — Electrical Engineering

Gogos, George — **Mechanical Engineering**

* Innovative Propane Flaming Technology for Crop Production

$274,000 — Propane Education and Research Council
Knezevic, Stevan — Northeast Research and Extension Center

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 — EPA
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 — EPA
Schlegel, Vicki — Food Science and Technology
Taylor, Stephen — Food Science and Technology

Gosselin, David — **Natural Resources**

* Global Climate Change Education: Research Experiences, Modeling and Data
$349,973 — NASA
Bonnstetter, Ron — Teaching, Learning and Teacher Education
Low, Russanne — Natural Resources
Oglesby, Robert — Earth and Atmospheric Sciences/ Natural Resources

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
$231,646 — United Soybean Board/Smith/Bucklin

Soybean Breeding and Genetic Research for Nebraska
$208,544 — Nebraska Soybean Board
Specht, James — Agronomy and Horticulture

Grouverman, Alexei — **Physics and Astronomy**

* Nanoscale Resistive Switching Behavior of Ferroelectric and Multiferroic Tunnel Junctions
$750,000 — DOE
Tsymbal, Evgeny — Physics and Astronomy

* Nanoscale Studies of Pyroelectric and Thermoelectric Phenomena
$600,000 — DOE
Ducharme, Stephen — Physics and Astronomy

* Materials World Network: Critical Scaling of Domain Dynamics in Ferroelectric Nanostructures
$314,950 — NSF

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 — NIH-NIGMS

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

Hallbeck, M. Susan — **Industrial and Management Systems Engineering**

VA Engineering Research Center
$450,409 — VA Medical Center-Omaha
Savory, Paul — Industrial and Management Systems Engineering

Harris, Steven — **Plant Pathology/ Center for Plant Science Innovation**

Autophagy in Fungal Hyphae: Functional Genomic & Mechanical Strength Studies
$417,852 — NSF through University of Maryland-Baltimore

Harshman, Lawrence — **Biological Sciences**

Comparative Functional Genomics of Drosophila Obesity
$516,548 — NIH-NIDDK through 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 Drosophila melanogaster Responses to Bacillus Infection
$452,163 — DoD
Benson, Andrew — Food Science and Technology
Kachman, Stephen — Statistics

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 — USDA-CSREES

Hayes, Michael — **Natural Resources**

Drought Mitigation, Nebraska Project

$558,401	USDA-NIFA
Svoboda, Mark	Natural Resources
Knutson, Cody	Natural Resources
Wardlow, Brian	Natural Resources

Developing Seasonal Predictive Capability for Drought Mitigation Decision Support System

$311,000	NASA through University of Illinois, Urbana-Champaign
Svoboda, Mark	Natural Resources
Knutson, Cody	Natural Resources
Sittler, Megan	Natural Resources

Transitioning the Drought Impact Reporter into an Operational System

$445,257	DOC-NOAA

Estimating the Impacts of Complex Climatic Events: Drought in Colorado, Nebraska & New Mexico

$300,000	DOC-NOAA

Developing a Drought Preparedness Framework for Tribal Governments: Moving from Crisis to Risk-Based Management

$609,539	DOI-BIA
Knutson, Cody	Natural Resources
Svoboda, Mark	Natural Resources

Heemstra, Jill — **Northeast Research and Extension Center**

Engaging Young Farmers and Ranchers in Environmental Management Education

$644,408	USDA-CSREES

Hein, Gary — **Entomology**

National Needs Fellow: Integrated Practitioners for Tomorrow's Sustainable Agricultural Systems

$234,000	USDA-CSREES
Lagrimini, Mark	Agronomy and Horticulture
Steadman, James	Plant Pathology
Brewer, Gary	Entomology

Henry, Christopher — **Biological Systems Engineering**

Livestock Producer Environmental Assistance Project

$600,000	Nebraska Environmental Trust

Development of Alternative Technologies for Small Livestock Producers

$221,881	Nebraska Department of Environmental Quality
Gross, Jason	Biological Systems Engineering

Hergert, Gary — **Panhandle Research and Extension Center**

Enhancing Irrigation Management Tools & Developing a Decision Support System for Managing Limited Irrigation Supplies for the High Plains

$249,999 — USDA-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 — USDA-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

Higley, Leon — **Natural Resources**

* Establishing Blow Fly Development and Sampling Procedures to Estimate Postmortem Intervals

$483,323 — DOJ-National Institute of Justice

Hoffman, Lesa — **Psychology**

Visual Attention in Aging: Bridging Experimental and Psychometric Approaches

$322,745 — NIH-NIA

Hogan, Tiffany — **Special Education and Communication Disorders**

The Lexicon and Phoneme Awareness

$429,156 — NIH-NIDCD

Holmes, Mary Anne — **Earth and Atmospheric Sciences**

Building a Community of Women Geoscience Leaders

$228,774 — NSF

Horn, Christy — **Equity, Access and Diversity Programs**

Building Accepting Campus Communities

$976,900 — ED

Bruning, Roger — Educational Psychology

Sydik, Jeremy — Equity, Access and Diversity Programs

Hu, Qi (Steve) — **Natural Resources**

* Development of a Northern Hemisphere Gridded Precipitation Dataset Spanning the Past Half Millennium for Analyzing Interannual and Longer-Term Variability in the Monsoons

$529,501 — DOC-NOAA

Feng, Song — Natural Resources

Oglesby, Robert — Earth and Atmospheric Sciences

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

$292,000 — DOC-NOAA

Oglesby, Robert — Earth and Atmospheric Sciences

Feng, Song — Natural Resources

Huang, Jinsong — **Mechanical Engineering**

* Highly Sensitive, Low Cost Organic Photodetector Based Photomultiplication

$200,000 — DoD-DTRA

Hudgins, Jerry — **Electrical Engineering**

* A Roadway Wind/Solar Hybrid Power Generation and Distribution System: Towards Energy-Plus Roadways

$999,504 — DOT-FHWA

Jones, Elizabeth — Civil Engineering

Qiao, Wei — Electrical Engineering

Rilett, Laurence — Civil Engineering

Sharma, Anuj — Civil Engineering

Hutkins, Robert — **Food Science and Technology**

Assessing and Enhancing Stability of Prebiotics in Processed Foods

$444,920 — USDA-NRICGP

Wehling, Randy — Food Science and Technology

Schlegel, Vicki — Food Science and Technology

Hygnstrom, Scott — **Natural Resources**

* Outdoor U Program

$226,655 — Nebraska Game and Parks Commission

Ianno, Natale — **Electrical Engineering**

* In-Situ Selenization of Copper Indium Boron Selenide (CIBS) Solar Cell Absorber Materials

$467,400 — DOE through University of Nebraska at Kearney

Soukup, Rodney — Electrical Engineering

Irmak, Ayse — **Natural Resources/Civil Engineering**

* CPNRD Mapping Evapotranspiration with High Resolution Satellite Data

$325,789 — Central Platte NRD

Irmak, Suat — **Biological Systems Engineering**

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

$679,160	Nebraska Department of Natural Resources
Irmak, Ayse	Natural Resources
Rundquist, Donald	Natural Resources
Eisenhauer, Dean	Biological Systems Engineering
van Donk, Simon	Biological Systems Engineering
Zoubek, Gary	Southeast Research and Extension Center
Rees, Jennifer	Southeast Research and Extension Center
Siekman, Darrel	Southeast Research and Extension Center
VanDeWalle, Brandy	Southeast Research and Extension Center
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

$492,564	Central Platte NRD
Irmak, Ayse	Biological Systems Engineering
Martin, Derrel	Biological Systems Engineering
van Donk, Simon	Biological Systems Engineering
Verma, Shashi	Natural Resources

Iyengar, Srikanth — **Mathematics**

Derived Categories of Complete Intersections and Hochschild Cohomology

$210,528 — NSF

Jiang, Hong — **Computer Science and Engineering**

* Turbo Button: A Semantically Smart Flash Memory Layer for Internet-Scale Storage Systems

$471,631 — NSF

CSR: Small: ProActive: A RAID Protection Activator for High Availability

$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 Medicine and Biomedical Sciences**

Analysis of Viral Factors that Regulate the Bovine Herpesvirus 1 (BHV-1) Latency Reactivation Cycle
$375,000 — USDA-CSREES

Functional Analysis of biCPO
$375,000 — USDA-NRICGP

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

Jones, Elizabeth — **Civil Engineering**

U.S.-Brazil Dual Degree in Infrastructure & Sustainability Engineering Program
$208,211 — ED-FIPSE

Josiah, Scott — **Nebraska State Forest Service**

Forest Legacy Program: Pine Ridge Project
$500,000 — USDA-FS

Pine Ridge Stewardship and Legacy Project: Ferguson Property Acquisition
$240,000 — Nebraska Environmental Trust

Expansion of Hazelnut Production, Feedstock and Biofuel Potential Through Breeding for Disease Resistance and Climatic Adaption
$389,224 — USDA-CSREES through Oregon State University
Adams, Dennis — Natural Resources
Hanna, Milford — Industrial Agricultural Products Center

NRCS-Technical Service Provider Project
$575,026 — USDA-NRCS

Hazardous Fuels Reduction: Pine Ridge
$250,000 — USDA-FS

Kamil, Alan — **Biological Sciences**

Operant Research on Episodic Memory in an Animal Model
$405,625 — NIH-NIMH
Bond, Alan — Biological Sciences

Kim, Yong Rak — **Civil Engineering**

Asphalt Research Consortium
$425,000 — DOT-FHWA through Texas A&M Research Foundation

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 — DOC-NOAA
Svoboda, Mark — Natural Resources

Koelsch, Richard — **Biological Systems Engineering/ Extension**

Nebraska EIPM-CS Coordination Program

$223,305	USDA-CSREES
Wright, Robert	Entomology
Bernards, Mark	Agronomy and Horticulture
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
Bradshaw, Jeffrey	Panhandle Research and Extension Center
Jackson, Tamra	Plant Pathology
Timmerman, Amy	Plant Pathology
Reicher, Zac	Agronomy and Horticulture

Kranz, William — **Northeast Research and Extension Center**

* Sustainable Energy Options for Rural Nebraska

$500,000	DOE
Hay, Francis	Biological Systems Engineering
Hudgins, Jerry	Electrical Engineering
Isom, Loren	Industrial Agricultural Products Center
Keshwani, Deepak	Biological Systems Engineering
Shelton, David	Northeast Research and Extension Center

Lackey, Susan — **Natural Resources**

* Developing Hydrogeologic Databases to Assist in Water Resources Management

$459,600	Lower Elkhorn NRD

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

LaCost, Barbara — **Educational Administration**

Enrollment Management Journal

$210,000	Texas Guaranteed

Langell, Marjorie — **Chemistry**

* Metal Oxide Solid Solutions: Macroscopic to Nano-Scale

$449,855	NSF

* GAANN Fellowships in Chemistry: Research First at UNL

$393,795	ED

Ledder, Glenn — **Mathematics**

UBM: Research for Undergraduates in Theoretical Ecology (RUTE)

$905,000 — NSF
Deng, Bo — Mathematics
Gibson, Robert — Biological Sciences
Loladze, Irakli — Mathematics
Louda, Svata — Biological Sciences

Lee, Ji-Young — **Nutrition and Health Sciences**

Evaluation of Athero-Protective Role of Blue-Green Algae

$387,365 — DHHS-NCCAM

Lenters, John — **Natural Resources**

Riparian Vegetation Impacts on Water Quantity, Quality, and Stream Ecology

$433,960 — Nebraska Department of Natural Resources
Istanbulluoglu, Erkan — Earth and Atmospheric Sciences

Lesoing, Gary — **Southeast Research and Extension Center**

* Nebraska Network for Beginning Farmers and Ranchers

$202,397 — Center for Rural Affairs
Conley, Dennis — Agricultural Economics

Lewis, Charlotte — **Center on Children, Families and the Law**

Answers4Families/NRRS Database

$204,586 — Nebraska Department of Health and Human Services

Li, Haorong — **Durham School of Architectural Engineering and Construction**

* Enterprise Plug n Play Diagnostics and Optimization for Smart Buildings

$617,013 — Sensus Machine Intelligence
Lu, Ying — Computer Science and Engineering

Intelligent Controls for Net-Zero Energy Buildings

$475,750 — DOE
Cho, Yong Kwon — Durham School of Architectural Engineering and Construction
Peng, Dongming — Computer and Electronics Engineering
Goedert, James — Durham School of Architectural Engineering and Construction
Cogdill, Robert — Engineering

Li, Ming — **Psychology**

Anxiolytic Property of Atypical Antipsychotics

$362,145 — NIH-NIMH

Li, Xu — **Civil Engineering**

* Bioaccumulation of Antibiotic Resistant Salmonella in Produce after Irrigation Using Recycled Waters

$500,000 — USDA-AFRI
Bartelt-Hunt, Shannon — Civil Engineering
Hodges, Laurie — Agronomy and Horticulture
Snow, Daniel — Natural Resources

Lindquist, John — **Agronomy and Horticulture**

* Crop-Wild Gene Flow in Sorghum and Relative Fitness of the Shattercane x Sorghum F2 Population

$300,000 — USDA-NIFA

Bernards, Mark — Agronomy and Horticulture

Contribution of Fusarium lateritium to Weed Suppressive Soils & Weed Abundance

$366,186 — USDA-NRICGP

Drijber, Rhae — Agronomy and Horticulture

Yuen, Gary — Plant Pathology

Liou, Sy-Hwang — **Physics and Astronomy**

* High Sensitivity Magnetoresistive Sensors for Both DC and EMI Magnetic Field Mapping

