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RESEARCH

Office of Research and Economic Development

RESEARCH AND CREATIVE ACTIVITY

July 1, 2016 – June 30, 2017

**Major Sponsored Programs and Faculty Awards
for Research and Creative Activity**

University of Nebraska–Lincoln



Steve Goddard

Interim Vice Chancellor for
Research and Economic Development

This booklet highlights successes in research, scholarship and creative activity of the University of Nebraska–Lincoln faculty during the fiscal year July 1, 2016–June 30, 2017.

It lists investigators, project titles and funding sources on major grants and sponsored program awards received during the year; fellowships and other recognitions and honors bestowed on our faculty; books published by faculty; performances, exhibitions and other creative activity by our faculty; and intellectual property licenses and patents issued for the products of Nebraska research.

This booklet is an impressive list, but it is far from comprehensive. Nebraska faculty are contributing to the stature and funding of our research, scholarship and creative activity every day, in everything they do. These accomplishments are key measures of our success, but even more important is our faculty's impact on the world.

Our faculty are looking to the future: tackling complex issues, solving global challenges and addressing the needs of the nation and the people of Nebraska. Whether that work is a woodblock print that leads us to consider our role in shaping the natural world, an innovative program to train child care providers, or mentoring a generation of researchers to fight HIV in Africa, impact begins with the first idea, the first grant, the first publication.

This is why we continue to invest in new ideas, faculty, facilities and opportunities. These investments of time, energy, creativity and support are fueling our faculty's pursuit of excellence. I am pleased to present this record of their accomplishments.

A handwritten signature in black ink, appearing to read "Steve Goddard".

Steve Goddard

CONTENTS

- 3** Awards of \$5 Million or More
- 9** Awards of \$1 Million to \$4,999,999
- 18** Awards of \$250,000 to \$999,999
- 43** Early Career Awards
- 45** Arts and Humanities Awards of \$250,000 or More
- 47** Arts and Humanities Awards of \$50,000 to \$249,999
- 48** Arts and Humanities Awards of \$5,000 to \$49,999
- 49** Patents
- 52** License Agreements
- 53** Creative Activity
- 55** Books
- 58** Recognitions and Honors
- 64** Glossary

“

Nebraska faculty are contributing to the stature and funding of our research, scholarship and creative activity every day, in everything they do.”

Awards of \$5 Million or More

Active awards, July 1, 2016–June 30, 2017

* Indicates new in 2016–2017

Cahoon, Edgar

**Biochemistry/Center for Biotechnology/
Center for Plant Science Innovation/
Nebraska Center for Redox Biology**

R11 Track-1: Center for Root and Rhizobiome Innovation (CRR1)

\$10,000,000 NSF-EPSCoR
6/15/16 – 5/31/21

Adamec, Jiri Biochemistry/Center for Biotechnology/
Center for Plant Science Innovation/
Nebraska Center for Redox Biology

Alfano, James Plant Pathology/Center for Biotechnology/
Center for Plant Science Innovation/
Nebraska Center for Redox Biology

Clemente, Thomas Agronomy and Horticulture/
Center for Biotechnology/
Center for Plant Science Innovation/
Nebraska Center for Redox Biology

Drijber, Rhae Agronomy and Horticulture/
Center for Biotechnology/
Center for Plant Science Innovation/
Nebraska Center for Redox Biology

Griep, Mark Chemistry/Center for Biotechnology/
Center for Plant Science Innovation/
Nebraska Center for Redox Biology

Helikar, Tomas Biochemistry/Center for Biotechnology/
Center for Plant Science Innovation/
Nebraska Center for Redox Biology

Herr, Joshua Plant Pathology/Center for Biotechnology/
Center for Plant Science Innovation/
Nebraska Center for Redox Biology

Moriyama, Etsuko Biological Sciences/Center for Biotechnology/
Center for Plant Science Innovation/
Nebraska Center for Redox Biology

Russo, Sabrina Biological Sciences/Center for Biotechnology/
Center for Plant Science Innovation/
Nebraska Center for Redox Biology

Schachtman, Daniel Agronomy and Horticulture/
Center for Biotechnology/
Center for Plant Science Innovation/
Nebraska Center for Redox Biology

Schnable, James Agronomy and Horticulture/
Center for Biotechnology/
Center for Plant Science Innovation/
Nebraska Center for Redox Biology

van Dijk, Karin Biochemistry/Center for Biotechnology/
Center for Plant Science Innovation/
Nebraska Center for Redox Biology

Walia, Harkamal Agronomy and Horticulture/
Center for Biotechnology/
Center for Plant Science Innovation/
Nebraska Center for Redox Biology

Weber, Karrie Biological Sciences/
Earth and Atmospheric Sciences/
Center for Biotechnology/
Center for Plant Science Innovation/
Nebraska Center for Redox Biology

Yu, Bin Biological Sciences/Center for Biotechnology/
Center for Plant Science Innovation/
Nebraska Center for Redox Biology

Zhang, Chi Biological Sciences/Center for Biotechnology/
Center for Plant Science Innovation/
Nebraska Center for Redox Biology

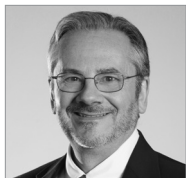


The University of Nebraska–Lincoln is leading a \$20 million, Nebraska-based research effort to improve crop productivity. Funded with a five-year award from the National Science Foundation’s Experimental Program to Stimulate Competitive Research, or EPSCoR, this project draws upon a range of expertise in Nebraska. The university is teaming with

scientists at the University of Nebraska Medical Center, University of Nebraska at Kearney and Doane University on the Center for Root and Rhizobiome Innovation. Project co-leaders are Edgar Cahoon, George W. Holmes Professor of Biochemistry and director of the Center for Plant Science Innovation, and James Alfano, Charles Bessey Professor of Plant Pathology. The research uses a holistic strategy to study root and soil microbe interactions and to develop new biological tools to enhance crop performance.

Claes, Daniel**Physics and Astronomy**

U.S. CMS Phase-1 Upgrades

\$11,479,310 NSF
6/15/14 - 5/31/19

Physicist Daniel Claes leads a collaboration involving eight universities to upgrade the Compact Muon Solenoid particle detector, a key component of the world's largest physics experiment. With a five-year, nearly \$11.5 million grant from the National Science Foundation, the team is working to increase the effectiveness of a vital component of the

Large Hadron Collider at CERN laboratory in Switzerland, the supercollider that made discovery of the Higgs boson possible. The Nebraska team was part of the multi-institutional collaboration that built the original CMS experiment, one of two large particle detector experiments at the Large Hadron Collider. With this NSF grant, they now lead a large research partnership to upgrade the detector in stages through 2019. Their collaborators are at the University of Kansas, University of Illinois at Chicago, Rutgers University, Cornell University, SUNY Buffalo, Purdue University Calumet, Notre Dame University and Northeastern University.

Dickey, Elbert**eXtension**

eXtension Building Cooperative Extension's 21st Century Network
\$6,025,596 USDA-NIFA
9/1/11 - 8/31/16



The eXtension Initiative is an Internet-based Cooperative Extension Service education and information system. The University of Nebraska-Lincoln leads this multi-year project, which partners with the University of Kentucky, North Carolina State University and Virginia Tech University. This 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 develops 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.

Dussault, Patrick**Chemistry**

Building Infrastructure in Nanohybrid Materials and Algal Biology Research

\$12,233,538 NSF-EPSCoR
10/01/10 - 09/30/16

Bailey, Cheryl Biochemistry
Bartelt-Hunt, Shannon Civil Engineering
Black, Paul Biochemistry
Cahoon, Edgar Biochemistry/
Center for Plant Science Innovation/
Cerutti, Heriberto Biological Sciences/
Center for Plant Science Innovation
Clemente, Thomas Agronomy and Horticulture/
Center for Plant Science Innovation
DiRusso, Concetta Biochemistry/Nutrition and Health Sciences
Hage, David Chemistry
Han, Ming Electrical and Computer Engineering
Hudgins, Jerry Electrical and Computer Engineering
Ianno, Natale Electrical and Computer Engineering
Lai, Rebecca Chemistry
Li, Yusong Civil Engineering
Lu, Yongfeng Electrical and Computer Engineering
Markham, Jonathan Biochemistry
Nickerson, Kenneth Biological Sciences
Pannier, Angela Biological Systems Engineering
Riekhof, Wayne Biological Sciences
Schubert, Eva Electrical and Computer Engineering
Schubert, Mathias Electrical and Computer Engineering
Takacs, James Chemistry
Van Dijk, Karin Biochemistry
Van Etten, James Plant Pathology



Nebraska's Center for Nanohybrid Functional Materials combines the efforts of chemists, engineers and biologists to develop fundamental new science related to sensing and separation of targets ranging from small molecules to toxins. The center is led by Patrick Dussault, Charles Bessey Professor of Chemistry, and Mathias Schubert, associate

professor of electrical and computer engineering. The center brings together investigators from two broad areas of science. One group has experience in creating highly ordered nanostructures, such as tiny silicon spirals that have unique characteristics in terms of how they appear under certain frequencies of light. Other center members are experts in using chemical and biochemical agents such as RNA or antibodies to bind a particular target such as a drug or a virus.