$650,000 — DoD-Strategic Environmental Research Development Program

Advanced Probes for Characterizations of Magnetic Nanostructures

$539,998 — DoD

Sellmyer, David — Physics and Astronomy/Nebraska Center for Materials and Nanoscience

Skomski, Ralph — Physics and Astronomy

Lodl, Kathleen — **Extension**

Nebraska CYFAR Sustainable Community Project

$659,822 — USDA-CSREES

De Guzman, Maria — Child, Youth and Family Studies

Lu, Ying — **Computer Science and Engineering**

* CSR: Small: Energy Management for Heterogeneous MapReduce Data Centers

$432,932 — NSF

Swanson, David — Computer Science and Engineering

Lu, Yongfeng — **Electrical Engineering**

* DURIP: Wavelength-Tunable CO2 Laser
for Resonant Energy Coupling in Multi-Energy Processing
$266,407 — DoD-ONR

Synthesis of Crystalline Carbon Nitride by
Simultaneous Vibrational and Electronic Excitations
$255,771 — NSF

Coating and Patterning Diamond Films by
Laser Resonant Bond Breaking in Polymer Precursors
$259,384 — NSF

Self-Integration of Carbon-Nanotube Sensors
in Functional Integrated Circuits
$240,000 — NSF

Tunable Photonic Bandgap Crystals
with Integrated Functionalities
$330,000 — DoD-AFOSR

Near-Field-Controlled Nanoscale Coating
of Functional Thin Films for Nanodevices
$240,000 — NSF

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 — DOE

Training Graduate Students in Plant Breeding Using
Crop Drought Tolerance Improvement as a Model
$599,999 — USDA-NRICGP
Fromm, Michael — Center for Plant Science Innovation

Marston, Twig — **Northeast Research and Extension Center**

Extension and Educational Programs and Materials for
Small- and Medium-Sized Pork Operations
$258,644 — USDA-NRICGP

Martin, Derrel — **Biological Systems Engineering**

Modeling and Field Experimentation to Determine
Effects of Land Terracing-Republican River Basin (CESU)
$515,775 — DOI-BR

McCurdy, Merilee — **Educational Psychology**

Training School Psychologists in Response-to-Intervention Implementation and System Change

$799,981 — ED

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

$263,347 — International Research and Exchanges Board

McQuillan, Julia — **Sociology**

Infertility: Pathways & Psychosocial Outcomes

$637,373 — NIH through 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 — DOI-BR

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 — Nebraska Office of the Chief Information Officer

Mitra, Amit — **Plant Pathology**

Functional Map of Tomato Genome Using Direct Repeat Induced Gene Silencing

$301,000 — USDA-NRICGP

Moore, Raymond — **Engineering**

Students United in Classes, Community, Engineering, Service and Study Abroad

$591,995 — NSF

Moriyama, Etsuko — **Biological Sciences/ Center for Plant Science Innovation**

Efficient and Sensitive Mining System for G-Protein Coupled Receptors

$577,014 — NIH-NLM

Large-Scale Simultaneous Multiple Alignment & Phylogeny Estimation

$223,215 — NSF

Morris, T. Jack — **Biological Sciences**

* Nebraska Research Network in Functional Genomics

$317,603 — NIH through UNMC

Wood, Charles — Biological Sciences

Negahban, Mehrdad — **Engineering Mechanics**

EMME: US-EU Transatlantic Degree Program in Engineering Mechanics/Materials Engineering

$407,997 — ED

Chandra, Namas — Engineering Mechanics

Nelson, J. Ron — **Special Education and Communication Disorders**

Effects of a Supplementary Vocabulary Intervention for Students with Limited English Proficiency

$694,884 — ED

Newman, Ian — **Educational Psychology**

Nebraska Collegiate Consortium to Reduce High Risk Drinking

$374,993 — ED

Shell, Duane — Educational Psychology

Nguyen, Lim — **Computer and Electronics Engineering**

Self-Encoded Spread Spectrum Modulation for Robust Anti-Jamming Communication

$379,767 — DoD

Jang, Won — Computer and Electronics Engineering

Nickerson, H. Doak — **Nebraska State Forest Service**

Restoring the Pine Ridge Forest Ecosystem

$300,000 — Nebraska Environmental Trust

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 — **Earth and Atmospheric Sciences**

Evaluating the Role of Global Snow Cover on Seasonal to Interannual Predictability of Temperature & Precipitation

$598,216 — NASA

Osorio, Fernando — **Veterinary Medicine and Biomedical Sciences**

Porcine Reproductive and Respiratory Virus: Role of Viral Genes in Virulence/Attenuation
$375,000 — USDA-NRICGP
Pattnaik, Asit — Veterinary Medicine and Biomedical Sciences

Pannier, Angela — **Biological Systems**

* Engineering Microarray Analysis of Gene Expression Profiles in Cells Transfected with Nonviral Gene Delivery Vectors
$307,808 — American Heart Association

Pattnaik, Asit — **Veterinary Medicine and Biomedical Sciences**

Glycoproteins of Porcine Reproductive and Respiratory Syndrome Virus in Infection and Immunity
$371,230 — USDA-AFRI
Osorio, Fernando — Veterinary Medicine and Biomedical Sciences

Paul, Prem — **Research and Economic Development**

* Nebraska Innovation Center (Whittier) to Renovate and Improve the Whittier School for Use as the Nebraska Innovation Center
$656,600 — HUD

Pegg, Mark — **Natural Resources**

* Platte River Catfish Population Dynamics
$530,321 — Nebraska Game and Parks Commission

Environmental Flows in the Niobrara River for Fish and Wildlife
$779,254 — 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
Goddard, Stephen — Computer Science and Engineering

GAANN in Engineering & Assistive Technology
$387,165 — ED
Goddard, Stephen — Computer Science and Engineering

Peterson, Daniel — **Food Science and Technology**

Adaptive Immune Response to Symbiotic Bacteria as a Mediator of Gut Homeostasis
$379,890 — NIH-NIAID

Pickard, Gary — **Veterinary Medicine and Biomedical Sciences**

Retinal Neurons Afferent to the Circadian System
$848,196 — NIH-NEI
Sollars, Patricia — Veterinary Medicine and Biomedical Sciences

5HT Presynaptic Inhibition of Retinal Input to the SCN
$317,718 — NIH-NINDS
Sollars, Patricia — Veterinary Medicine and Biomedical Sciences

Pilson, Diana — **Biological Sciences**

Transgenic Virus Resistant Squash: Ecological Effect
$314,877 — USDA-CSREES
Morris, T. Jack — Biological Sciences

Pope, Kevin — **Natural Resources**

Recruitment of Walleye and White Bass in Irrigation Reservoirs
$535,365 — Nebraska Game and Parks Commission

Powell, Larkin — **Natural Resources**

Assessing Local & Regional Variability in Productivity & Fidelity of Grassland Birds on National Park Service Units in the Great Plains
$212,122 — DOI-GS
Allen, Craig — Natural Resources

Pytlik Zillig, Lisa — **Educational Psychology/ Public Policy Center**

* Developing an Empirically-Based, Multi-Level, Social-Cognitive Model of Public Engagement in Science & Innovation Policy Development
$471,180 — NSF
Dzenis, Yuris — Engineering Mechanics
Morris, T. Jack — Biological Sciences
Pardy, Ted — Biological Sciences
Tomkins, Alan — Educational Psychology/Public Policy Center
Turner, Joseph — Engineering Mechanics

Qiao, Wei — **Electrical Engineering**

Intelligent Optimal Mechanical Sensorless Control for Variable-Speed Wind Energy Systems Considering System Uncertainties
$214,754 — NSF

Rack, Frank — **Earth and Atmospheric Sciences/ Antarctic Geological Drilling Program**

Promoting Environmental Literacy through Teacher Professional Development Workshops and Climate Change Student Summits (C2S2)
$694,093 — DOC-NOAA
Huffman, Louise — Antarctic Geological Drilling Program

Rajca, Andrzej — **Chemistry**

High-Spin Nitroxide Diradical for Biomedical Imaging Applications
$421,174 — NIH-NIBIB
Rajca, Suchada — Chemistry

Stable High-Spin Polyradicals & Chiral Pi-Conjugated Systems
$508,191 — NSF

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**

* Mobility First: A Trustworthy Mobility-Centric Architecture for the Future Internet
$300,000 — NSF

Dynamic Optimized Advance Scheduling of Bandwidth Demands
$449,976 — DOE

Ratcliffe, Brett — **Entomology/ University of Nebraska State Museum**

Faunistic Survey of Dynastinae of Mexico, Guatemala, & Belize
$481,493 — NSF

Rebarber, Richard — **Mathematics**

* REU Site: Nebraska REU in Applied Math
$324,492 — NSF
Tenhumberg, Brigitte — Biological Sciences

Reddy, N.R. Jayagopala — **Veterinary Medicine and Biomedical Sciences**

Delineating Autoimmunity in Post-Infectious Myocarditis
$308,000 — American Heart Association

Reid, John — **Mechanical Engineering**

* Downstream Anchoring for MGS, Minimum Effective Guardrail Length for MGS, Short-Radius Guardrail w/Large Radii
$415,471 — Nebraska Department of Roads
Bielenberg, Robert — Midwest Roadside Safety Facility
Faller, Ron — Civil Engineering/ Midwest Roadside Safety Facility
Lechtenberg, Karla — Midwest Roadside Safety Facility
Sicking, Dean — Civil Engineering/ Midwest Roadside Safety Facility

Midwest States Regional Pooled Fund Program
$704,774 — Nebraska Department of Roads
Sicking, Dean — Civil Engineering/ Midwest Roadside Safety Facility
Faller, Ron — Civil Engineering/ Midwest Roadside Safety Facility

Reid, Robert — **Special Education and Communication Disorders**

Leadership Training in Attention Deficit Hyperactivity Disorder
$620,006 — ED

Rilett, Laurence — **Civil Engineering**

Nebraska Transportation Center Seed Funding
$300,000 — Nebraska Department of Roads

Development of State of the Art Traffic
Micro-Simulation Model for Nebraska
$222,896 — Nebraska Department of Roads
Jones, Elizabeth — Civil Engineering

Intelligent Transportation System Deployment Project
$831,942 — Nebraska Department of Roads
Jones, Elizabeth — Civil Engineering
Khattak, Aemal — Civil Engineering

Robertson, Brian — **Mechanical Engineering/Nebraska Center for Materials and Nanoscience**

Spintronic Devices Enabled by Semiconducting Boron Carbide
$299,998 — NSF
Adenwalla, Shireen — Nebraska Center for Materials and Nanoscience
Dowben, Peter — Physics and Astronomy/Nebraska Center for Materials and Nanoscience

Rohde, John — **Civil Engineering/ Midwest Roadside Safety Facility**

* Universal Breakaway Steel Post
for the Three-Beam Bullnose Guardrail System
$207,494 — Nebraska Department of Roads
Bielenberg, Robert — Midwest Roadside Safety Facility
Faller, Ron — Civil Engineering/ Midwest Roadside Safety Facility
Reid, John — Mechanical Engineering

Rothermel, Gregg — **Computer Science and Engineering**

* II-EN: Infrastructure Support for Software Testing Research
$345,985 — NSF

CRI: Community Resource to Support Controlled
Experimentation with Program Analysis and Testing Techniques
$874,636 — NSF
Elbaum, Sebastian — Computer Science and Engineering
Dwyer, Matthew — Computer Science and Engineering

Ruser, Kevin — **Law**

* UNL-UNAM Rule of Law Partnership
$449,384 — American Council on Education-HED
Bennett, Robert — Law
Lenich, John — Law
Lepard, Brian — Law
Lyons, William — Law
Moberly, Richard — Law
Pierce, Glenda — Law
Poser, Susan — Law
Schmidt, Steven — Law
Schopp, Robert — Law
Willborn, Steven — Law

Samal, Ashok — **Computer Science and Engineering**

* Evaluation of GPS-Enabled Cell Phones and Laptops for Applications of Law Enforcement Patrolling Activities

$294,516	DOJ-National Institute of Justice
Ramirez, Juan	Public Policy Center
Rosenbaum, David	Economics/Public Policy Center
Tomkins, Alan	Educational Psychology/Public Policy Center

Building Knowledge Discovery & Information Fusion Tools for Collaborative Systems to Adaptively Manage Uncertain Hydrological Resources

$601,816	NSF
Chen, Xun-Hong	Natural Resources
Soh, Leen-Kiat	Computer Science and Engineering
Tomkins, Alan	Educational Psychology/Public Policy Center
Zellmer, Sandra	Law

Saraf, Ravi — **Chemical and Biomolecular Engineering**

Electronic Interfacing between a Living Cell and a Nanodevice: A Bio-Nano Hybrid System

$900,000	DOE

Nanodevice for Digital Imaging of Palpable Structure at Human-Finger Resolution for Clinical Breast Examination

$377,552	NIH-NIBIB

Scalora, Mario — **Psychology**

Post-Secondary Institutions Safety Threat Assessment Technical Assistance Center

$535,537	DHS through Nebraska Military Department-NEMA
Yardley, Owen	UNL Police
Bulling, Denise	Public Policy Center