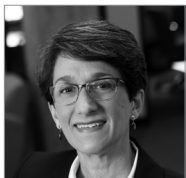
The funding award is the major part of a five-year, \$20 million Nebraska EPSCoR grant involving faculty from four other universities: University of Nebraska Medical Center, University of Nebraska at Kearney, Creighton University and Doane College.

Goddard, Steve **Office of Research and Economic Development**
 Nebraska Center for Energy Sciences Research
 \$6,250,000 Nebraska Public Power District
 4/1/16 – 3/31/21

The Nebraska Center for Energy Sciences Research is a collaboration between the university 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 Nebraska 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.

Graef, Michelle **Center on Children, Families and the Law**
 *Quality Improvement Center for Workforce Development
 \$15,000,000 DHHS-ACF
 09/30/16 – 09/29/21

Ells, Mark Center on Children, Families and the Law
 Paul, Megan Center on Children, Families and the Law
 Stephenson, Kate Center on Children, Families and the Law



The University of Nebraska–Lincoln has launched the Quality Improvement Center for Workforce Development with a five-year, \$15 million grant to the Center on Children, Families and the Law from the U.S. Department of Health and Human Services Administration for Children and Families-Children’s Bureau.

Under the leadership of Michelle Graef, research associate professor in the Center on Children, Families and the Law, this multidisciplinary project will study and test promising strategies to help child welfare agencies recruit and retain staff workers. Nebraska will collaborate with three national child welfare consultants and researchers at the University of Colorado, Denver; University of Louisville; and University of Tennessee, Knoxville. The center will draw on a range of expertise, including social work, industrial organizational psychology, human resource management, educational psychology, implementation science and the law.

Heng-Moss, Tiffany **College of Agricultural Sciences and Natural Resources**
 Developing the Next Generation of Rwandan Agricultural Leaders
 \$47,492,836 Various Associations/Foundations
 7/1/15 – 5/31/23
 Davis, Joshua Global Engagement
 Waller, Steven Center for Grassland Studies



With grants totaling more than \$47,000,000, the College of Agricultural Sciences and Natural Resources (CASNR) at the University of Nebraska–Lincoln is partnering with various associations and foundations to provide educational opportunities for Rwandan students to participate in the Undergraduate Scholars Program (CUSP). In support of a

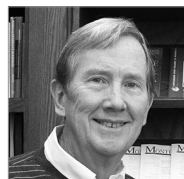
Practical Agriculture Institute in Rwanda, Rwandan students are identified and selected to participate in CUSP to pursue a Bachelor of Science degree in Integrated Science – an individualized program of study focused on conservation agriculture, entrepreneurship, leadership and innovative thinking. The students’ degree programs are specifically designed to be relevant to Rwandan agricultural production and the country’s goal of building resilience into its agricultural ecosystems. CASNR interim dean Tiffany Heng-Moss leads this effort.

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

NebraskaMATH: Strengthening the OPS-UNL Partnership
 \$6,178,948 The Sherwood Foundation®/Lozier Foundation
 5/1/13 – 8/31/17

Heaton, Ruth Teaching, Learning and Teacher Education/
 Center for Science, Mathematics
 and Computer Education

Smith, Wendy Center for Science, Mathematics
 and Computer Education



A grant from The Sherwood Foundation® and the Lozier Foundation supports a three-year partnership between Omaha Public Schools and Nebraska’s Center for Science, Mathematics and Computer Education to fund the NebraskaMATH Omaha Public Schools Teacher Leader Academy. Led by Jim Lewis, Douglas Professor of Mathematics, the

program gives a community of OPS mathematics teachers from grades K-12 access to continuing education and graduate coursework centered on math education. The goals of the OPS initiative are to strengthen mathematics learning in Omaha classrooms, narrow student achievement gaps between different populations and conduct research that continues to inform school improvement efforts.

Moxley, Rodney **Veterinary Medicine and Biomedical Sciences**

Shiga-Toxigenic *Escherichia coli* (STEC) in the Beef Chain:
Assessing and Mitigating the Risk by
Translational Science, Education and Outreach

\$24,808,592 USDA-AFRI
1/1/12 – 12/31/17
Thippareddi, Harshavardhan Food Science and Technology



Veterinary scientist Rodney Moxley leads a major project involving 12 universities and other institutions to target eight of the most dangerous *E. coli* strains throughout the beef production chain. Funded by a \$25 million Agriculture and Food Research Initiative grant from the U.S. Department of Agriculture’s National Institute of Food and Agriculture, the

project’s long-term goal is to reduce the occurrence and public health risks from Shiga toxin-producing *E. coli* in beef, while preserving an economically viable and sustainable beef industry. The project explores the public health, economic and environmental impacts of existing or new intervention strategies on predicted and actual STEC exposure risk. Innovative education, extension and evaluation efforts are intertwined with research on beef chain STEC risk mitigation and decreased numbers of human STEC cases.

Rilett, Laurence

**Civil Engineering/
Nebraska Transportation Center**

*University Transportation Centers Open Competition 2016

\$13,000,000 DOT
12/5/16 – 9/30/22



The Mid-America Transportation Center, a consortium of academic institutions led by the University of Nebraska–Lincoln, will lead a five-year, \$13 million research center, funded by the U.S. Department of Transportation through the Fixing America’s Surface Transportation Act, to improve transportation safety in Nebraska and neighboring states. The center,

which emphasizes challenges facing rural areas and underserved communities, was designated the University Transportation Center of its four-state region after a competitive review. Laurence Rilett, MATC director and the Keith W. Klaasmeyer Chair in Engineering, leads the new research center. Funding enables MATC to leverage its track record of success in transportation research and education to improve safety in the four Region 7 states: Nebraska, Iowa, Kansas and Missouri. MATC is housed in the university’s College of Engineering. Its partner institutions include the University of Nebraska at Omaha, University of Nebraska Medical Center, University of Iowa, University of Kansas, University of Kansas Medical Center, Missouri University of

Science and Technology, Lincoln University and Nebraska Indian Community College. The consortium also has partnerships with several private- and public-sector entities, including a longstanding relationship with the Nebraska Department of Transportation

Region 7 University Transportation Center

\$6,897,600 DOT-RITA
1/1/12 – 1/31/17

The U.S. Department of Transportation’s Research and Innovative Technology Administration has designated the university’s Mid-America Transportation Center (MATC) as a regional university transportation center. The center’s focus is improving safety and minimizing risk associated with increasing multi-modal freight movement on the U.S. surface transportation system. MATC focuses 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.

Schachtman, Daniel

**Agronomy and Horticulture/
Center for Plant Science Innovation/
Center for Biotechnology**

Systems Analysis of the Physiological and Molecular Mechanisms
of Sorghum Nitrogen Use Efficiency, Water Use Efficiency
and Interactions with the Soil Microbiome

\$13,460,684 DOE
8/15/15 – 8/31/20

Dweikat, Ismail Center for Plant Science Innovation/
Agronomy and Horticulture
Ge, Yufeng Biological Systems Engineering
Zygielbaum, Arthur Center for Plant Science Innovation/
Natural Resources



Daniel Schachtman, professor of agronomy and horticulture and director of the university’s Center for Biotechnology, leads a \$13.5 million, multi-institutional research effort to improve sorghum as a sustainable source for biofuel production. A five-year grant from the U.S. Department of Energy funds this highly collaborative project that takes a comprehensive approach to understanding how plants and microbes interact and to learn which sorghum germplasm can grow with less water and nitrogen. The University of Nebraska–Lincoln is

collaborating with scientists at Danforth Plant Science Center, Washington State University; University of North Carolina-Chapel Hill; Boyce Thompson Institute, Clemson University; Iowa State University; Colorado State University and the DOE-Joint Genome Institute.