Scheffler, Marilyn — **Special Education and Communication Disorders**

Project RTI: Building Capacity Together to Implement Response to Intervention

$800,000	ED
Sanger, Dixie	Special Education and Communication Disorders

Project Re-entry: Preparing Speech-Language Pathologists to Serve Students with Traumatic Brain Injury

$800,000	ED
Hux, Karen	Special Education and Communication Disorders

Schubert, Mathias — **Electrical Engineering**

* STTR: THz Ellipsometer for Reflection-Mode Signature Acquisition
$225,000 — J.A. Woollam Company

MRI: Development of an Optical Hall Effect Instrumentation for Non-Contact Nanostructure Electrical Characterization
$299,915 — NSF

Lu, Yongfeng	Electrical Engineering
Han, Ming	Electrical Engineering
Schubert, Eva	Electrical Engineering
Binek, Christian	Physics and Astronomy
Ducharme, Stephen	Physics and Astronomy
Tsymbal, Evgeny	Physics and Astronomy
Shield, Jeffrey	Mechanical Engineering
Hofmann, Tino	Electrical Engineering

Schwer, Avery — **Durham School of Architectural Engineering and Construction**

* Energy Conservation and Behavior Change through Real-Time Energy Monitoring
$245,111 — OPPD through UNO

Alahmad, Mahmoud	Durham School of Architectural Engineering and Construction
Tiller, Dale	Durham School of Architectural Engineering and Construction

Sellmyer, David — **Physics and Astronomy/Nebraska Center for Materials and Nanoscience**

Studies of Artificially Structured Composite Magnets
$718,000 — DOE

Shadwick, Bradley — **Physics and Astronomy**

Wavebreaking and Particle Trapping in Collisionless Plasmas
$561,840 — DOE

Shank, Nancy — **Public Policy Center**

SHNBHIN Improving Access Health IT
$385,528 — Health Partners Initiative

Western Nebraska Health Information Exchange Network HIT RND Project
$255,843 — Chadron Community Hospital

Sharif-Kashani, Hamid — **Computer and Electronics Engineering**

* Research & Development - Development of a Standard Communication Protocol for Wireless Sensor Network in Mobile Railroad Environment
$250,000 — DOT-FRA
Hempel, Michael — Computer and Electronics Engineering

Shea, Patrick — **Natural Resources**

Targeting Watershed Vulnerability & Behaviors Leading to Adoption of Conservation Management Practices
$570,000 — USDA-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

$232,500 — 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 — USDA-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 — ED

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 — DOE

Belashchenko, Kirill — Physics and Astronomy

Novel Nanostructures for High-Energy Nanocomposite Permanent Magnets

$264,319 — NSF

Shulski, Martha — **Natural Resources**

* Regional Climate Services Support in the High Plains Region

$651,494 — DOC-NOAA

Hubbard, Kenneth — Natural Resources

You, Jinsheng — Natural Resources

Sicking, Dean — **Civil Engineering**

* Adaptation of the SAFER Barrier for Roadside and Median Applications

$990,000 — Nebraska Department of Roads

Faller, Ron — Civil Engineering/ Midwest Roadside Safety Facility

Reid, John — Mechanical Engineering

Enhancement of Research Infrastructure at the Midwest Roadside Safety Facility

$346,000 — Nebraska Department of Roads

Siegfried, Blair — **Entomology**

Assessing the Risk of European Corn Borer Adaptation to Transgenic Bt Maize

$400,000 — USDA-NIFA

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

$359,211 — USDA-CSREES through Kansas State University

Sleight, Weldon — **Nebraska College of Technical Agriculture**

Biomass Energy System

$360,000 — Nebraska Environmental Trust

Smith, David — **Veterinary Medicine and Biomedical Sciences**

Nebraska Get Smart on Farm 2008/09 Contract

$235,000 — Nebraska Department of Health and Human Services

Smyth, Jolene — **Sociology/Gallup Research Center**

* Using Survey Methodology Research to Assist with Design Improvements and/or the Redesign of Surveys Related to Science, Engineering and Agriculture

$200,000 — USDA-NASS

Olson, Kristin — Sociology/Gallup Research Center

Snow, Daniel — **Natural Resources**

Effects of Cattle Manure Handling & Management Strategies on Fate & Transport of Hormones

$699,607 — EPA

Bartelt-Hunt, Shannon — Civil Engineering

Zhang, Tian — Civil Engineering

Kranz, William — Northeast Research and Extension Center

Mader, Terry — Northeast Research and Extension Center

Shapiro, Charles — Northeast Research and Extension Center

Shelton, David — Northeast Research and Extension Center

Snow, Gregory — **Physics and Astronomy**

The Luminosity Measurement for the DZERO Experiment at Fermilab

$410,352	DOE
Bloom, Kenneth	Physics and Astronomy
Claes, Daniel	Physics and Astronomy
Dominguez, Aaron	Physics and Astronomy

GAANN Fellowships for Physics at UNL

$654,295	ED
Claes, Daniel	Physics and Astronomy
Dominguez, Aaron	Physics and Astronomy
Uiterwall, Cornelis	Physics and Astronomy
Batelaan, Herman	Physics and Astronomy
Gay, Timothy	Physics and Astronomy
Adenwalla, Shireen	Physics and Astronomy

Soh, Leen-Kiat — **Computer Science and Engineering**

* CPATH CDP: Renaissance Computing: Concept Development and Planning

$217,970	NSF
Meyer, George	Biological Systems Engineering
Moore, Brian	Music
Moriyama, Etsuko	Biological Sciences/ Center for Plant Science Innovation
Ramsay, Stephen	English
Samal, Ashok	Computer Science and Engineering
Scott, Stephen	Computer Science and Engineering
Shell, Duane	Educational Psychology
Thomas, William	History

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

Soukup, Rodney — **Electrical Engineering**

A Novel Variable Wide Bandgap Material for High Power, High Frequency Devices

$368,008	DoD
Hudgins, Jerry	Electrical Engineering
Ianno, Natale	Electrical Engineering

Soundararajan, Madhavan — **Biochemistry**

* The Hunt for Green Every April: Factors Affecting Fitness in Switchgrass

$202,976	USDA-ARS

Spalding, Roy — **Agronomy and Horticulture**

Effectiveness of Irrigated Crop Management Practices in Reducing Groundwater Nitrate Contamination

$630,768	USDA-CSREES
Ferguson, Richard	Agronomy and Horticulture
Marx, David	Statistics
Spalding, Mary	Natural Resources

Spaulding, William — **Psychology**

Decision Science in Rehabilitation

$860,775 — NIH-NIMH

Garbin, Calvin — Psychology

Specht, James — **Agronomy and Horticulture**

* Drought Stress Tolerance in Nebraska

$222,681 — USDA-ARS

Spreitzer, Robert — **Biochemistry**

Rubisco Phylogenetic Engineering

$202,383 — USDA-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

$279,000 — NSF

Staswick, Paul — **Agronomy and Horticulture**

Deciphering Novel Signaling Roles for Amino Acid Conjugates of Jasmonic Acid

$249,969 — NSF

Steadman, James — **Plant Pathology**

* A Search for Improvement & Resistance in Common Bean through Multi-Site Screening & Pathogen Characterization

$205,560 — USDA-ARS

Stentz, Terry — **Durham School of Architectural Engineering and Construction**

Human Factors in Railway Operation

$590,000 — DOT-FRA

Jones, Elizabeth — Civil Engineering

Rilett, Laurence — Civil Engineering

Khattak, Aemal — Civil Engineering

Riley, Michael — Industrial and Management Systems Engineering

Analytic Study of Acute Extremity Lacerations in Meat Packing

$616,052 — 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 — USDA-NRICGP

Storz, Jay — **Biological Sciences**

* The Mechanistic Basis of Parallel Evolution:
Functional Analysis of Hemoglobin Polymorphism in Andean Ducks
$378,104 — NSF
Moriyama, Hideaki — Biological Sciences/Center for Biotechnology

Stowell, Richard — **Biological Systems Engineering**

Air Quality Extension & Education:
Enhanced Learning Opportunities for Addressing
Air Quality Issues in Animal Agriculture
$498,562 — USDA-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 — USDA-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 — NIH-NIBIB
Larsen, Gustavo — Chemical and Biomolecular Engineering

Svoboda, Mark — **Natural Resources**

NIDIS Portal Content Development and Help Desk Support
$497,497 — DOC-NOAA

Development of a "Drought Ready Communities" Program
$288,670 — DOC-NOAA
Sittler, Meghan — Natural Resources
Smith, Kelly — Natural Resources
Knutson, Cody — Natural Resources
Woudenberg, Donna — Natural Resources

Integrating Enhanced GRACE Water Storage Data
into the U.S. and North American Drought Monitors
$224,991 — NASA-Goddard Space Flight Center
Wardlow, Brian — Natural Resources
Fuchs, Brian — Natural Resources
Scott, Soren — Natural Resources

Swanson, David — **Computer Science and Engineering**

Open Science Grid Consortium
$295,000 — NSF through University of Wisconsin-Madison

Tadros, Maher — **Civil Engineering**

Class C Fly Ash in Concrete Pavement
$321,379 — Nebraska Department of Roads

Impact of Large 0.7 inch Strand on NU-I Girder and NUDeck
$244,408 — Nebraska Department of Roads
Morcous, George — Durham School of Architectural Engineering and Construction

Takacs, James — **Chemistry**

Ligand Scaffold Optimization for
Catalytic Asymmetric Hydroboration

$420,000 — NSF

Tan, Li — **Engineering Mechanics**

Self-Organized Nanolayers for Organic Thin-Film Transistors

$387,463 — NSF
Zeng, Xiao Cheng — Chemistry

Bi-Functional Pentacene Monolayer
for Organic Field-Effect Transistors

$299,410 — DoD
Zeng, Xiao Cheng — Chemistry

Taylor, Stephen — **Food Science and Technology**

* Primary and Secondary Prevention of Peanut and Tree Nut Allergy

$200,000 — USDA-ARS
Baumert, Joseph — Food Science and Technology

Determination of Minimal Elicitation Dose for
Almond in Almond-Allergic Individuals

$261,000 — Almond Board of California

Thippareddi, Harshavardhan — **Food Science and Technology**

* Food Safety Assistance for Small Meat and Poultry Processors
through Development and Implementation
of Industry Best Practices

$599,992 — USDA-CSREES
Burson, Dennis — Animal Science
Ellis, Jason — Agricultural Leadership,
Education and Communication

Understanding and Controlling Listeria Monocytogenes
Transmission through Ready-to-Eat Meat Products

$222,270 — Colorado State University

Improving Safety of Shell Eggs & Egg Products
by Addressing Critical Research Needs
for Salmonella Enteritidis & Salmonella spp

$599,951 — USDA-NRICGP
Froning, Glenn — Food Science and Technology
Subbiah, Jeyamkondan — Biological Systems Engineering

Thomas, Steven — **Natural Resources**

* Dimensions: An Integrative Traits-Based Approach
to Predicting Variation in Vulnerability
of Tropical and Temperate Stream Biodiversity to Climate Change

$290,229 — NSF

FIBR: Linking Genes to Ecosystems

$467,335 — NSF through University of California-Riverside

Thompson, Daniel — **Electrical Engineering**

* UNO-NASA Space Grant:
Satellite Contaminant Materials Research Program

$593,979 — NASA through UNO
Ianno, Natale — Electrical Engineering

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

Turner, Joseph — **Engineering Mechanics**
* Development of Improved Product Performance
through Optimization and Modeling
of Engineering Materials, Processing, and Function
$283,770 — Brenco/Amsted Industries
Shield, Jeffrey — Mechanical Engineering

* Ultrasonic Scattering for Measurement of Longitudinal Rail Stress
$262,000 — DOT-FRA

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

Tyre, Richard — **Natural Resources**
Quantifying Uncertainty in Missouri River
Adaptive Management Processes
$410,858 — DOI-GS
Istanbulluoglu, Erkan — Natural Resources
Allen, Craig — Natural Resources

Uiterwaal, Kees — **Physics and Astronomy**
* REU Site: Optics and Laser Physics
$246,450 — NSF
Batelaan, Herman — 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

Umstadter, Donald — **Physics and Astronomy**
Research and Development of High Power
Laser Driven Electron Accelerator, Phase II
$899,823 — DoD-DARPA
Banerjee, Sudeep — Physics and Astronomy
Shadwick, Bradley — Physics and Astronomy

Laser Produced Coherent X-Ray Sources
$795,000 — DOE
Banerjee, Sudeep — Physics and Astronomy

Van Cott, Kevin — **Chemical and Biomolecular Engineering**
* Structural Characterization of Recombinant Glycoproteins
$250,000 — Inspiration Biopharmaceuticals

Variyam, Vinodchandran — **Computer Science and Engineering**
AF: Small: Studies in Nonuniformity,
Completeness and Reachability
$272,031 — NSF

Velipasalar, Senem — **Electrical Engineering**

CSR-DMSS, SM: Cooperative Activity Analysis in Wireless Smart-Camera Networks (Wi-SCaNs)

$300,000 — NSF

Gursoy, Mustafa — Electrical Engineering

Verma, Shashi — **Natural Resources**

* Second Generation Biofuels: Carbon Sequestration and Life Cycle Analysis

$500,000 — DOE

Arkebauer, Timothy — Agronomy and Horticulture

Cassman, Kenneth — Agronomy and Horticulture

Liska, Adam — Biological Systems Engineering

Wagner, William — **Biological Sciences**

Effects of Predation by a Phonotactic Parasitoid on Male and Female Reproductive Behavior in a Field Cricket

$511,414 — NSF

Waller, Steven — **Agricultural Sciences and Natural Resources**

Agriculture in the Classroom

$370,912 — Nebraska Foundation for Agricultural Awareness

Walstad, William — **Economics**

* Interactive Teaching in Undergraduate Economic Courses

$674,928 — NSF

Wang, Dong — **Statistics**

Expanding the Scope of Association Mapping in Important Crop Species with Methodology Development in Statistics

$282,000 — USDA-AFRI

Eskridge, Kent — Statistics

Baenziger, P. Stephen — Agronomy and Horticulture

Dweikat, Ismail — Agronomy and Horticulture

Wang, Jun — **Earth and Atmospheric Sciences**

* A Combined EOS Data and GEOS-Chem Modeling Study of the Direct Radiative Forcing of Volcanic Sulfate Aerosols

$315,500 — NASA

Regional Air Quality and Climate Impact of Biomass-Burning Aerosols from Central America: An Analysis with EOS Data and Numerical Models

$300,676 — NASA

Weeks, Donald — **Biochemistry**

* LiT: Novel Bicarbonate Transporters in Chlamydomonas CO2-Concentrating Mechanism

$546,000 — NSF

Bailey, Cheryl — Biochemistry

Wegulo, Stephen — **Plant Pathology**

* Regional Distribution and Host Range of Triticum Mosaic Virus, an Emerging Virus of Wheat, and Its Potential Impact on Wheat Production

$621,284 — USDA-NIFA
Baenziger, P. Stephen — Agronomy and Horticulture
Hein, Gary — Doctor of Plant Health Program

Wiebe, Matthew — **Veterinary Medicine and Biomedical Sciences**

* BAF: an Intrinsic Host Defense Responsive to Foreign DNA

$270,000 — NIH-NIAID

Wiebe, Sandra — **Psychology**

Prenatal Tobacco Exposure, Self Regulation, and Externalizing Behaviors in Early Childhood

$403,781 — NIH-NIDA
Espy, Kimberly Andrews — Psychology

Wiegand, Roger — **Mathematics**

GAANN Fellowship Program: Mathematics at UNL

$523,436 — ED
Lewis, Jim — Mathematics
Walker, Judy — Mathematics
Meakin, John — Mathematics
Bellows, Laurie — Graduate Studies

Wiener, Richard — **Psychology**

REU Site: Psychology and Law

$200,000 — NSF

Self-referencing, Social Identity & Judgments of Sexual Harassment

$302,364 — NSF

Wilson Jr., Robert — **Panhandle Research and Extension Center**

Assessing the Long Term Viability of Roundup Ready Technology as a Foundation for Cropping Systems

$945,000 — Monsanto Co.

Woldt, Wayne — **Biological Systems Engineering**

Advancing Onsite Wastewater Treatment in Nebraska

$259,742 — Nebraska Department of Environmental Quality
Skipton, Sharon — Southeast Research and Extension Center

Wood, Charles — **Biological Sciences/ Nebraska Center for Virology**

Research and Training on HIV/AIDS Neuropathogenesis in Zambia

$273,363 — NIH-NIMH

Woodward, Gordon — **Mathematics**

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
Erickson, Galen — Animal Science
Schulte, Dennis — Biological Systems Engineering
Franti, Tom — Biological Systems Engineering
Jose, H. Douglas — Agricultural Economics

Xu, Lisong — **Computer Science and Engineering**

* NeTS: Small: Internet Congestion Control Census

$450,000 — NSF
Deogun, Jitender — Computer Science and Engineering
Lu, Ying — Computer Science and Engineering

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

Nebraska AgrAbility

$797,000 — USDA-CSREES
Baquet, Alan — Agricultural Economics

Zempleni, Janos — **Nutrition and Health Sciences**

Biotin Sensing and Chromatin Remodeling by Holocarboxylase Synthetase

$803,239 — NIH-NIDDK

Biotin Affects Cytokine Metabolism

$409,586 — USDA-NRICGP

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

Zlotnik, Vitaly — **Earth and Atmospheric Sciences**

Mechanisms Producing Variation in Lake Salinity in Dune Environments: Nebraska Sand Hills

$219,958 — NSF
Fritz, Sherilyn — Earth and Atmospheric Sciences
Swinehart, James — Natural Resources

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 and 2010.

*** Indicates new in 2010**

Alfano, James — **Plant Pathology/ Center for Plant Science Innovation**

EAGER: Plant Chromatin Remodeling in Response to the Bacterial Pathogen Pseudomonas syringae

$299,929 — NSF

Avalos, George — **Mathematics**

Analysis, Computation and Control of Coupled Partial Differential Equation Systems

$182,898 — NSF

Barletta, Raul — **Veterinary Medicine and Biomedical Sciences**

Isolation and Verification of Mycobacterium tuberculosis Mutant Strains

$122,532 — NIH-NIAID through Texas A&M University

Barletta-Chacon, Ofelia — Veterinary Medicine and Biomedical Sciences

Barycki, Joseph — **Biochemistry**

Structural Insights into Redox Homeostasis: Supplement

$333,085 — NIH-NIGMS

Simpson, Melanie — Biochemistry

Benson, Andrew — **Food Science and Technology**

Genetic Control over the Gut Microbiome Composition

$997,732 — NIH-NIDDK

Walter, Jens — Food Science and Technology

Moriyama, Etsuko — Biological Sciences/ Center for Plant Science Innovation

Berkowitz, David — **Chemistry**

Antibiotic Properties of Artificial Agonists for a Bacterial Riboswitch

$38,950 — NIH-NIGMS through Creighton University

Berryman, Charles — **Durham School of Architectural Engineering and Construction**

* Veterans Commissioning Training Program for Commercial-Healthcare Facilities

$405,741 — DOE

Grosskopf, Kevin — Durham School of Architectural Engineering and Construction

Shen, Zhigang — Durham School of Architectural Engineering and Construction

Bevins, Rick — **Psychology**

Acquired Appetitive Properties of Nicotine

$533,413 — NIH-NIDA

Black, Paul — **Biochemistry**

Fatty Acid Transport in Eukaryotes

$627,878 — NIH-NIGMS

DiRusso, Concetta — Nutrition and Health Sciences/Biochemistry

Blum, Paul — **Biological Sciences**

Metabolic Engineering Studies of Extreme Thermoacidophily

$260,406 — NIH through North Carolina State University

Brisson, Jennifer — **Biological Sciences**

* Contrasting Environmental and Genetic Controls of Alternative Phenotypes

$11,800 — NIH-NIEHS

Cartwright, Tamara — **Center on Children, Families and the Law**

* NE Management Information System

$79,714 — Nebraska Management Information System

Centurion, Martin — **Physics and Astronomy**

* Ultrafast Electron Diffraction from Aligned Molecules

$600,000 — DOE

Chandra, Namas — **Engineering**

Factors that Facilitate or Inhibit Enrollment of Domestic Engineering PhD Students: A Mixed Methods Study

$149,851 — NSF

Weissinger, Ellen — Educational Psychology

Smith, Michelle Howell — Graduate Studies

Crabtree, Kay — **Biological Sciences/ Nebraska Center for Virology**

Epidemiology of HHV-8 Transmission in Lusaka, Zambia

$63,468 — NIH-NIAID

Wood, Charles — Biological Sciences/ Nebraska Center for Virology

Curto, Carina — **Mathematics**

Stimulus Representation and Spontaneous Activity in Recurrent Networks

$109,635 — NSF

Diamond, Judy — **University of Nebraska State Museum**

World of Viruses Supplement to NIH-NCRR Grant

$200,000 — NIH-NCRR

Cottingham, Ian — Computer Science and Engineering

Dugas, William — University Television

Wagler, Adam — Journalism and Mass Communications

Angeletti, Anisa — Biological Sciences

Dominguez, Aaron — **Physics and Astronomy**

* MRI-R2: Development of a Pixel Detector for the Upgraded CMS Experiment

$165,753 — NSF through University of Kansas Center for Research

Bloom, Kenneth — Physics and Astronomy

Du, Liangcheng — **Chemistry**

Biosynthesis of HSAF, an Antifungal Natural Product with a Novel Mode of Action

$49,028 — NIH-NIAID

Frank, Tracy — **Earth and Atmospheric Sciences**

Acquisition of a Carbon Analyzer to Support Research in Sedimentary Systems

$31,036 — NSF

Gay, Timothy — **Physics and Astronomy**

Polarized Electron Physics

$610,000 — NSF

Green, Jordan — **Special Education and Communication Disorders**

Early Speech Motor Development – Equipment

$98,000 — NIH-NIDCD

Grosskopf, Kevin — **Durham School of Architectural Engineering and Construction**

* Building a Green Economy: Nebraska Workforce Development in New and Emerging Industries

$1,253,000 — Nebraska Department of Labor

Berryman, Charles — Durham School of Architectural Engineering and Construction

Norton, Terri — Durham School of Architectural Engineering and Construction

Shi, Jonathan — Durham School of Architectural Engineering and Construction

Hancock, Connie — **Panhandle Research and Extension Center**

* Nebraska Broadband Planning

$498,022 — Nebraska Public Service Commission

Narjes, Charlotte — Center for Applied Rural Innovation

Hanson, Paul — **Natural Resources**

REU Site: Dune Undergraduate Geomorphology and Geochronology Project in Wisconsin

$45,331 — NSF

Linking Loess Landforms and Eolian Processes

$45,730 — NSF

Harris, Steven — **Plant Pathology/ Center for Plant Science Innovation**

Evolutionary Genetics of Morphogenetic Regulatory Systems in Fungi

$392,796 — NSF

Harshman, Lawrence — **Biological Sciences**
* Nebraska Research Network in Functional Genomics INBRE
$242,092 — NIH through UNMC

Hartke, Stephen — **Mathematics**
Computerized Search for Combinatorial Objects
$220,000 — NSF

Hogan, Tiffany — **Special Education and Communication Disorders**
The Lexicon and Phoneme Awareness
$73,738 — NIH-NIDCD

Jorgensen, Stacia — **Sociology**
* Communities Putting Prevention to Work
$134,806 — Douglas County Health Department
McQuillan, Julia — Sociology

Jose, H. Douglas — **Agricultural Economics**
* 2009 Trade Adjustment Assistance for Farmers
$655,000 — USDA-NIFA through University of Minnesota

Kaul, Robert — **University of Nebraska State Museum**
Development of a Multi-Herbarium Web-Accessible Database of the Vascular Plants from the Missouri Plateau, U.S.A.
$26,003 — NSF through Black Hills State University

Knoche, Lisa — **Nebraska Center for Research on Children, Youth, Families and Schools**
* Phase II Coaching Support Evaluation
$56,322 — Nebraska Children and Families Foundation

Kravchenko, Ilya — **Physics and Astronomy**
Upgrade of CMS Level 1 Trigger by Addition of Pixel Detector Data, and Search for SM Higgs Boson at CMS
$140,000 — NSF

Kuszynski, Charles — **Nebraska Center for Virology**
* FACS Aria II Three Laser Special Order System
$500,000 — NIH-NCRR

Li, Yusong — **Civil Engineering**
Fate and Transport of Metal-Based Nanoparticles in the Subsurface
$73,987 — NSF through Tufts University

Manderscheid, David — **Arts and Sciences**
* High-Power Laser Science Collaboratory
$1,825,345 — NSF
Chandra, Namas — Engineering
Lu, Yongfeng — Electrical Engineering
Umstadter, Donald — Physics and Astronomy
Wedige, Alan — Facilities Management

Meagher, Michael — **Chemical and Biomolecular Engineering**

* Development of a Next Generation PA Vaccine, dmPA7909
$1,507,529 — Industry client

Recombinant Protein-based Adjuvant for Cellular Immunity
$1,593,822 — PharmaReview Corporation
Van Cott, Kevin — Chemical and Biomolecular Engineering

Moriyama, Etsuko — **Biological Sciences/ Center for Plant Science Innovation**

Efficient and Sensitive Mining System for G-Protein Coupled Receptors
$95,017 — NIH-NLM

Nam, Yunwoo — **Community and Regional Planning**

* Nebraska Rural Health and Primary Care
$30,000 — Nebraska Department of Health and Human Services
Scholz, Gordon — Community and Regional Planning

Norton, Terri — **Durham School of Architectural Engineering and Construction**

* City Owned Facility Assessment and Energy Audit Component
$160,871 — City of Omaha
Schwer, Avery — Durham School of Architectural Engineering and Construction

Nowak, Andrzej — **Civil Engineering**

IRES Poland: Experience in Civil Infrastructure Systems
$144, 108 — NSF
Rilett, Laurence — Civil Engineering
Szerszen, Maria — Civil Engineering

Othman, Shadi — **Biological Sciences**

Regenerative Elastography: Monitoring Soft Tissue Reconstruction
$144,900 — NIH-NIBIB

Paul, Prem — **Research and Economic Development**

* Construction of a Nanoscience Metrology Facility
$6,904,993 — DOC-NIST

Nebraska Center for Virology Facility Expansion
$8,000,000 — NIH-NCRR
Wood, Charles — Biological Sciences/ Nebraska Center for Virology