Takacs, James

Chemistry/Nebraska Center for Integrated Biomolecular Communication

*Nebraska Center for Integrated Biomolecular Communication (NCIBC)

\$11,271,372NIH-NIGMS
 8/15/16 - 7/31/21
 Becker, Donald Biochemistry/NCIBC
 Buan Murphy, Nicole Biochemistry/NCIBC
 Cerny, Ronald Chemistry/NCIBC
 Clarke, Jennifer Statistics/Food Science and Technology/NCIBC
 DiRusso, Concetta Biochemistry/NCIBC
 Dodds, Eric Chemistry/NCIBC
 Hage, David Chemistry/NCIBC
 Harris, Edward Biochemistry/NCIBC
 Kidambi, Srivatsan Chemical and Biomolecular Engineering/NCIBC
 Lee, Jaekwon Biochemistry/NCIBC
 Morton, Martha Chemistry/NCIBC
 Powers, Robert Chemistry/NCIBC
 Riethoven, Jean-Jack Center for Biotechnology/ NCIBC
 Simpson, Melanie Biochemistry/ NCIBC
 Stains, Clifford Chemistry/NCIBC
 Velander, William Chemical and Biomolecular Engineering/NCIBC
 Zhou, You Center for Biotechnology/NCIBC



With a five-year, \$11.3 million grant from the National Institutes of Health, the University of Nebraska-Lincoln has established a research center focused on investigating cellular-level miscommunications that contribute to complex diseases like cancer, diabetes and chronic liver disease. The NCIBC serves as a hub for interdisciplinary collaborations among

Nebraska’s biomedical researchers and involves faculty at the University of Nebraska Medical Center, as well. The center, directed by James Takacs, Charles J. Mach University Professor of Chemistry, fosters a systems approach, combining the research activities of chemists, biochemists, engineers and bioinformaticists. It connects researchers developing new molecular probes and analytical techniques with those unraveling molecular mechanisms of diseases.

Tsymbal, Evgeny

**Physics and Astronomy/
Nebraska Center for Materials and Nanoscience**

Center for NanoFerroic Devices

\$7,285,500 DOC-NIST through Semiconductor Research Corp.-
Nanoelectronics Research Corp.

4/1/13 - 12/31/17



The University of Nebraska leads a \$7.125 million research collaboration involving six universities and an industry consortium to develop a new generation of electronic devices. Semiconductor Research Corp. and the National Institute of Standards and Technology have awarded a university physics team a five-year contract to lead the Center for

NanoFerroic Devices as part of the Nanoelectronics Research Initiative. The center is harnessing the significant advances the university and its Materials Research Science and Engineering Center (MRSEC) have made in exploring nanomaterials with unique properties that may prove the key to surpassing the limitations of current technology. Evgeny Tsymbal, George Holmes University Professor of Physics and MRSEC director, co-directs the Center for NanoFerroic Devices with physicist Peter Dowben. The university is partnering with researchers at the University of California, Irvine, University of Wisconsin-Madison, University at Buffalo, SUNY, University of Delaware and Oakland University. This joint research will help transform basic university discoveries and knowledge into actual devices, in collaboration with industry.

Materials Research Science & Engineering Center:
Polarization and Spin

\$9,600,000NSF
 11/1/14 - 10/31/20

Gruerman, Alexei Physics and Astronomy

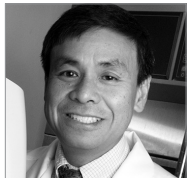
The Materials Research Science and Engineering Center (MRSEC) was established in 2002 with a grant from the National Science Foundation and involves scientists from the Departments of Physics and Astronomy, Chemistry and Mechanical & Materials Engineering, and the School of Biological Sciences. MRSEC 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.

Wood, Charles

**Biological Sciences/
Nebraska Center for Virology**

Nebraska Center for Virology

\$5,499,715NIH-NIGMS
9/16/10 - 7/31/17



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: the University of Nebraska-Lincoln, 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

\$5,794,724 NIH-NCI
7/16/10 - 4/30/18
West, JohnNebraska Center for Virology

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.

Zempleni, Janos

Nutrition and Health Sciences

COBRE: Nebraska Center for the Prevention of Obesity Diseases through Dietary Molecules

\$11,306,520NIH-NIGMS
8/5/14 - 5/31/19

Chung, Soonkyu Nutrition and Health Sciences
Cui, JuanComputer Science and Engineering
Fomenko, DmitriBiochemistry
Ramer-Tait, AmandaFood Science and Technology
Su, Qiaozhu Nutrition and Health Sciences



With the support of an \$11.3 million grant from the National Institutes of Health's Center of Biomedical Research Excellence (COBRE) program, the university has established the Nebraska Center for the Prevention of Obesity Diseases through Dietary Molecules. The center, under the leadership of Janos Zempleni, Willa Cather Professor of Molecular

Nutrition, focuses on understanding nutrition and obesity at the molecular level. Answering molecular-level questions regarding obesity and related diseases is a crucial first step toward curbing this national epidemic. The University of Nebraska Medical Center collaborates on the center, which aims to establish a community of nationally recognized researchers in nutrition, genetics, biochemistry, food science, immunology and computer science. The long-term goal is to become a leader in nutrient signaling and the prevention of obesity and obesity-related diseases, including non-alcoholic fatty liver disease, cardiovascular disease and Type 2 diabetes.

Awards of \$1 Million to \$4,999,999

Active awards, July 1, 2016–June 30, 2017

* Indicates new in 2016–2017

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

Improving Barley and Wheat Germplasm
for Changing Environments

\$1,065,801 USDA through University of California, Davis
Lee, Donald Agronomy and Horticulture
Regassa, Teshome Agronomy and Horticulture
Waters, Brian Agronomy and Horticulture

Balkir, Sina **Electrical and Computer Engineering**

Ultra-Low-Power Long-Duration Programmable
Remote Radiation Monitoring Sensor Electronics

\$1,385,150 DoD-DTRA
Bauer, Mark Electrical and Computer Engineering
Hoffman, Michael Electrical and Computer Engineering

Barlow, Steven **Special Education and Communication Disorders**

Somatosensory Modulation of Salivary Gene Expression
and Oral Feeding in Preterm Infants

\$2,747,458 NIH-NICHD

Becker, Donald **Biochemistry/ Nebraska Center for Redox Biology**

Redox Biology Center

\$4,305,466 NIH-NIGMS

Molecular Mechanisms of Disease

\$1,078,105 NIH-NIGMS
Black, Paul Biochemistry

Mechanistic Studies of Functional Switching
in the PutA Flavoprotein

\$1,244,730 NIH-NIGMS

Bellows, Laurie **Graduate Studies**

TRIO – Ronald E. McNair Postbaccalaureate Achievement Program
\$1,095,094 ED

Benson, Andrew **Food Science and Technology**

Composition of the GI Microbiota and Predisposition
to Enterohemorrhagic *Escherichia coli* (EHEC) Colonization
as Complex Polygenic Traits in Beef Cattle

\$2,354,004 USDA-NIFA
Kachman, Stephen Statistics
Moriyama, Etsuko Biological Sciences/
Center for Plant Science Innovation

Determination of the Importance of Colonization History
in the Assembly of the Gastrointestinal Microbiota

\$1,194,259 NIH-NIGMS
Peterson, Daniel Food Science and Technology

Bevins, Rick **Psychology**

Pharmacological Interventions
to Diminish Nicotine-Associated Responding

\$1,429,752 NIH-NIDA

Bilder, Christopher **Statistics**

Group Testing for Infectious Disease Detection:
Multiplex Assays and Back-End Screening

\$1,137,836 NIH-NIAID

Bloom, Kenneth **Physics and Astronomy**

Experimental Particle Physics at the Energy and Cosmic Frontiers

\$2,055,000 NSF
Claes, Daniel Physics and Astronomy
Kravchenko, Ilya Physics and Astronomy
Snow, Gregory Physics and Astronomy

U.S. CMS Operations at the LHC

\$4,209,412 NSF through Princeton University
Dominguez, Aaron Physics and Astronomy
Swanson, David Computer Science and Engineering

Bobaru, Florin **Mechanical & Materials Engineering**

MURI Center for Material Failure
Prediction through Peridynamics

\$1,003,134 DoD-AFOSR through University of Arizona

Bockelman, Brian **Computer Science and Engineering**

SI2-SSI Data Intensive Analysis for
High Energy Physics (DIANA/HEP)

\$1,001,324 NSF

Boeckner, Linda **Extension**

Innovation and Collaboration: Creating a Transdisciplinary
Childhood Obesity Prevention Graduate Program
\$1,450,389 USDA-NIFA through South Dakota State University
Anderson-Knott, Mindy Statistics
De Guzman, Maria Child, Youth and Family Studies
Fischer, Jean Nutrition and Health Sciences
Takahashi, Shinya Nutrition and Health Sciences

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

Biochemical Genomics:
Deciphering the Chemical Factories of Oilseeds
\$1,315,031 NSF through Washington State University
Moriyama, Etsuko Biological Sciences/
Center for Plant Science Innovation