Powers, Robert — **Chemistry**

Revealing Functions for Newly Discovered Proteins by FAST-NMR
$375,670 — NIH-NIAID
Cerny, Ronald — Chemistry
Hage, David — Chemistry

Qiao, Wei — **Electrical Engineering**

* A Nationwide Consortium of Universities
to Revitalize Electric Power Engineering Education
by State-of-the-Art Laboratories

$24,999	DOE through University of Minnesota
Asgarpoor, Sohrab	Electrical Engineering
Hudgins, Jerry	Electrical Engineering
Patterson, Dean	Electrical Engineering
Qu, Lilyan	Electrical Engineering

Online Nonintrusive Condition Monitoring
and Fault Detection for Wind Turbines

$380,398	DOE
Hudgins, Jerry	Electrical Engineering

Rack, Frank — **Earth and Atmospheric Sciences/ Antarctic Geological Drilling Program**

ANDRILL Coulman High Project –
Investigating Antarctica's Role in Cenozoic
Global Environmental Change Phase 1 (Site Surveys)

$2,684,370	NSF
Harwood, David	Earth and Atmospheric Sciences
Fischbein, Steven	Antarctic Geological Drilling Program

Rilett, Laurence — **Civil Engineering**

National Clean Diesel Funding
Assistance Program Region 7 (1)

$1,000,000	EPA

Saraf, Ravi — **Chemical and Biomolecular Engineering**

Regulating Current through a
Nanoparticle Necklace by Microorganism:
A Transformative Technology for Biofuel Cells and Biosensors

$391,056	NSF

Schubert, Mathias — **Electrical Engineering**

Effects of Polarization Fields and
Surface Charge Layers on p-type Conductivity in In(Ga)N

$231,857	NSF

Sellmyer, David — **Physics and Astronomy**

* MRI-R2: Acquisition of FEG TEM/STEM
for Materials and Nanotechnology Research and Education

$1,300,000	NSF
Cheung, Chin Li	Chemistry
Robertson, Brian	Mechanical Engineering
Schubert, Eva	Electrical Engineering
Shield, Jeffrey	Mechanical Engineering

* High Energy Permanent Magnets
for Hybrid Vehicles and Alternative Uses

$674,998	DOE through University of Delaware
Shield, Jeffrey	Mechanical Engineering
Skomski, Ralph	Physics and Astronomy

Shank, Nancy — **Public Policy Center**

* Health Information Technology Extension Program (HIT EP)
Local Workforce Development Coordination

$285,861 — CIMRO of Nebraska

Shield, Jeffrey — **Mechanical Engineering**

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**

Nebraska Center for Cellular Signaling

$69,985 — NIH-NCRR through UNMC

Somerville, Greg — **Veterinary Medicine and Biomedical Sciences**

Antibiotic Pressure and Selection
of TCA Cycle Mutants in Staphylococcus Epidermidis

$82,497 — NIH-NIAID through UNMC

Storz, Jay — **Biological Sciences**

Mechanisms of Hemoglobin Adaptation
to Hypoxia in High Altitude Rodents

$220,774 — NIH-NHLBI
Moriyama, Hideaki — Biological Sciences

Subramanian, Anuradha — **Chemical and Biomolecular Engineering**

Design and Evaluation of Ultrasound
Stimulation-Aided Bioreactor Configurations

$533,941 — NIH-NCRR
Turner, Joseph — Engineering Mechanics

Tan, Li — **Engineering Mechanics**

Free-Standing All-Nanoparticle Thin Fibers:
A Novel Building Block for Organic Photovoltaic Applications

$300,002 — NSF

Thompson, Eric — **Bureau of Business Research**

* Contributions to Research on the Green Economy

$118,224 — Nebraska Department of Labor
Fuess, Scott — Economics

Toundykov, Daniel — **Mathematics**

Stabilization and Control in Nonlinear
Structural-Acoustics, Magnetic Imaging, and Elasticity

$96,436 — NSF

Tsymbal, Evgeny — **Physics and Astronomy**

FRG: Switchable Two-Dimensional Materials
at Oxide Hetero-Interfaces

$210,000 — NSF through University of Wisconsin-Madison

Van Etten, James — **Plant Pathology**

DNA Replication and Gene Expression of Chlorella Viruses
$144,281 — NIH-NIGMS

Weidner, Theodore — **Facilities Management**

* UNL Energy Efficient Building Retrofits
$347,050 — Nebraska Energy Office

* Scott Engineering Center Convert
Constant-Volume Dual Duct System to Variable-Volume
$247,910 — Nebraska Energy Office

* Othmer Hall Room Occupancy Sensors
and Room Controls Upgrade
$145,990 — Nebraska Energy Office

* Beadle Center, Bessey Hall, and Home Economics Buildings
Upgrade Fluorescent Lights
$136,810 — Nebraska Energy Office

* UNL Hamilton Hall Energy Efficient Retrofits
$92,240 — Nebraska Energy Office

Whitbeck, Les — **Sociology**

Novel Approaches to Understanding Mental Disorder,
Substance Abuse and HIV-Risk Among Homeless Women
$400,715 — NIH-NICHD

Wood, Charles — **Biological Sciences/ Nebraska Center for Virology**

Immunofocusing for Kaposi's Sarcoma-Associated
Herpesvirus Neutralizing Epitopes
$990,796 — NIH-NCI

Nebraska Center for Virology T1
$998,839 — NIH-NCRR

Vaccination Against Mucosal HIV Clade C Transmission
$251,363 — NIH-DFCI

Nebraska Center for Virology
$398,981 — NIH-NCRR

Programs in HIV and AIDS-Associated Diseases/Malignancies
$172,800 — NIH-FIC

Kaposi's Sarcoma and Human Herpesvirus in Africa
$149,600 — NIH-NCI

Zempleni, Janos — **Nutrition and Health Sciences**

* Equipment for Biotin Sensing and Chromatin Remodeling by Holocarboxylase Synthetase
$60,000 — NIH-NIDDK

Novel Histone Biotinylation Sites and Relationships to Other Epigenetic Marks
$535,463 — NIH-NIDDK

Zhang, Shunpu — **Statistics**

A Computational Genotyping System for Improved Influenza Surveillance
$203,488 — NIH through UNO

Zhang, Luwen — **Biological Sciences/ Nebraska Center for Virology**

Modulation of Apoptosis by IRF-4 in EBV Transformation
$545,682 — NIH-NCI

Oncogenic Properties of Interferon Regulatory Factor 7
$25,724 — NIH-NCI

Early Career Awards

Active awards in 2010
*** Indicates new in 2010**

NSF CAREER Grants

National Science Foundation CAREER grants are awarded only to untenured junior faculty. These 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.

Binek, Christian
Physics and Astronomy
Education & Research on Nanoscale Spintronic Systems & Heterostructures
$500,000 NSF

Bloom, Kenneth
Physics and Astronomy
Top-Quark Physics, Computing & Software at Large Hadron Collider
$550,000 NSF

Brassil, Chad
Biological Sciences
* CAREER: How Temporal Fluctuations Alter Indirect Interactions in Duckweed-Based Communities and its Integration with a Student Report Exchange
$531,141 NSF

Cohen, Myra
Computer Science and Engineering
Configuration-Aware Testing Through Intelligent Sampling to Improve Software Dependability
$400,000 NSF

Dominguez, Aaron
Physics and Astronomy
Superior Silicon Tracking & Discovery as CMS & D0
$550,000 NSF

Elbaum, Sebastian
Computer Science and Engineering
Leveraging Field Data to Test Pervasive Systems
$412,594 NSF

Enders, Axel
Physics and Astronomy
Self-Assembled Magnetic Nanostructures
$408,850 NSF

Frank, Tracy
Earth and Atmospheric Sciences
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
$692,351 NSF

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

Lai, Rebecca
Chemistry
* CAREER: Ligand-Induced Folding in Peptides for Biosensing Applications
$455,000 NSF

Qiao, Wei
Electrical Engineering
* CAREER: Stochastic Optimization and Coordinating Control for the Next-Generation Electric Power System with Significant Wind Penetration
$399,999 NSF

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

Vuran, Mehmet
Computer Science and Engineering
* CAREER: Bringing Wireless Sensor Networks Underground
$418,760 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 NIH-NCI

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

Sayood, Khalid
Electrical Engineering
Identification of Biological Materials of Unknown Origin
$764,005 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
Just-Enough-Testing: Adaptive Targeted Testing of Software Product Lines
$316,551 DoD-AFOSR

Arts and Humanities Awards
$50,000 or more

Active awards in 2010
*** Indicates new in 2010**

Awakuni-Swetland, Mark — **Anthropology/Ethnic Studies**

Omaha and Ponca Digital Dictionary

$348,800 — NEH
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 — NEH
10/1/09 – 9/30/10

Stephen Behrendt, professor of English, 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 examined 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 explored 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.

Engen-Wedin, Nancy — **Teaching, Learning and Teacher Education/Lied Center for Performing Arts**

The Teaching Artist Initiative (Nebraska)

$50,000 — Dana Foundation

1/1/09 – 2/28/11

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.

Graybill, Andrew — **History**

* A Mixture of So Many Bloods: A Family Saga of the American West

$50,400 — NEH

8/1/10 – 7/31/11

Andrew Graybill, associate professor of history, has been awarded a prestigious National Endowment for the Humanities Fellowship to support completion of his book, *A Mixture of So Many Bloods: A Family Saga of the American West,* to be published in 2012. The book follows five members of three generations of a mixed-blood Montana family from approximately 1850 to 1950. Peoples of mixed ancestry spoke English and indigenous languages and helped smooth relations between native peoples and Anglo newcomers. After about 1870, with the arrival of more white settlers and the development of mining and logging industries, many mixed-blood people were marginalized and pushed onto reservations. Using federal records, archived personal papers, newspaper stories and clippings and catalogs from museum exhibits, Graybill has been able to recreate the history of one remarkable family, which in turn tells the story of the evolving American frontier.

Kooser, Ted — **English**

American Life in Poetry Project

$204,300 — Poetry Foundation

1/1/05 – 12/31/10

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.

Price, Kenneth — **English/Center for Digital Research in the Humanities**

Walt Whitman's Civil War Writings

$300,000 — NEH
7/1/08 – 6/30/11

Walt Whitman and Reconstruction

$86,142 — National Historical Publications and Records Commission
9/1/10 – 8/31/11

Ken Price, professor of English and Hillegass University Professor of 19th Century American Literature, is primary investigator for grants from the National Endowment for the Humanities and the National Historical Publications and Records Commission. With these grants, the Walt Whitman Archive is creating 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, 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 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 — **History/Center for Digital Research in the Humanities**

William Cody Research Project

$131,374 — Buffalo Bill Historical Center
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 — **History/Center for Digital Research in the Humanities**

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

$99,493 — NEH

1/1/10 – 3/31/11

Ian Cottingham — Computer Science and Engineering

Stephen Scott — Computer Science and Engineering

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 — NEH

9/1/09 – 8/31/11

Katherine Walter, UNL Libraries chair of digital initiatives and collections, with support from the National Endowment for 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 NEH
7/1/07 – 8/31/11
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

Katherine 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" website. UNL's University Libraries is partnering with the College of Journalism and Mass Communications and the Nebraska State Historical Society on this "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.

Winkle, Kenneth **History**

* Civil War Washington Collaborative Research
$220,000 NEH
7/1/10 – 6/30/13
Lawrence, Susan History
Price, Kenneth English

History professor Ken Winkle received a three-year, $220,000 collaborative research grant from the National Endowment for the Humanities to expand digital research on Civil War-era Washington, D.C., especially its pivotal role in the antislavery and civil rights movements. The Civil War Washington project examines the war's impact on the nation's capital. The grant received "We the People" designation, which recognizes projects that advance the study, teaching and understanding of American history and principles. The grant will enable researchers to study how race, slavery and emancipation changed the capital a century and a half ago. Researchers will investigate how African Americans living in Washington during the Civil War gained their freedom, won the fight for the Union and against slavery and achieved legal equality.