Ciobanu, Daniel **Animal Science**

Translational Genomics for Improving
Sow Reproductive Longevity
\$1,166,650 USDA-AFRI
Kachman, Stephen Statistics
Riethoven, Jean-Jack Biotechnology
Spangler, Matthew Animal Science

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

Biology of Human: Understanding Ourselves
through the Lens of Current Biomedical Research
\$1,386,925 NIH-NCRR
Angeletti, Anisa Biological Sciences
Bailey, Cheryl Biochemistry
McQuillan, Julia Sociology
Wood, Charles Biological Sciences/
Nebraska Center for Virology

Dickey, Elbert **eXtension**

eXtension Military Families Learning Network
\$2,240,454 USDA-NIFA

Dombrowski, Kirk **Sociology**

Measuring Social Behavior via Dynamic Network Interaction
\$1,224,423 NIH-NIGMS
Khan, Bilal Sociology
Maerlender, Arthur Center for Brain, Biology and Behavior
Swearer, Susan Educational Psychology

Injection Risk Networks in Rural Puerto Rico
\$2,970,743 NIH-NIDA
Welch-Lazoritz, Melissa Bureau of Sociological Research/
Sociology

Duppong Hurley, Kristin **Special Education and
Communication Disorders**

Parent Connectors: An Efficacy Study of Peer Support
for Parents of Middle-School Youth with Emotional Disturbance
\$3,206,013 ED-IES
Torkelson-Trout, Alexandra Special Education and
Communication Disorders

Dzenis, Yuris **Mechanical & Materials Engineering**

Optimal Stent Selection for the Femoropopliteal Artery
\$1,028,824 NIH-NHLBI through UNMC
Desyatova, Anastasia Mechanical & Materials Engineering

Elbaum, Sebastian **Computer Science and Engineering**

*NRI: Enabling Unmanned Aerial Systems (UAS) Fire Ignitions
in Complex Firefighting Contexts
\$1,003,270 NSF
Allen, Craig Natural Resources
Bradley, Justin Computer Science and Engineering
Detweiler, Carrick Computer Science and Engineering
Duncan, Brittany Computer Science and Engineering
Pytlík Zillig, Lisa Public Policy Center
Twidwell, Dirac Agronomy and Horticulture

Engen-Wedin, Nancy **Teaching, Learning and Teacher Education**

Indigenous Roots Teacher Education Program
\$1,174,067 ED

Farritor, Shane **Mechanical & Materials Engineering**

Robotic Tele-Surgery Research
\$2,084,873 DoD-Army-TATRC through UNMC
Nelson, Carl Mechanical & Materials Engineering
Terry, Benjamin Mechanical & Materials Engineering

Fischer, Jean **Nutrition and Health Sciences**

Supplemental Nutrition Assistance Program (SNAP-ED)
\$1,639,728 USDA-FNS through
Nebraska Department of Health and Human Services
Behrends, Donna Nutrition and Health Sciences
Boeckner, Linda Extension
Carr, Timothy Nutrition and Health Sciences
Hartline, Morgan Nutrition and Health Sciences
Sehi, Natalie Nutrition and Health Sciences

Fontaine, Joseph **Natural Resources**

Use and Satisfaction of Public Hunting Opportunities
\$1,771,671 DOI-GS through
Nebraska Game and Parks Commission
Martin, Dustin Natural Resources

Forbes, Cory **Natural Resources**

*DRK-12 High School Students Climate Literacy
through Epistemology of Scientific Modeling
\$1,126,375 NSF

Frankl, Nicole **Nebraska Local Technical Assistance Program**

Nebraska Local Technical Assistance Program FY 2016
\$1,118,920 DOT-FHWA through
Nebraska Department of Transportation

Garcia Ruiz, Hernan **Plant Pathology/
Nebraska Center for Virology**

*Recognition and Recruitment of RNA Viruses
into RNA Silencing Pathways
\$1,312,105 NIH-NIGMS

Gaussoin, Roch **Agronomy and Horticulture**

ConAgra Popcorn Breeding Maintenance
\$1,695,945 ConAgra
McAndrew, Thomas Agronomy and Horticulture
Rodriguez, Oscar Agronomy and Horticulture

Gruverman, Alexei **Physics and Astronomy**

Nanoscale Resistive Switching Behavior
of Ferroelectric and Multiferroic Tunnel Junctions
\$1,500,000 DOE
Tsymbal, Evgeny Physics and Astronomy

Guo, Jiantao **Chemistry**

Improve the Safety of an Efficacious Live-Attenuated
HIV-1 Vaccine through Unnatural Amino Acid-Mediated Suppression
of Blank Codon
\$1,919,552 NIH-NIAID
Li, Qingsheng Biological Sciences
Niu, Wei Chemistry

Guretzky, John **Agronomy and Horticulture**

Agro-Ecosystem Approach to Sustainable Biofuels Production
\$1,916,143 USDA-NIFA through Iowa State University
Baxendale, Fred Entomology
Glewen, Keith Southeast Research and Extension Center
Hay, Francis Biological Systems Engineering
Heng-Moss, Tiffany Entomology
James, Theresa Agronomy and Horticulture
Namuth Covert, Deana Agronomy and Horticulture
Perrin, Richard Agricultural Economics
Waters, Brian Agronomy and Horticulture
Wegulo, Stephen Plant Pathology
Yuen, Gary Plant Pathology

Hage, David **Chemistry**

Chromatographic Studies of Functional Proteomics
\$1,075,264 NIH-NIDDK

Harris, Edward **Biochemistry**

Liver-Mediated Clearance of Low Molecular Weight Heparins
\$1,464,325 NIH-NHLBI
Dodds, Eric Chemistry

Hayes, Michael **Natural Resources**

Providing Drought Information Services for the Nation:
The National Drought Mitigation Center
\$2,443,222 DOC-NOAA
Bathke, Deborah Earth and Atmospheric Sciences
Fuchs, Brian Natural Resources
Knutson, Cody Natural Resources
Svoboda, Mark Natural Resources
Tadesse, Tsegaye Natural Resources

Hein, Gary **Doctor of Plant Health Program**

A Predictive Model to Increase Adoption of IPM
of a Mite-Virus Disease Complex in Wheat
\$3,375,000 USDA-AFRI
Anderson-Knott, Mindy Sociology
Bradshaw, Jeffrey Panhandle Research and Extension Center
Golick, Douglas Entomology
Wegulo, Stephen Plant Pathology
Zygielbaum, Arthur School of Natural Resources

Helikar, Tomas **Biochemistry**

*A Predictive Multi-scale Model of the Immune System:
An Integrated Resource for Interdisciplinary Applications
\$1,780,567NIH-NIGMS

An Innovative Computational Modeling Intervention
to Facilitate Learning of Biology Using
Simulation and Dynamical Systems Approaches
\$2,321,012NSF
Brassil, ChadBiological Sciences
Dauer, Joseph Natural Resources
Harris, StevenPlant Pathology

Houston, Adam **Earth and Atmospheric Sciences**

RII Track-2 FEC: Unmanned Aircraft System
for Atmospheric Physics
\$1,454,757NSF through Oklahoma State University
Detweiler, Carrick Computer Science and Engineering
Pytlík Zillig, Lisa Public Policy Center
Van Den Broeke, Matthew Earth and Atmospheric Sciences

Huang, Jinsong **Mechanical & Materials Engineering**

Developing Efficient Perovskite/Silicon Tandem Devices
\$1,211,076 DOE
High-efficiency Low-cost Nanocomposite for Radiation Detection
Enabled by Charge-Triggered Secondary Charge Injection
\$1,050,000DoD-DTRA

Irmak, Suat **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
\$1,409,675 Central Platte NRD
Kilic, AyseCivil Engineering/Natural Resources
Martin, Derrel Biological Systems Engineering
van Donk, Simon Biological Systems Engineering
Verma, Shashi Natural Resources

Johnson, Matthew **Psychology/
Center for Brain, Biology and Behavior**

*RII Track-2 FEC: Neural Networks Underlying the Integration
of Knowledge and Perception
\$1,187,503 NSF through University of Delaware
Dodd, MichaelPsychology/
Center for Brain, Biology and Behavior

Johnson, Scott **Biological Process Development Facility**

Process Research, Development and
Manufacturing of 5P12 RANTES
\$4,186,468 Mintaka Foundation for Medical Research
Buchholz, Wallace Biological Process Development Facility

Josiah, Scott **Nebraska State Forest Service**

Cooperative Forestry Program
\$1,080,067 USDA-FS

Khalimonchuk, Oleh **Biochemistry**

Mechanisms of Mitochondrial Quality Control and Protection
\$1,421,695NIH-NIGMS

Kravchenko, Ilya **Physics and Astronomy**

Particle Physics Research with the CMS Experiment at the LHC
\$2,070,000NSF
Bloom, Kenneth Physics and Astronomy
Claes, Daniel Physics and Astronomy
Snow, Gregory Physics and Astronomy

Kunz, Gina **Nebraska Center for Research on
Children, Youth, Families and Schools**

School Psychology Specialization in Toddlers
with Autism Spectrum Disorders
\$1,249,730ED

Lewis, Elizabeth **Teaching, Learning and Teacher Education**

UNL Science Scholars Program
\$1,194,387NSF
Bonnstetter, RonTeaching, Learning and Teacher Education
Claes, Daniel Physics and Astronomy
Gosselin, David Natural Resources
Heng-Moss, Tiffany Entomology
Pedersen, JonTeaching, Learning and Teacher Education/
Center for Science, Mathematics
and Computer Education
Swidler, StephenTeaching, Learning and Teacher Education

Li, Ming **Psychology**

Serotonin, Maternal Behavior and Postpartum Depression
\$1,468,032NIH-NIMH

Li, Xu **Civil Engineering**
 *Mitigating the Risk of Antibiotic Resistance at Critical Control Points
 in the Beef Cattle Manure Management Systems
 \$1,200,000 USDA-NIFA
 Bartelt-Hunt, Shannon Civil Engineering
 Erickson, Galen Animal Science
 Schmidt, Amy Animal Science/Biological Systems Engineering
 Wang, Bing Food Science and Technology

Lodi, Kathleen **Extension**
 Child Care and Youth Training and Technical Assistance Project
 \$3,390,000 USDA-NIFA
 Click2Science
 \$1,016,500 Noyce Foundation through
 University of San Diego - CEPAL

Lu, Yongfeng **Electrical and Computer Engineering**
 Portable Fiber Laser System and Method to Remove Pits
 and Cracks on Sensitized Surfaces of Aluminum Alloys
 \$1,025,000 DoD-ONR

Lubben, Bradley **Agricultural Economics**
 North Central Risk Management Education Center
 \$3,253,008 USDA-NIFA

Mackenzie, Sally **Agronomy and Horticulture/
 Biological Sciences**
 Epigenetic Breeding in Crops
 \$2,996,073 Bill & Melinda Gates Foundation

Mendoza-Gorham, Joan **Student Affairs**
 Lincoln Upward Bound
 \$1,351,875 ED
 Upward Bound Math/Science Program
 \$1,306,646 ED

Molfese, Victoria **Child, Youth and Family Studies**
 Development Implications of Early Childhood Sleep
 \$1,393,519 NIH-NICHD through Indiana University
 Molfese, Dennis Psychology
 Rudasill, Kathleen Educational Psychology

Napolitano, Scott **Educational Psychology/
 Center for Brain, Biology and Behavior/
 Nebraska Center for Research on
 Children, Youth, Families and Schools**
 *School Psychology Specialization in Concussion/
 Mild Traumatic Brain Injury (mTBI)
 \$1,191,884 ED
 Maerlender, Arthur Center for Brain, Biology and Behavior/
 Nebraska Center for Research on
 Children, Youth, Families and Schools

Olson, Kristin **Sociology/Gallup Research Center**
 Reducing Error in Computer Survey Data Collection
 \$3,484,525 NSF
 Belli, Robert Psychology/Gallup Research Center
 Smyth, Jolene Sociology/Gallup Research Center
 Soh, Leen-Kiat Computer Science and Engineering

Pegg, Mark **Natural Resources**
 Missouri River Sportfish Ecology and Management
 \$1,324,787 Nebraska Game and Parks Commission
 Hamel, Martin Natural Resources

Pérez, Lance **Academic Affairs**
 WIDER: Adopting Research-Based Instructional Strategies
 for Enhancing STEM Education
 \$1,990,279 NSF
 Arthurs, Leilani Earth and Atmospheric Studies
 Couch, Brian Biological Sciences
 Golick, Douglas Entomology
 Heaton, Ruth Teaching, Learning and Teacher Education
 Lee, Kevin Center for Science, Mathematics and
 Computer Education/Physics and Astronomy
 Spiegel, Amy Educational Psychology
 Stains, Marilyne Chemistry

Pickard, Gary **Veterinary Medicine and
 Biomedical Sciences**
 Homeostatic Regulation
 of Peripheral Oscillators via Autonomic Circuitry
 \$1,761,617 NIH-NINDS
 Sollars, Patricia Veterinary Medicine and Biomedical Sciences

Pope, Kevin **Natural Resources**
 Human Dimensions of Nebraska's Fisheries
 \$2,165,236 Nebraska Game and Parks Commission
 Chizinski, Christopher Natural Resources

Qiao, Wei **Electrical and Computer Engineering**

An Online Intelligent Prognostic Health Monitoring System for Wind Turbines

\$1,499,981 DOE
Hudgins, Jerry Electrical and Computer Engineering
Qu, Liyan Electrical and Computer Engineering

Rajca, Andrzej **Chemistry**

Synthesis of Metal-Free Magnetic Resonance Imaging Contrast Agents

\$1,208,299 NIH-NIBIB
Rajca, Suchada Chemistry

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

Autoimmunity in the Mediation of Infectious Myocarditis

\$1,365,031 NIH-NHLBI
Riethoven, Jean-Jack Biotechnology
Steffen, David Veterinary Medicine and Biomedical Sciences

Reid, John **Mechanical & Materials Engineering**

Midwest States Regional Pooled Fund Program

\$1,095,000 Nebraska Department of Transportation
Bielenberg, Robert Midwest Roadside Safety Facility
Faller, Ronald Midwest Roadside Safety Facility

Rilett, Laurence **Civil Engineering/ Nebraska Transportation Center**

Traffic Calming Elements for Entry Control Facility Threat Delay and Containment

\$3,706,933 National Strategic Research Institute
Faller, Ronald Civil Engineering/ Nebraska Transportation Center
Reid, John Mechanical & Materials Engineering/ Nebraska Transportation Center

Transportation Infrastructure - Visualizations & ITS Laboratory
\$3,171,651 DOT-FHWA through Nebraska Department of Transportation
Faller, Ronald Civil Engineering/Midwest Roadside Safety Facility

UTC Tier 1 with University of Texas Pan American
\$1,262,880 DOT-FHWA through University of Texas-Pan-American
Khattak, Aemal Civil Engineering

Robertson Jr., Vaughn **Student Affairs**

UNL Educational Talent Search

\$2,085,174 ED

Savaiano, Mackenzie **Special Education and Communication Disorders**

*Mid-Plains Professional Upgrade Partnership - Sensory Disabilities

\$1,082,718 ED
Thomas, Anne Special Education and Communication Disorders

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

Nebraska Nanoscale Facility of NNCI

\$3,494,096 NSF
Binek, Christian Physics and Astronomy/Nebraska Center for Materials and Nanoscience
Lai, Rebecca Chemistry/Nebraska Center for Materials and Nanoscience
Liou, Sy-Hwang Physics and Astronomy/Nebraska Center for Materials and Nanoscience
Shield, Jeffrey Mechanical & Materials Engineering/ Nebraska Center for Materials and Nanoscience

Studies of Artificially Structured Composite Magnets
\$1,408,001 DOE

Sheridan, Susan **Educational Psychology/ Nebraska Center for Research on Children, Youth, Families and Schools/ Buffett Early Childhood Institute**

Early Learning Contexts in Rural and Urban Nebraska

\$4,499,878 ED-IES
Bovaird, James Educational Psychology/ Nebraska Center for Research on Children, Youth, Families and Schools/ Buffett Early Childhood Institute
DeKraai, Mark Public Policy Center/ Nebraska Center for Research on Children, Youth, Families and Schools/ Buffett Early Childhood Institute
Iruka Thompson, Iheoma Buffett Early Childhood Institute/ Nebraska Center for Research on Children, Youth, Families and Schools
Knoche, Lisa Nebraska Center for Research on Children, Youth, Families and Schools/ Buffett Early Childhood Institute

A Randomized Trial of Conjoint Behavioral Consultation (CBC)
with Latino Students: A Replication Study
\$3,499,987 ED-IES
Bovaird, James Educational Psychology
Wheeler, Lorey Nebraska Center for Research on
Children, Youth, Families and Schools
Witte, Amanda Nebraska Center for Research on
Children, Youth, Families and Schools

Early Learning Network Lead
\$1,999,987 ED
Knoche, Lisa Nebraska Center for Research on
Children, Youth, Families and Schools