Arts and Humanities Awards
$5,000-$49,999

Active awards in 2010
*** Indicates new in 2010**

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

Elias Rowley, Kristen — **University of Nebraska Press**
Literary Publishing at the University of Nebraska Press
$20,000 — NEA

Engen-Wedin, Nancy — **Teaching, Learning and Teacher Education/Lied Center for Performing Arts**
Lied Center Community Engagement Touring Grant – MAAA
$12,500 — Mid-America Arts Alliance

Nebraska's Rural Arts Education Initiative
$25,000 — NEA

Umo^{n}ho^{n} Cultural Arts Program
$15,000 — Kennedy Center for Performing Arts

Hanson, Marin — **International Quilt Study Center**
* Quilt Index Internationalization Collaborative Planning
$9879 — Michigan State University
Crews, Patricia — International Quilt Study Center

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

Ose, Maureen — **International Quilt Study Center**
* Lancaster County Visitor Improvement Fund - Marseille Exhibition Promotion
$10,000 — Lancaster County

Richmond, John — **Music**
* Recording Project Christopher Mark
$6,000 — Various Sources

2010 Honors Jazz Weekend & Summer Camp
$12,000 — Berman Music Foundation
Haar, Ora — Music

Seefeldt, William — **History**
* Sustaining Digital History
$49,116 — NEH
Thomas, William — History

Stubbendieck, James — **Agronomy and Horticulture/ Center for Great Plains Studies**

* Czech and Slovak Americans: International Perspectives from the Great Plains

$7,382 — Nebraska Humanities Council

Wahlqvist, Petra — **Lied Center for Performing Arts**

* Exploring New Perspectives on Diversity through World-Class Performances in Nebraska

$25,000 — NEA

* Arts across Nebraska Extension

$20,125 — Nebraska Arts Council

* Creative Campus Innovations Continuation

$20,000 — Association of Performing Arts Presenters

Weiss, Wendy — **Textiles, Clothing and Design**

* TSA Textile Exhibitions Outreach

$8,300 — Woods Charitable Fund

Hillestad Textiles Gallery

$5,285 — Friends of the Hillestad Textiles Gallery

Yoon, Hye Yung — **Music**

Commissioning/USA Meet the Composer: Amerindia

$10,000 — Meet the Composer

Sirota, Jonah — Music

Fischer, Rebecca — Music

Beaver, Gregory — Music

NUtech VENTURES™

Pioneering Partnerships for Innovation™

NUtech Ventures connects innovators with the people and resources they need to start companies, develop products and create jobs. If you're 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. 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 licensing agreements with our industry partners in 2010.
(UNL faculty and staff are indicated in red):

2010 STARTUPS

Song Ci, Jiucai Zhang, both Computer and Electronics Engineering
Technologies: Non-uniform Cell Interaction Analysis in Terms of SOC Modeling; An Enhanced Circuit-Based Model for Single-Cell Battery; A Circuit-based Model of Multi-cell Battery

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Song Ci, Jiucai Zhang, Hamid Sharif-Kashani, all Computer and Electronics Engineering; **Mahmoud (Moe) Alahmad Hamid,** Durham School of Architectural Engineering and Construction
Technology: Adaptive Reconfigurable Battery: Method and Apparatus

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David B. Marx, Statistics; Kendra Schmid; **Ashok Samal,** Computer Science and Engineering
Technology: Computer Algorithm to Assess Facial Attractiveness

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Ismail Dweikat, David Andrews, John Rajewski, all Agronomy and Horticulture; Linda Pavlish
Technology: Nebraska Bioenergy Millet Hybrid

2010 INTELLECTUAL PROPERTY LICENSE AGREEMENTS

Thomas E. Elthon, Agronomy and Horticulture; Lee McIntosh
Technology: Alternative Oxidase (AOX) Hybridoma Cell Line and Supernatant for Evaluation of Plant Stress

P. Stephen Baenziger, Agronomy and Horticulture
Technology: 'Mace' Hard Red Winter Wheat (3 licenses)
Technology: 'Settler CL' Hard Red Winter Wheat (2 licenses)
Technology: 'Overland' Hard Red Winter Wheat (2 licenses)
Technology: NE441T Triticale
Technology: Segregating Populations and Experimental Lines

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

Kenneth G. Cassman, Daniel T. Walters, both Agronomy and Horticulture; Haishun Yang, Achim Dobermann
Technology: Hybrid-Maize: A Simulation Model for Corn Growth and Yield (2 licenses)

George L. Graef, Leslie Korte, Travis L. Wegner, all Agronomy and Horticulture; Dennis White
Technology: Soybean Variety U07-135478R
Technology: Soybean Variety U01-390489
Technology: Soybean Variety U03-300134
Technology: Soybean Variety U06-627094

Greg Dorn, P. Stephen Baenziger, Mitchell Montgomery, Richard Little, all Agronomy and Horticulture; Jerry Bohlman, Chris Hoagland
Technology: Genetic Materials in the UNL Wheat Breeding Program (2 licenses)
Technology: 'McGill' Hard Red Winter Wheat
Technology: 'Robidoux' Hard Red Winter Wheat

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

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

P. Stephen Baenziger, Drew J. Lyon, Alexander Martin, all Agronomy and Horticulture; Mary J. Shipman
Technology: 'Infinity' Hard Red Winter Wheat

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

Viswas Ghorpade, Milford A. Hanna, both Biological Systems Engineering
Technology: Levulinic Acid Production via Reactive Extrusion

Milford A. Hanna, Biological Systems Engineering; Gerald Biby, Vesselin Miladinov
Technology: Production of Microcrystalline Cellulose Form Agricultural Residues by Reactive Extrusion

Atorod Azizinamini, Civil Engineering
Technology: Girder System Employing Bent Steel Plating

Dennis R. Alexander, Electrical Engineering; **Stephen Vantassel,** School of Natural Resources
Technology: Technical Information for a Cell Phone Triggered Animal Trapper

Joseph A. Turner, Engineering Mechanics
Technology: System and Methods to Determine and Monitor Changes in Microstructural Properties

Blair Siegfried, Entomology
Technology: European Corn Borer Displaying Resistance to CRY1AB Bt Toxin

Blair Siegfried, Entomology; Andre Crespo
Technology: A Cry1Ab Resistant Strain of the European Corn Borer, Ostrinia nubilalis (Lepidoptera: Crambidae)

Richard Perk, School of Natural Resources
Technology: Supplemental Type Certificate for Piper Saratoga Camera Ports

Shane M. Farritor, Mechanical Engineering
Technology: Measurement of Vertical Track Modulus using Space Curves

Shane M. Farritor, Mechanical Engineering; Sheng Lu
Technology: A Method for Identifying Trends in Repeated Measurements as Applied to Measurements of Railroad Track Quality

Shane M. Farritor, Mechanical Engineering; Richard Arnold, Chris Norman
Technology: Laser Measurement of Track Modulus from Moving Railcar

Ruben Donis, Veterinary Medicine and Biomedical Sciences; Ventzislaw Vassilev
Technology: Method for Engineering the Genome of BVDV for Vaccine Development and Analysis of Virus Replication

Roger Simonsen, Derek Augustine, Dave DeFruiter, all IT Services, College of Business Administration
Technology: Surplus Sales Online Auction Web Site

Scott E. Hygnstrom, School of Natural Resources
Technology: Distressed Deer Noises

Donald Rundquist, School of Natural Resources
Technology: Center for Advanced Land Management Information Technologies (CALMIT) Software

Shane Farritor, Dmitry Oleynikov, Stephen Platt, Amy Lehman, all Mechanical Engineering; Jason Dumpert, Mark Rentschler, Adnan Hadzialic, Nathan Wood, Abigail Visty
Technology: Untethered, Radio-Controlled, Laparoscopic Video, Diagnostic, Surgical Miniature Robotic Device

Nicholas Pajerski, Justin Brouillette, both College of Architecture
Technology: Portable Laptop Stand

2010 OPTION AGREEMENTS

Song Ci, Computer and Electronics Engineering; **Mahmoud (Moe) Alahmad Hamid,** Durham School of Architectural Engineering and Construction; **Reza Sharif-Kashani,** Computer and Electronics Engineering
Technology: Adaptive Reconfigurable Battery: Method and Apparatus

Song Ci, Jiucai Zhang, Computer and Electronics Engineering
Technology: Method and Apparatus on Model-based Cell Tracking
Technology: Non-uniform Cell Interaction Analysis in Terms of SOC Modeling
Technology: An Enhanced Circuit-Based Model for Single-Cell Battery
Technology: A Circuit-based Model of Multi-cell Battery

Carl A. Nelson, Mechanical Engineering; Xiaoli Zhang
Technology: System for Controlling Minimally Invasive Surgical Tools

Timothy Savage, Peter W. Stewart, Shane Kimbrough, Joel Brehm, Samantha Warriner, Charles Cihacek, Brett Baumert, all Research Information Systems; Norman O. Braaten
Technology: NUgrant

Donald Rundquist, Arthur I. Zygielbaum, both School of Natural Resources; **Timothy J. Arkebauer, Anatoly Gitelson,** both Agronomy and Horticulture
Technology: Plant Stress Detection Method and Instrumentation

Sheila Scheideler, Animal Science; Jodi Ash
Technology: Eggshell Derived Monocalcium and Dicalcium Phosphate

Chin Li Cheung, Chemistry; Joseph Brewer
Technology: Rare-earth Based Low Work Function Electrodes

CREATIVE ACTIVITY

Faculty who created, performed or produced creative works in fine and performing arts and architecture, nationally or internationally, January-December 2010

Submitted by faculty, chairs/heads or deans

John R. Bailey — **Music**

Guest artist, flute. Rochester Flute Association's Annual Flute Fair, Rochester, NY.

Guest artist, flute. Hot Springs Fall Flute Seminar, Hot Springs, AR.

Conductor, International Flute Orchestra. Four-concert tour, Amsterdam and Maastricht, The Netherlands; Brussels and Ghent, Belgium.

Conductor, National High School Honors Flute Choir. National Flute Association Annual Convention, Anaheim, CA.

Carolyn Barber — **Music**

Conductor, New York All-State Wind Ensemble. Eastman Theatre, Rochester, NY.

Conductor, Albert Roussel's *A Glorious Day* repertoire presentation session. College Band Directors National Association, North Central Division Conference, Illinois State University, Normal, IL.

Diane C. Barger — **Music**

Performer, Moran Woodwind Quintet. College Music Society National Conference, Minneapolis, MN.

Alisa S. Belflower — **Music/Johnny Carson School of Theatre and Film**

Performer, cast recording of *The Giver.* NAMT Festival of New Musicals, New York, NY.

Michael Burton — **Textiles, Clothing and Design**

Artist, digital video, *Channel.* Long Beach Island Foundation for the Arts and Sciences, Love Ladies, NJ.

Artist, digital video, *The Ancient Mariner.* Digital Graffiti, Alys Beach, FL.

Artist, digital video, *The Ancient Mariner* and *Frequency.* Videoholica, Varna, Bulgaria.

Anthony J. Bushard — **Music**

Artist, multimedia lecture, *White Picket Harmonies: Aaron Copland's Influence on Thomas Newman's Suburban Scoring.* National Meeting of the Society of American Music, Ottawa, Ontario, Canada.

Artist, multimedia lecture, *White Picket Harmonies: Aaron Copland's Influence on Thomas Newman's Suburban Scoring.* National Meeting of the College Music Society, Minneapolis, MN.

Artist, multimedia lecture, *The Curious Case of Paseo Hall: Newspaper Coverage of the Kansas City Jazz Scene during the 1930s.* National Meeting of the College Music Society, Minneapolis, MN.

Dana Fritz — **Art and Art History**

Artist, photography, *Garden Views* and *Terraria Gigantica*. The Gallery at Penn College, Williamsport, PA.

Artist, photography, *Terraria Gigantica: The World Under Glass*. Barnabee Gallery, Kalamazoo, MI.

Artist, photography, *Terraria Gigantica: The World Under Glass*. Thinking Photography: Five Decades at the Kansas City Art Institute, Nelson-Atkins Museum of Art, Kansas City, MO.

Artist, photography, *Terraria Gigantica: The World Under Glass*. The Fourth Art on Paper, Toyota Municipal Museum of Art, Toyota City, Aichi, Japan.

Eric Richards — **Music**

Composer, *Concerto for Trombone Quartet and Wind Ensemble*. College Band Directors National Association Southwest Conference, Santa Fe, NM.

Composer, *Fantasy for Trumpet and Jazz Orchestra*. Midwest Band and Orchestra Clinic, Chicago, IL.

Composer, *Fantasia on Spring, River, Flower, Moon, Night*. Shanghai Conservatory of Music, Shanghai, NN, PRC.

Composer, *Freeflow*. University of Denver, Denver, CO.

Composer, *Seventh Street Stomp*. UNC Greeley Jazz Festival, Greeley, CO.

University of Nebraska Brass Quintet — **Music**

Performance, *Copernicus for Brass Quintet and Wind Band*. Prague Castle, Prague, Czech Republic.

Wendy Weiss — **Textiles, Clothing and Design**

Artist, fiber art, *Landscape: Stand of Trees*. Henan Art Museum, Zhengzhou, China.

BOOKS

Faculty who wrote or edited books published January-December 2010

UNL authors in red

Submitted by faculty, chairs/heads or deans

Craig R. Allen — **Natural Resources**

Editor, with Lance Gunderson. *Foundations of Ecological Resilience.* New York, NY: Island Press.

Mark L. Bernards — **Agronomy and Horticulture**

Author, with Roch E. Gaussoin, Agronomy and Horticulture; Robert N. Klein, West Central Research and Extension Center; Stevan Z. Knezevic, Northeast Research and Extension Center; Greg R. Kruger, West Central Research and Extension Center; Drew J. Lyon, Panhandle Research and Extension Center; Zac J. Reicher, Agronomy and Horticulture; Lowell D. Sandell, Agronomy and Horticulture; Steve L. Young, West Central Research and Extension Center; Robert G. Wilson, Panhandle Research and Extension Center; Patrick J. Shea, School of Natural Resources; Clyde L. Ogg, Agronomy and Horticulture. *2011 Guide for Weed Management in Nebraska.* Lincoln, NE: The Board of Regents of the University of Nebraska.

David Beukelman — **Special Education and Communication Disorders**

Editor, with David McNaughton. *Transition Strategies for Adolescents & Young Adults Who Use AAC.* Baltimore, MD: Paul H. Brookes Publishing Co.

Brian H. Bornstein — **Psychology**

Editor, with Richard L. Wiener, Psychology/Law. *Emotion and the Law: Psychological Perspectives.* New York, NY: Springer.

Dawn O. Braithwaite — **Communication Studies**

Editor, with Juila T. Wood. *Casing Interpersonal Communication: Case Studies in Personal and Social Relationships.* Dubuque, IA: Kendall Hunt.