Efficacy of the Getting Ready Intervention at
Supporting Parental Engagement and Positive Outcomes
for Preschool Children at Educational Risk
\$3,212,919 ED-IES
Bovaird, James Educational Psychology/
Nebraska Center for Research on
Children, Youth, Families and Schools
Clarke, Brandy Nebraska Center for Research on
Children, Youth, Families and Schools
Edwards, Carolyn Child, Youth and Family Studies/Psychology
Knoche, Lisa Nebraska Center for Research on
Children, Youth, Families and Schools
Marvin, Christine Special Education and
Communication Disorders

Shulski, Martha **Natural Resources**
Regional Climate Services Support in the High Plains Region
\$2,232,265 DOC-NOAA
Umphlett, Natalie Natural Resources

Smith, Wendy **Mathematics/Center for Science,
Mathematics and Computer Education**
*Nebraska Partnership TEAMS
(Teaching to Enhance Achievement in Mathematics and Science)
\$1,062,400 ED through Nebraska Department of Education
Arthurs, Leilani Center for Science, Mathematics
and Computer Education/
Earth and Atmospheric Sciences
Heaton, Ruth Teaching, Learning and Teacher Education
Homp, Michelle Center for Science, Mathematics
and Computer Education
Lai, Yvonne Center for Science, Mathematics
and Computer Education/Mathematics
Lewis, Elizabeth Teaching, Learning and Teacher Education
Males, Lorraine Teaching, Learning and Teacher Education

Searls, Mindi Center for Science, Mathematics
and Computer Education/
Earth and Atmospheric Sciences
Thomas, Amanda Teaching, Learning and Teacher Education
Thomas, Julie Center for Science, Mathematics
and Computer Education/
Teaching, Learning and Teacher Education

Nebraska NOYCE: NSF Mathematics Teaching
and Master Teaching Fellows Program
\$3,000,000 NSF
Fowler, David Teaching, Learning and Teacher Education
Kauffman, Douglas Educational Psychology
Papick, Ira Mathematics/Center for Science,
Mathematics and Computer Education
Swidler, Stephen Teaching, Learning and Teacher Education

Stains, Clifford **Chemistry**
*Chemical Approaches for Interrogating
Fundamental Biomedical Processes
\$1,610,142 NIH-NIGMS

Starace, Anthony **Physics and Astronomy**
Imaging and Controlling Ultrafast Dynamics
of Atoms, Molecules, and Nanostructures
\$2,451,966 NSF-EPSCoR
Batelaan, Herman Physics and Astronomy
Centurion, Martin Physics and Astronomy
Fabrikant, Ilya Physics and Astronomy
Fuchs, Matthias Physics and Astronomy
Gay, Timothy Physics and Astronomy
Lu, Yongfeng Electrical and Computer Engineering
Schubert, Eva Electrical and Computer Engineering
Shadwick, Bradley Physics and Astronomy
Swanson, David Holland Computing Center
Uiterwaal, Cornelis Physics and Astronomy
Umstadter, Donald Physics and Astronomy
Dynamics of Few-Body Atomic Processes
\$2,565,804 DOE

Steadman, James **Plant Pathology**
Genetic Approaches to Reducing Fungal and Oomycete Soilborne
Problems of Common Bean in Eastern and Southern Africa
\$1,100,000 USDA-NIFA
Urrea Florez, Carlos Panhandle Research and Extension Center

Storz, Jay **Biological Sciences**

Mutational Pleiotropy, Epistasis, and the Adaptive Evolution of Hemoglobin Function

\$1,386,044 NIH-NHLBI
Moriyama, Hideaki Biological Sciences/Center for Biotechnology

Stowell, Richard **Biological Systems Engineering**

National Facilitation of Extension Programming in Climate Change Mitigation and Adaptation for Animal Agriculture

\$4,295,536 USDA-NIFA
Heemstra, Jill Northeast Research and Extension Center

Svoboda, Mark **Natural Resources**

Development of the MENA Regional Drought Management System

\$1,025,440 USAID through
International Center for Biosaline Agriculture
Knutson, Cody Natural Resources
Neale, Christopher..... Robert B. Daugherty Water for Food Institute
Wardlow, Brian Natural Resources
Wilhite, Donald Natural Resources

Swanson, David **Computer Science and Engineering**

Open Science Grid Consortium

\$1,423,000 NSF through University of Wisconsin-Madison

Thomas, Anne **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

Torkelson-Trout, Alexandra **Special Education and Communication Disorders/
Academy for Child and Family Wellbeing**

A Missing Link to a Better Tomorrow:
Developing Health Literacy in Transition-Age Youth
with High Incidence Disabilities

\$1,499,994 ED
Duppung Hurley, Kristin Special Education and
Communication Disorders/
Academy for Child and Family Wellbeing
Lambert, Matthew Special Education and
Communication Disorders/
Academy for Child and Family Wellbeing

Promoting Transition Outcomes in Youth with LD and EBD:
An Efficacy and Replication Study
of the On the Way Home Aftercare Intervention
\$3,487,223 ED-IES
Duppung Hurley, Kristin Special Education and
Communication Disorders

Umphlett, Natalie **Natural Resources**

High Plains Regional Climate Center

\$1,218,437 DOC-NOAA
Sorensen, William Natural Resources
Stiles, Crystal Natural Resources

Umstadter, Donald **Physics and Astronomy**

Low Dose Tomographic System Based on a
Novel Narrowband, Tunable, Multi-MeV X-Ray Source

\$2,677,409 National Strategic Research Institute
Banerjee, Sudeep Physics and Astronomy
Chen, Shouyuan Physics and Astronomy

Relativistic Optics: Interactions of Electrons with
Laser Light at Highly Relativistic Intensities

\$1,499,867 DoD-AFOSR
Banerjee, Sudeep Physics and Astronomy
Chen, Shouyuan Physics and Astronomy
Fuchs, Matthias Physics and Astronomy
Shadwick, Bradley Physics and Astronomy
Starace, Anthony Physics and Astronomy

Laser Produced Coherent X-Ray Sources

\$1,994,997 DOE
Banerjee, Sudeep Physics and Astronomy

Velander, William **Chemical and Biomolecular Engineering**

Technologies for Hemostasis and Stabilization
of the Acute Traumatic Wound

\$1,783,613 DoD-USAMRAA through UNMC

Viesca, Kara **Teaching, Learning and Teacher Education**

*International Consortium for Multilingual Excellence in Education

\$2,739,661 ED
Gatti, Lauren Teaching, Learning and Teacher Education
Johnson, Aaron Teaching, Learning and Teacher Education
Kiramba, Lydia Teaching, Learning and Teacher Education

Walia, Harkamal **Agronomy and Horticulture**
 Physiological and Genetic Mechanisms Underlying Salt Tolerance in
 Rice across Developmental Stages
 \$2,035,509NSF
 Lorenz, Aaron Agronomy and Horticulture
 Samal, Ashok Computer Science and Engineering
 Wang, Dong Computer Science and Engineering

Wardlow, Brian **Natural Resources**
 The Quick Drought Response Index (QuickDRI):
 An Integrated Approach to Maximizing the Use of NASA Data Sets
 for Rapid Response Drought Monitoring
 \$1,150,701 NASA
 Fuchs, Brian Natural Resources
 Hayes, Michael Natural Resources
 Svoboda, Mark Natural Resources
 Tadesse, Tsegaye Natural Resources

Weller, Curtis **Extension/Biological Systems Engineering/
 Food Science and Technology**
 Manufacturing Extension Partnership Center for Nebraska
 \$1,547,991 DOC-NIST
 Faller, Ronald Midwest Roadside Safety Facility
 Wei, Timothy Engineering

Whitbeck, Les **Sociology**
 A RCT of a Family-Centered Ojibwe Substance Abuse Prevention
 \$3,560,784 NIH-NIDA
 Crawford, Devan Sociology

Wiebe, Matthew **Veterinary Medicine and
 Biomedical Sciences**
 Mechanism of the Antiviral Activity of
 BAF against Poxvirus and HSV-1 Infection
 \$1,838,387 NIH-NIAID

Williams, Robert **Mechanical & Materials Engineering**
 *Nebraska Industrial Assessment Center (NIAC)
 \$1,439,589 DOE
 Dvorak, Bruce Civil Engineering
 Gogos, George Mechanical & Materials Engineering

Wilson, Mark **Biochemistry/
 Nebraska Center for Redox Biology**
 Redox Regulation of DJ-1 Function
 \$1,330,374 NIH-NIGMS

Wood, Charles **Biological Sciences/Biochemistry/
 Nebraska Center for Virology**
 AIDS Malignancies Training and Research
 International Program (AMTRIP)
 \$1,482,515 NIH-FIC