David W. Brooks — **Teaching, Learning and Teacher Education**

Author, with Duane F. Shell, Educational Psychology; Guy Trainin, Teaching, Learning and Teacher Education; Kathleen W. Wilson, Teaching, Learning and Teacher Education; Douglas F. Kauffman, Educational Psychology; and Lynne M. Herr, Teaching, Learning and Teacher Education. *The Unified Learning Model.* New York, NY: Springer.

Roger H. Bruning — **Educational Psychology**

Author, with Gregory J. Schraw and Monica M. Norby, Office of Vice Chancellor for Research and Economic Development. *Cognitive Psychology and Instruction, 5th ed.* Lebanon, IN: Prentice-Hall.

Enrique Martinez Celaya — **Art and Art History**

Author. *Enrique Martinez Celaya: Collected Writings and Interviews, 1990-2010.* Lincoln, NE: University of Nebraska Press.

Author. *The Blog: Bad Time for Poetry.* Lincoln, NE: Whale and Star Press, distributed by University of Nebraska Press.

Dan D. Crawford — **Classics and Religious Studies**

Author. *A Thirst for Souls: The Life of Evangelist Percy B. Crawford (1902-1960).* Selinsgrove, PA: Susquehanna University Press (Associated University Presses).

Lisa J. Crockett — **Psychology**

Editor, with Stephen T. Russell and Ruth K. Chao. *Asian American Parenting and Parent-Adolescent Relationships.* New York, NY: Springer.

Rochelle L. Dalla — **Child, Youth and Family Studies**

Editor, with Lynda M. Baker. *Global Perspectives on Prostitution and Sex Trafficking: Africa, Asia, Middle East, and Oceania.* Lanham, MD: Lexington Publishers, Inc.

Edward Daly — **Educational Psychology**

Editor, with G. Gimpel, R. Ervin and K. Merrell. *The Practical Handbook of School Psychology: Effective Practices for the 21st Century.* New York, NY: Guilford.

John DeFrain — **Child, Youth and Family Studies**

Author, with David H. Olson. *Marriages and Families: Intimacy, Diversity and Strengths, 7th ed.* New York, NY: McGraw-Hill Higher Education.

Beth Doll — **Educational Psychology**

Author, with William Pfohl and Jina S. Yoon. *Handbook of Youth Prevention Science.* New York, NY: Routledge.

Author, with Carol A. Doll. *The Resilient School Library.* Englewood, CO: Libraries Unlimited.

Author, with K. Brehm. *Resilient Playgrounds.* New York, NY: Routledge.

Patricia Fairchild — **4-H Youth Development**

Author, with Elizabeth Mulkerrin, Julie Anderson, Emily Brown and Jessi Krebs. Edited by Linda Ulrich, UNL Communications and Information Technology. *Amphibians and You: A Look at the Amphibian Crisis, Leaders Guide and Student Workbook.* Lincoln, NE: The Board of Regents of the University of Nebraska.

Odair A. Fernandes — **Entomology**

Author, with A.M. Cardoso and S. Martinelli. *Integrated Pest Management for Tomatoes: Handbook of Pest Identification and Control Tactics.* Jaboticabal, Sao Paulo: FUNEP.

Daniel D. Fogell — **Natural Resources**

Author, with Patricia (Trish) Freeman, Natural Resources/Nebraska State Museum. *A Field Guide to the Amphibians and Reptiles of Nebraska.* Lincoln, NE: Conservation & Survey Division, School of Natural Resources.

David S. Hage — **Chemistry**

Author, with James D. Carr, Chemistry. *Analytical Chemistry and Quantitative Analysis.* Boston, MA: Pearson/Prentice Hall.

Author, with James D. Carr, Chemistry. *Student Solutions Manual - Analytical Chemistry and Quantitative Analysis.* Boston, MA: Pearson/Prentice Hall.

David J. Hansen — **Psychology**

Editor, with Douglas W. Nangle. *Practitioner's Guide to Empirically Based Measures of Social Skill.* New York, NY: Springer.

Priscilla A. Hayden-Roy — **Modern Languages and Literature**

Author. *Sparta et Martha: Pfarramt und Heirat in der Lebensplanung Hölderlins und in seinem Umfeld.* Stuttgart: Thorbecke Verlag.

Carolyn R. Johnsen — **Journalism and Mass Communications/ Agricultural Leadership, Education and Communication**

Editor. *Taking Science to the People: A Communication Primer for Scientists and Engineers.* Lincoln, NE: University of Nebraska Press.

Douglas Kauffman — **Educational Psychology**

Author, with Kathy Wilson, Teaching, Learning and Teacher Education. *The Unified Learning Model: How Motivational, Cognitive, and Neurobiological Sciences Inform Best Teaching Practices.* New York, NY: Springer.

Istvan Ladunga — **Statistics**

Editor. *Computational Biology of Transcription Factor Binding.* New York, NY: Humana Press.

Suping Lu — **University Libraries**

Editor. *A Mission under Duress: The Nanjing Massacre and Post-massacre Social Conditions Documented by American Diplomats.* Lanham, MD: University Press of America.

Colleen E. Medill — **Law**

Author. *Introduction to Employee Benefits Law: Policy and Practice, 3rd ed.* St. Paul, MN: West.

Helen A. Moore — **Sociology**

Author. *Schooling Girls: Queuing Women: Multiple Standpoints and Ongoing Inequalities.* Boulder, CO: Paradigm Publishers.

David L. Olson — **Management**

Author, with Sang M. Lee, Management. *Convergenomics.* Farnham, Surrey: Gower.

Author, with Desheng Wu. *Enterprise Risk Management Models.* Heidelberg: Springer.

Jon E. Pedersen — **Teaching, Learning and Teacher Education**

Author, with Samuel Totten. *Teaching and Studying Social Issues.* Charlotte, NC: Information Age Publishing.

Allan C. Peterson — **Mathematics**

Author, with Walter G. Kelley. *The Theory of Differential Equations: Classical and Qualitative.* New York, NY: Springer.

Larkin A. Powell — **Natural Resources**

Author. *Farming with Wildlife: Conservation and Ecotourism on Private Lands in Namibia.* Lincoln, NE: Lulu.

Brett C. Ratcliffe — **Entomology**

Editor, with F.T. Krell. *Current Advances in Scarabaeoidea Research.* Sofia, Bulgaria: Pensoft.

Guy Reynolds — **English**

Series editor. *Cather Studies Volume 8: Willa Cather: A Writer's Worlds* (eds. John J. Murphy, Françoise Palleau-Papin and Robert Thacker). Lincoln, NE: University of Nebraska Press.

Steven N. Rodie — **Agronomy and Horticulture**

Author, with Kim W. Todd, Agronomy and Horticulture; Richard K. Sutton, Agronomy and Horticulture; Kelly A. Feehan, Southeast Research and Extension Center; Andrew D. Szatko. *Nebraska Bioretention and Rain Garden Plants Guide.* Lincoln, NE: The Board of Regents of the University of Nebraska.

David Russell — **Electrical Engineering**

Author. *Introduction to Embedded Systems.* San Rafael, California: Morgan and Claypool.

Marc J. Schniederjans — **Management**

Author, with Dara G. Schniederjans. *Topics in Lean Supply Chain Management.* Singapore: World Scientific Publishing Co.

Author, with Jamie L. Hamaker. *Information Technology Investment, 2nd ed.* Singapore: World Scientific Publishing.

Susan M. Sheridan — **Educational Psychology**

Author. *The Tough Kid Social Skills Book.* Eugene, OR: Pacific Northwest Publishing.

Author. *Social Skills for the Tough Kid: Tips and Tools for Parents.* Eugene, OR: Pacific Northwest Publishing.

Keng Siau — **Management**

Editor, with John Erickson. *Principle Advancements in Database Management Technologies: New Applications and Frameworks.* Hershey, PA: IGI Global.

Editor, with Roger Chiang. *Systems Analysis and Design: People, Processes, and Projects.* Armonk, NY: M.E. Sharpe.

Robert A. Spies — **BUROS**

Editor, with Janet F. Carlson, BUROS, and Kurt F. Geisinger, Educational Psychology. *The Eighteenth Mental Measurement Yearbook.* Lincoln, NE: University of Nebraska Press.

Jordan Stump — **Modern Languages and Literature**

Translator. *The Collaborators,* by Pierre Siniac. Champaign, Illinois: Dalkey Archive Press.

Susan Swearer — **Educational Psychology**

Editor, with S.R. Jimerson and D.L. Espelage. *Handbook of Bullying in Schools: An International Perspective.* New York, NY: Routledge.

Jozsef Szilagyi — **Natural Resources**

Author, with Andras Szollosi-Nagy. *Recursive Streamflow Forecasting: A State-Space Approach.* Abingdon, Oxford: Taylor and Francis.

Zhenghong Tang — **Architecture**

Editor. *Eco-City and Green Community: The Evolution of Planning Theory and Practice.* Hauppauge, NY: NOVA Science Publisher.

Stephen L. Taylor — **Food Science and Technology**

Editor. *Advances in Food & Nutrition Research, Vol. 59, 60, 61.* London: Elsevier/Academic Press.

Jorge D. Veneciano — **Sheldon Memorial Art Gallery and Sculpture Garden**

Editor, with Rhonda K. Garelick, English. *The Fabulous Harlequin: ORLAN and the Patchwork Self.* Lincoln, NE: University of Nebraska Press.

Mehmet C. Vuran — **Computer Science and Engineering**

Author, with Ian F. Akyildiz. *Wireless Sensor Networks.* Hoboken, NJ: John Wiley & Sons Inc.

William Walstad — **Economics**

Author, with Michael Salami. *Teaching Innovations in Economics: Strategies and Applications for Interactive Instruction.* Cheltenham, U.K.: Edward Elgar Publishing.

Editor, with Michio Yamaoka. *Comparative Studies on Economic Education in the Asia-Pacific Region.* Tokyo: Shumpusha Publishing.

Yan (Ruth) Xia — **Child, Youth and Family Studies**

Author. *Chinese Adolescents in Social Transition: Chinese Adolescents' Decision-Making, Parent-Adolescent Communication and Relationship.* Dudweiler: Lambert Academic Publishing.

RECOGNTIONS AND HONORS

Faculty who have been elected to honor academies or who received national or intenational honors or awards, January-December 2010

Submitted by faculty, chairs/heads or deans

Brian Larkins — **Agronomy and Horticulture/ Research and Economic Development**

National Academy of Sciences

William Splinter — **Biological Systems Engineering, Emeritus/ Larsen Tractor Test and Power Museum**

National Academy of Engineers

James Van Etten — **Plant Pathology**

National Academy of Sciences

Kathleen P. Anderson — **Animal Science**

Partnership Award: Effective and Efficient Use of Resources, National Institute of Food and Agriculture

Cheryl Bailey — **Biochemistry**

Education Fellow in the Life Sciences, National Academies

Dwayne Ball — **Marketing**

2010 Charles C. Slater Best Article Award (with Ron Hampton and Julia Soulakova), *Journal of Macromarketing*

John Barbuto — **Agricultural Leadership, Education and Communication**

Best Experiential Learning Paper, Eastern Academy of Management

Lloyd Bell — **Agricultural Leadership, Education and Communication**

President, American Association for Agricultural Education

Gary Bergman — **Southeast Research and Extension Center**

National Winner, Video Program Category for Lancaster County 4-H Year in Review video, National Association of Extension 4-H Agents

Dawn O. Braithwaite — **Communication Studies**

President, National Communication Association

Gail Brand — **Southeast Research and Extension Center**

Community Partnership Team Award, Guardianship Training, National Extension Association of Family and Consumer Sciences

Dennis R. Brink — **Animal Science**

President, International Gamma Sigma Delta, the Honor Society of Agriculture

Cheryl A. Burkhart-Kriesel — **Panhandle Research and Extension Center**

Internet Education Technology Award, National Extension Association of Family and Consumer Sciences

Susan Burzynski Bullard — **Advertising**

First Place, Most Promising Professor, Association for Education in Journalism and Mass Communication

Chris Calkins — **Animal Science**

Educator of the Year, North American Meat Professors Association

Randolph L. Cantrell — **Nebraska Rural Initiative**

Friend of Community Development Award, Community Development Society

Leslie C. Carlson — **Marketing**

Best Paper Award in the Marketing Research Track, Society of Marketing Advances

Kim Rotzoll Award for Advertising Ethics and Social Responsibility and the Best Reviewer Award, American Academy of Advertising

David J. Cochran — **Industrial and Management Systems Engineering**

Fellow, Human Factors and Ergonomics Society

Steven Comfort — **Natural Resources**

Honorary Faculty Member, Hanshan Normal University, Chaozhou, China

Scott Cotton — **Panhandle Research and Extension Center**

Mary Fran Myers Scholarship for Disaster Mitigation, Natural Hazards Institute

Patricia C. Crews — **Textiles, Clothing and Design**

Founding President's Award, Textile Society of America

Lory L. Dance — **Sociology/Ethnic Studies**

Hedda Andersson Fellowship, Lund University (Sweden) Human Rights Program

Meghan M. Davidson — **Educational Psychology**

Research Award, Eye Movement Desensitization and Reprocessing (EMDR) International Association