Cancer Research International Training
 and Intervention Consortium (CRITIC)
 \$3,745,745 NIH-NCI
 Angeletti, Peter Biological Sciences
 Minhas, Veenu Nebraska Center for Virology
 West, John Nebraska Center for Virology

Neuropathogenesis and Neuroinvasiveness
 of Subtype C Human Immunodeficiency Virus-1
 \$1,712,314 DHHS-NINDS
 Programs in HIV & AIDS Assoc Diseases/Malignancies
 \$2,713,284 NIH-FIC

Yamamoto, Catherine **Student Affairs**
 Student Support Services Program
 \$2,495,403 ED

Zempleni, Janos **Nutrition and Health Sciences/
 Nebraska Center for the Prevention of
 Obesity Diseases through Dietary Molecules**
 Molecular Signatures of New Bioactive Compounds in Humans:
 Cows Milk MicroRNAs
 \$1,785,715 USDA-NIFA
 Adamec, Jiri Biochemistry/
 Nebraska Center for the Prevention of
 Obesity Diseases through Dietary Molecules
 Cui, Juan Computer Science and Engineering/
 Nebraska Center for the Prevention of
 Obesity Diseases through Dietary Molecules

Awards of \$250,000 to \$999,999

Active awards, July 1, 2016–June 30, 2017

* Indicates new in 2016–2017

Adamec, Jiri **Biochemistry**

Genetic & Genomic Approaches to Understanding
Long-Distance Transport and Carbon Partitioning in Plants
\$399,249 NSF through University of Missouri

Adenwalla, Shireen **Physics and Astronomy/ Nebraska Center for Materials and Nanoscience**

Strain Driven Dynamics of Phase Transitions
in Oxide Antiferromagnets
\$550,000 NSF
Binek, Christian Physics and Astronomy
Hong, Xia Physics and Astronomy

Ahn, Changbum **Durham School of Architectural Engineering and Construction**

Revealing Hidden Safety Hazards Using Workers'
Collective Bodily and Behavioral Response Patterns
\$427,999 NSF
Stentz, Terry Durham School of Architectural
Engineering and Construction
Vuran, Mehmet Computer Science and Engineering

Albrecht, Julie **Nutrition and Health Sciences**

Growing Healthy Kids through Healthy Communities
\$947,093 USDA-AFRI
Bergman, Gary Southeast Research and Extension Center
Food Safety for Diverse Families with Young Children
\$554,302 USDA-NIFA

Alexander, Dennis **Electrical and Computer Engineering**

*Instrumentation for Understanding and Controlling Surface
Chemistry during Femtosecond Laser Surface Processing
\$961,830 DoD-ONR-DURIP
Ianno, Natale Electrical and Computer Engineering
Zuhlke, Craig Electrical and Computer Engineering

*Tunable Laser Source for Advanced Surface Functionalization
\$480,616 DoD-ONR-DURIP

Functionalized Metallic Surfaces for Enhanced Heat Transfer,
Drag Reduction, and Novel Power Sources
\$468,213 National Strategic Research Institute
Anderson, Troy Electrical and Computer Engineering
Gogos, George Mechanical & Materials Engineering
Ianno, Natale Electrical and Computer Engineering
Ndao, Sidy Mechanical & Materials Engineering

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

EAGER: The Involvement of Blue Light in Plant Immunity
\$264,899 NSF
The *Pseudomonas Syringae* Type 3 Translocon
and the Injection of Bacterial Effectors
across the Plant Cell Wall and Plasma Membrane
\$499,778 USDA-NIFA

Allen, Craig **Natural Resources**

*Global Change, Vulnerability and Resilience:
Management Options for an Uncertain Future
\$771,345 DoD-SERDP
Twidwell, Dirac Agronomy and Horticulture
Monitoring, Mapping, Risk Assessment and
Management of Invasive Species in Nebraska
\$350,000 DOI-FWS through
Nebraska Game and Parks Commission
Zach, Allison Natural Resources

NGPC Coordination, Mapping, Monitoring, Risk Assessment and
Data Management of Wind Development in Nebraska
\$438,664 Nebraska Game and Parks Commission
Fontaine, Joseph Natural Resources

Amundsen, Keenan **Agronomy and Horticulture**

Buffalograss Breeding, Evaluation and
Management for Golf Course
\$450,000 U.S. Golf Association

Atkin, Audrey **Biological Sciences**

Mechanisms that Protect Transcripts
from Nonsense-Mediated mRNA Decay
\$620,647 NSF

Avalos, George **Mathematics**
 Analysis and Control Theory for
 Moving Boundary and Nonlinear Phenomena
 in Interactive Partial Differential Equations
 \$328,901NSF
 Toundykov, DanielMathematics

Analysis and Control of Evolutionary Plates and Elastic Structures
 \$292,773NSF
 Toundykov, DanielMathematics

Avramov, Luchezar **Mathematics**
 Cohomology over Commutative Rings:
 Structure and Applications
 \$458,919NSF

Avramova, Zoya **Biological Sciences**
 Memory of a Drought:
 Training Arabidopsis Plants to Withstand Dehydration Stress
 \$763,929NSF
 Riethoven, Jean-JackCenter for Biotechnology

Baenziger, P. Stephen **Agronomy and Horticulture**
 *Developing the Tools and Germplasm for Hybrid Wheat
 \$975,000USDA-NIFA

Banerjee, Simanti **Agricultural Economics**
 The Impacts of Conservation Auction Design on
 Auction Performance and Community Welfare:
 Evidence from Lab and Artefactual Experiments
 \$498,641USDA-NIFA

Barker, Bradley **4-H Youth Development**
 Nebraska Wearable Technologies
 \$984,189NSF
 Keshwani, JenniferBiological Systems Engineering
 Krehbiel, Michelle4-H Youth Development
 Nelson, CarlMechanical & Materials Engineering
 Nugent GwenNebraska Center for Research on
 Children, Youth, Families and Schools
 Weiss, WendyTextiles, Merchandising and Fashion Design

Barletta, Raul **Veterinary Medicine and Biomedical Sciences**
 Genome Wide Analysis of *M. Paratuberculosis* Pathogenesis
 \$499,981USDA-NIFA

Bartelt-Hunt, Shannon **Civil Engineering**
 *REU Site: Sustainability of Horizontal Civil Networks in Rural Areas
 \$352,698NSF
 Jones, ElizabethNebraska Transportation Center
 Kim, Yong RakCivil Engineering
 Li, XuCivil Engineering
 Li, YusongCivil Engineering
 Linzell, DanielCivil Engineering
 Sangster, JohnCivil Engineering
 Steelman, JoshuaNebraska Transportation Center

WSC Category 1: Influence of Climate and Agricultural Clustering
 on Groundwater Contamination by Trace Organics
 \$599,663USDA-NIFA
 Gates, JohnEarth and Atmospheric Sciences
 Li, XuCivil Engineering
 Li, YusongCivil Engineering
 Rosenbaum, DavidEconomics
 Snow, DanielWater Center
 Tang, ZhenghongCommunity and Regional Planning Program
 Thompson, EricBureau of Business Research

Bashford, Gregory **Biological Systems Engineering**
 *REU Site: Undergraduate Research Opportunities in
 Biomedical Devices at the University of Nebraska–Lincoln
 \$364,006NSF
 Nelson, CarlMechanical & Materials Engineering

Neurological Consequences of Emboli Burden
 during Cardiopulmonary Bypass
 \$278,242Gerber Foundation

Basolo, Alexandra **Biological Sciences**
 The Consistency of Behavioral Plasticity
 Across Different Selective Contexts
 \$512,998NSF

Batelaan, Herman **Physics and Astronomy**
 Coherent Electron Control
 \$398,442NSF

Becker, Donald **Biochemistry/
Nebraska Center for Redox Biology**

*Coordination of Functions by Proline Metabolic Proteins
\$273,218 NIH-NIGMS through University of Missouri-Columbia

REU Site: Training in Redox Biology
\$262,914 NSF
Stone, Julie Biochemistry/Center for Plant Science Innovation

Belashchenko, Kirill **Physics and Astronomy**

First-Principles Studies of Relativistic
Spin Interactions and Torques
\$258,646 NSF

Belli, Robert **Psychology/Gallup Research Center**

Central Plains Census Research Data Center
\$300,000 NSF
Anderson, John Economics
Thompson, Eric Bureau of Business Research

Benson, John **Natural Resources**

*Assessment of Adult Female and Neonatal Mule Deer (*Odocoileus
hemionus*) Survival, Movements and Habitat Use in Nebraska
\$504,000 Nebraska Game and Parks Commission