Jeffrey L. Day — **Architecture**

Rising Star Award, *Residential Architect* Magazine

Faculty Design Award for "House on Lake Okoboji," Association of Collegiate Schools of Architecture

John D. DeFrain — **Child, Youth and Family Studies**

National Excellence in Extension Award, National Association of State Universities and Land-Grant Colleges

Beth Doll — **Educational Psychology**

Presidential Award, National Association of School Psychologists

Bruce I. Dvorak — **Civil Engineering/ Biological Systems Engineering**

Fulbright, Czech Fulbright Commission

Matthew B. Dwyer — **Computer Science and Engineering**

Most Influential Paper Award, International Conference on Software Engineering

Impact Paper Award, Association for Computing Machinery (ACM) SIGSOFT

Michael H. Epstein — **Special Education and Communication Disorders**

Fulbright Scholar, Finland, Council for International Exchange of Scholars

Richard Ferguson — **Department of Agronomy and Horticulture**

Werner Nelson Award for Diagnosis of Yield Limiting Factors, American Society of Agronomy

Rolando A. Flores — **Food Science and Technology**

USDA-ARS 2010 Technology Transfer Award, USDA

USDA-ARS Eastern Region Research Center Award of Excellence in Technology Transfer, USDA

Connie M. Francis — **West Central Research and Extension Center**

Internet Education Technology Award, National Extension Association of Family and Consumer Sciences

Richard Funston — **West Central Research and Extension Center**

First Place, Excellence in Applied Animal Science Research, American Society of Animal Science, Western Section

Konstantinos Giannakas — **Agricultural Economics**

Visiting Professor, Mediterranean Agronomic Institute of Chania, Greece

William M. Grange — **Johnny Carson School of Theatre and Film**

Heidelberg University Guest Professor, German Academic Exchange Service

Ronnie D. Green — **Institute of Agriculture and Natural Resources**

President, American Society of Animal Science

Sanford L. Grossbart — **Marketing**

Most Frequently Cited Article in the Last Five Years (2005-2010), *Journal of Macromarketing*

Kevin G. Hanrahan — **Music**

Best Poster Paper Presentation, National Association of Teachers of Singing

Jeffrey G. Hart — **Southeast Research and Extension Center**

National Program of Distinction, "Diverse Youth-Adult Partnerships in Rural Nebraska," National 4-H Headquarters

Priscilla A. Hayden-Roy — **Modern Languages and Literature**

Executive Board, Hölderlin Society (Germany)

Tino Hofmann — **Electrical Engineering**

Paul Drude Award, International Conference on Spectroscopic Ellipsometry

Melissa J. Homestead — **English/ Womens and Gender Studies**

Reese Fellowship in American Bibliography and the History of the Book in the Americas, American Antiquarian Society

Houghton Mifflin Fellowship in Publishing History, Houghton Library, Harvard University

Roger Hoy — **Biological Systems Engineering**

Blue Ribbon Award, American Society of Agricultural and Biological Engineers

Robert Hutkins — **Food Science and Technology**

Fellow, Institute of Food Technologists

Suat Irmak — **Biological Systems Engineering**

2010 ASABE Young Extension Worker Award, American Society of Agricultural and Biological Engineers

Search for Excellence in Agriculture Award, National Association of County Agricultural Agents

Margaret D. Jacobs — **History/Womens and Gender Studies**

Bancroft Prize for *White Mother to a Dark Race: Settler Colonialism, Maternalism, and the Removal of Indigenous Children in the American West and Australia, 1880-1940,* Columbia University

Robert G. Athearn Book Award, Western History Association

Armitage-Jameson Book Prize, Coalition of Western Women's History

Stacy James — **Journalism and Mass Communications**

2010 Distinguished Service Award, Association for Education in Journalism and Mass Communications

Robert Joeckel — **Natural Resources**

Fellow, Geological Society of America

Rodger K. Johnson — **Animal Science**

Master of the Pork Industry Inductee, *National Hog Farmer* Magazine

Timothy Lemmons — **Northeast Research and Extension Center**

National Winner, Search for Excellence in Farm and Ranch Management, National Association of County Agricultural Agents

Marjorie Lou — **Veterinary Medicine and Biomedical Sciences**

Visiting Professor, Sir Run Run Shaw Hospital, Zhejiang University School of Medicine, China

Drew Lyon — **Panhandle Research and Extension Center**

Crop Science Extension Education Award, Crop Science Society of America

Fellow, Crop Science Society of America

Roger W. Mandigo — **Animal Science**

Meat Industry Hall of Fame Inductee, National Association of Meat Processors

Twig Marston — **Northeast Research and Extension Center**

Outstanding Service Award, Beef Improvement Federation

Martin Massengale — **Agronomy and Horticulture/ Center for Grassland Studies**

Hall of Fame for Distinguished Accomplishments, American Biographical Institute

Rodney Moxley — **Veterinary Medicine and Biomedical Sciences**

Membership, Sigma Xi

Sharon Nielsen — **West Central Research and Extension Center**

Blue Ribbon Award, American Society of Agricultural and Biological Engineers

David L. Olson — **Management**

Best Paper Award (with co-author Jesse Staley), Conference on Enterprise Information Systems, Natal, Brazil, The International Federation for Information Processing

Irvin T. Omtvedt — **Animal Science**

Distinguished Professional Animal Scientist Award, American Registry of Professional Animal Scientists

Anne Parkhurst — **Statistics**

Top Ten Cited Article, International Dairy Journal

Gary Pickard — **Veterinary Medicine and Biomedical Sciences**

Kan Tong Po Visiting Professor, Hong Kong University

Wei Qiao — **Electrical Engineering**

2010 Andrew W. Smith Outstanding Young Member Award, IEEE Industry Applications Society

Kamlakar P. Rajurkar — **Industrial and Management Systems Engineering**

Dr. Hideo Hanafusa Outstanding Investigator Award, International Symposium on Flexible Automation

Brett C. Ratcliffe — **Entomology/Nebraska State Museum**
Honorary Member, Coleopterists Society

Michael W. Riley — **Industrial and Management Systems Engineering**
Fulbright Award, The J. William Fulbright Foreign Scholarship Board

Dipak Santra — **Panhandle Research and Extension Center**
Best Paper Presentation, Association for the Advancement of Industrial Crops

Walter H. Schacht — **Agronomy and Horticulture**
Fulbright Scholar, The J. William Fulbright Foreign Scholarship Board

James Schild — **Panhandle Research and Extension Center**
Blue Ribbon Award, American Society of Agricultural and Biological Engineers

Anthony B. Schutz — **Law**
2010 Professional Scholarship Award, American Agricultural Law Association

Susan M. Sheridan — **Educational Psychology**
President, Society for the Study of School Psychology

William D. Spaulding — **Psychology**
Mike S. Neal Award, American Psychological Association

Susan M. Swearer — **Educational Psychology**
Fellow, Division 16, American Psychological Association

Stephen L. Taylor — **Food Science and Technology**
Bram Rose Memorial Lectureship, Canadian Society of Allergy and Clinical Immunology

Elizabeth A. Theiss-Morse — **Political Science**
Robert E. Lane Book Award, American Political Science Association

Harriet S. Turner — **Modern Languages and Literature**
2011 Andrew Heiskell Award for Innovative Programs in the Category of U.S.-Spain Academic Cooperation, Institute of International Education

L. Dale Van Vleck — **Animal Science**
Agricultural Research Service Science Hall of Fame Inductee, USDA Agricultural Research Service

Ruth Vonderohe — **Northeast Research and Extension Center**
National Winner, Community Partnership Award, National Extension Association of Family and Consumer Sciences

Clarence E. Waters — **Durham School of Architectural Engineering and Construction**

2010 Taylor Technical Talent Award, Illuminating Engineering Society of North America

President, Architectural Engineering Institute

Curtis L. Weller — **Biological Systems Engineering/ Food Science and Technology**

Excellence in Teaching Award, American Association of Cereal Chemists (AACC) International

Research Award, Gamma Sigma Delta

John Wilson — **Northeast Research and Extension Center**

Top Educational Crop Production Program in the Nation, National Association of County Agricultural Agents

Charles Wortmann — **Agronomy and Horticulture**

Award of Excellence, American Society of Agronomy

John R. Wunder — **History/ Journalism and Mass Communications**

President, Western History Association

Zhiqiang Xie — **Electrical Engineering**

Best Poster Paper Award, International Congress on Applications of Lasers & Electro-Optics

Ronald E. Yoder — **Biological Systems Engineering**

President, American Society of Agricultural and Biological Engineers

Glossary of Federal Agency Abbreviations

CIA Central Intelligence Agency

CNS Corporation for National Service

DHS Department of Homeland Security
- DNDO Domestic Nuclear Detection Office

DHHS Department of Health and Human Services
- ACF Administration for Children and Families
- CDC Centers for Disease Control
- NCCAM National Center for Complementary and Alternative Medicine

DOC Department of Commerce
- EDA Economic Development Administration
- NIST National Institute of Standards and Technology
- NOAA National Oceanic & Atmospheric Administration

DoD Department of Defense
- AFOSR Air Force Office of Scientific Research
- AMR Army Medical Research
- ARO Army Research Office
- DARPA Defense Advanced Research Projects Agency
- DTRA Defense Threat Reduction Agency
- NGIA National Geospatial Intelligence Agency
- ONR Office of Naval Research

DOE Department of Energy
- NIGEC National Institute for Global Environmental Change

DOI Department of Interior
- BR Bureau of Reclamation
- FWS Fish & Wildlife Service
- GS Geological Survey
- NPS National Park Service

DOJ Department of Justice

DOT Department of Transportation
- FRA Federal Railroad Administration
- FHWA Federal Highway Administration
- RITA Research and Innovative Technology Administration

ED Department of Education
- FIPSE Fund for the Improvement of Postsecondary Education
- GAANN Graduate Assistance in Areas of National Need
- IES Institute of Education Sciences

EPA Environmental Protection Agency

HUD Department of Housing and Urban Development

IMLS Institute of Museum & Library Services

NAS National Academy of Sciences
- TRB Transportation Research Board

NASA National Aeronautics and Space Administration

NEA National Endowment for the Arts

NEH National Endowment for the Humanities

NIH National Institutes of Health
- DFCI Dana-Farber Cancer Institute
- FIC Fogarty International Center
- NCI National Cancer Institute
- NCRR National Center for Research Resources
- NEI National Eye Institute
- NHLBI National Heart, Lung and Blood Institute
- NIA National Institute on Aging
- NIAID National Institute on Allergy & Infectious Diseases
- NICHD National Institute of Child Health and Human Development
- NIDCD National Institute on Deafness & Communication Disorders
- NIDDK National Institute of Diabetes, Digestive & Kidney Disease
- NIDA National Institute on Drug Abuse
- NIGMS National Institute on General Medical Sciences
- NIMH National Institute of Mental Health

NSA National Security Agency

NSF National Science Foundation

USAID United States Agency for International Development

USDA United States Department of Agriculture
- AFRI Agriculture and Food Research Initiative
- ARS Agricultural Research Service
- BRDC Biotechnology Research and Development Corporation
- CSREES Cooperative State Research, Education & Extension Service
- ERS Extension Research Service
- FAS Foreign Agriculture Service
- FCIC Federal Crop Insurance Corporation
- FS Forestry Service
- NASS National Agricultural Statistics Service
- NIFA National Institute for Food and Agriculture
- NRCS Natural Resources Conservation Service
- NRICGP National Research Initiative Competitive Grant Program
- RD Rural Development
- RMA Risk Management Agency
- SARE Sustainable Agricultural Research and Education Program

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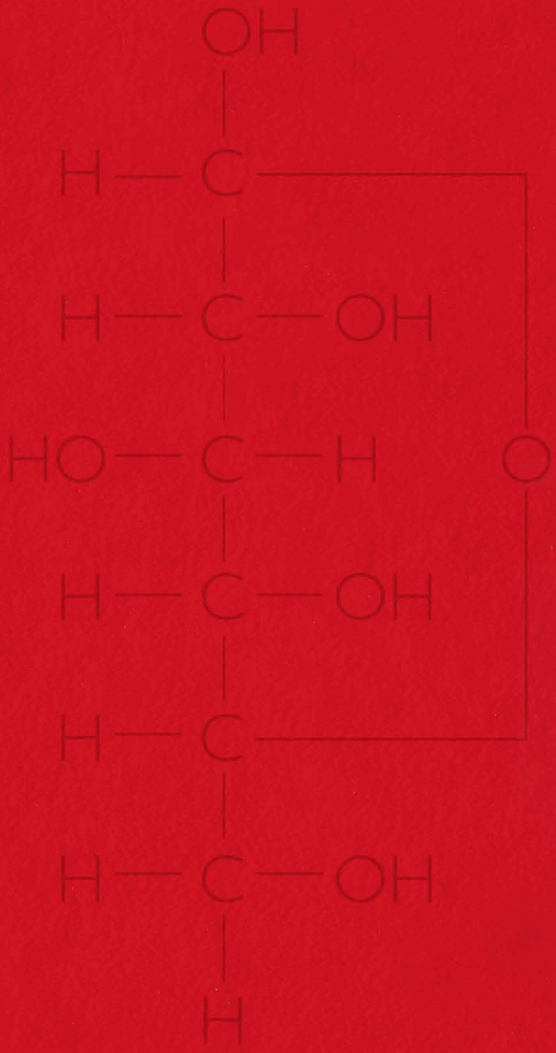

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