Berkowitz, David **Chemistry**

New Approaches to Catalyst Screening and Development
\$573,522 NSF

Bianchini Huebner, Andreia **Food Science and Technology**

*Alliance for Food Security through Reduction of
Postharvest Loss and Food Waste
\$707,273 USAID through Kansas State University
Flores, Rolando Food Science and Technology
Hallen-Adams, Heather Food Science and Technology
Weller, Curtis Biological Systems Engineering

Billesbach, David **Biological Systems Engineering**

The AmeriFlux Network Management Project
\$419,578 DOE through
University of California-Berkeley National Lab
SGP-Carbon Project
\$449,800 University of California-Berkeley National Lab

Binek, Christian **Physics and Astronomy/Nebraska Center
for Materials and Nanoscience**

*Magnetoelectrics and Spinorbitronics in
Topological Heterostructures and Superlattices
\$516,500 DoD-ONR through
University of California, Los Angeles

Blanco, Humberto **Agronomy and Horticulture**

*Assessing Innovative Strategies to Maximize Cover Crop Yields
for Biofuel across Precipitation Gradient
\$500,000 USDA-NIFA
Creech, Cody Panhandle Research and Extension Center
Elmore, Roger Agronomy and Horticulture
Francis, Charles Agronomy and Horticulture
Koehler-Cole, Katja Agronomy and Horticulture
Parsons, Jay Agricultural Economics
Ruis, Sabrina Agronomy and Horticulture
Shaver, Tim West Central Research and Extension Center
Yang, Haishun Agronomy and Horticulture

Blum, Paul **Biological Sciences**

Chromatin Modification in Archaea and
Its Role in Gene Expression
\$379,675 NSF
Van Cott, Kevin Chemical and Biomolecular Engineering
REU Site: Integrated Development of Bioenergy Systems
\$416,464 NSF
Cerutti, Heriberto Biological Sciences/
Center for Plant Science Innovation

Bobaru, Florin **Mechanical & Materials Engineering**

Stress Corrosion Cracking: The Importance of
Damage Evolution in the Layer Affected by Corrosion
\$596,188 DoD-ONR
Tan, Li Mechanical & Materials Engineering

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

*Efficacy of the START-Play Program for
Infants with Neuromotor Disorders
\$355,392 ED-IES through Duquesne University
Sheridan, Susan Educational Psychology/Nebraska Center for
Research on Children, Youth, Families and Schools

Brown, Deborah **Biological Sciences/
Nebraska Center for Virology**

*Nebraska Research Network in Functional Genomics
\$352,833 NIH-NIGMS through UNMC
Wood, Charles Biological Sciences/Biochemistry/
Nebraska Center for Virology

Buan Murphy, Nicole **Biochemistry**

EAGER: Coupling Electron Transport and
Metabolism using Biological Routers
\$299,615 NSF

Buchholz, Wallace **Biological Process Development Facility**

*Cyber-Bio-Security:
Securing the Emerging Domain of Biomanufacturing
\$706,373 National Strategic Research Institute

Transfer of the Ricin RTA (RVEc)
Drug Substance Manufacturing Process
\$291,964 DoD-Army Medical Research-JVAP through
Battelle Memorial Institute
Johnson, Scott Biological Process Development Facility

Manufacture of Recombinant Vaccine
for Phase Clinical Trial and Toxicity Testing
\$894,832 National Strategic Research Institute
Johnson, Scott Biological Process Development Facility

Bulling, Denise **Public Policy Center**

*Drought Planning Using Community Threat
and Hazard Identification and Risk Assessment
\$284,588 DOC-NOAA
Abdel-Monem, Tarik Public Policy Center
Bathke, Deborah Natural Resources
Bernadt, Tonya Natural Resources
Fuchs, Brian Natural Resources
Pytlik Zillig, Lisa Public Policy Center
Shank, Nancy Public Policy Center
Stiles, Crystal Natural Resources
Wall, Nicole Natural Resources

Developing Nebraska's Homeland Security Planning Capacity
\$300,000 DHS through Nebraska Military Department-NEMA
DeKraai, Mark Psychology/Public Policy Center
Speck, Kathryn Public Policy Center

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

Overcoming Metabolic Bottlenecks for
Enhanced Vitamin E Production in Crop Plants
\$490,000 USDA-NIFA

Sustainable Biofuel from the Great Plains to the Semi-Arid West:
Improved Germplasm for Camelina Oilseed
\$373,976 DOE through Colorado State University

Integrating the Regulatory Components
of Sphingolipid Biosynthesis in Arabidopsis
\$686,815 NSF
Stone, Julie Biochemistry

Center for Enhanced Camelina Oil (CECO)
\$901,129 DOE through Donald Danforth Plant Science Center

Carroll, John **Natural Resources**

Wildlife Management and Human Dimensions
\$255,000 DOI-FWS through
Nebraska Game and Parks Commission

Outdoor U Program
\$262,381 Nebraska Game and Parks Commission

Centurion, Martin **Physics and Astronomy**

*OP: Diffractive Imaging of Complex Isolated Molecules
\$345,704 NSF

Ultrafast Electron Diffraction from Aligned Molecules
\$451,097 DOE

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

Mechanisms of Small RNA-Mediated Translation Repression
in *Chlamydomonas*
\$560,000 NSF

Cheung, Chin Li **Chemistry**

Defect Chemistry of Metal Oxides for
Catalytic Reactive Oxygen Species Generation
\$406,283 NSF

Chizinski, Christopher **Natural Resources**

Comprehensive Evaluation of the Nebraska Outdoor Enthusiast
\$288,371DOI-FWS through
Nebraska Game and Parks Commission
Fontaine, Joseph Natural Resources
Pope, Kevin Natural Resources

Choueiry, Berthe **Computer Science and Engineering**

RI: Small: Harnessing the Power of Constraint Propagation
by Controlling Consistency Levels and Synthesizing Constraints
\$468,000NSF

Christensen, Alan **Biological Sciences**

Novel Mechanisms of Plant Mitochondrial DNA Repair
\$660,788NSF

Chung, Soonkyu **Nutrition and Health Sciences/
Nebraska Center for the Prevention of
Obesity Diseases through Dietary Molecules**

*Epigenetic Regulation of Obesity and Metainflammation by
Red Raspberry Ellagic Acid and its Microbiota-derived Metabolites,
the Urolithins
\$469,949 USDA-NIFA
Ramer-Tait, Amanda Food Science and Technology/
Nebraska Center for the Prevention of
Obesity Diseases through Dietary Molecules

Ciobanu, Daniel **Animal Science**

*Investigation of Host Genetic Role in PCV2 and PRRSV Susceptibility
\$459,200 USDA-NIFA
Kachman, Stephen Statistics
Vu, HiepNebraska Center for Virology

Claes, Daniel **Physics and Astronomy**

Strategies: Action at a Distance
\$550,000NSF
Pedersen, Jon Teaching, Learning and Teacher Education/
Center for Science, Mathematics
and Computer Education
Snow, Gregory Physics and Astronomy
Welch, Greg Nebraska Center for Research on
Children, Youth, Families and Schools

Clarke, Jennifer **Food Science and Technology/Statistics**

ATD: Statistical Ensembles
for the Identification of Bacterial Genomes
\$495,318NSF
Clarke, Bertrand Statistics

Clemente, Thomas **Agronomy and Horticulture/
Center for Plant Science Innovation/
Center for Biotechnology**

*Novel Technologies to Solve the Water Use Problem of
High Yielding C4 Bioenergy and Bioproduct Feedstocks
\$477,321DOE through
University of Illinois at Urbana-Champaign

A Resource for Functional Genomics to
Support Soybean Genetics and Breeding
\$267,240 NSF through University of Georgia

Testing Replacement of Fishmeal and Fish Oil
in *Seriola Rivoliiana* (Kampachi) Diet
with Soy-Based Protein and Oil
\$276,179United Soybean Board/Smith/Bucklin

Cohen, Myra **Computer Science and Engineering**

II-NEW: COMET: A Web Infrastructure for Research and
Experimentation in User Interactive Event-Driven Testing
\$332,104NSF

SHF: Medium: Regression Testing Techniques
for Real-World Software Systems
\$332,333NSF

Comfort, Steven **Natural Resources**

*STTR: Improving the Treatment of Contaminated Aquifers by
Developing Direct Push Slow-release Oxidant Candles with
Pneumatic Circulators
\$395,641 NIH-NIEHS
Li, YusongCivil Engineering

Cornelius, Christopher **Chemical and Biomolecular Engineering**

Nanomanufacturing of Multicomponent Inorganic Functional
Coatings and Fibers Using Sol-Gel Processing
\$297,543NSF

Couch, Brian **Biological Sciences**

*Cultivating Active Learners by Enabling Instructors to Monitor and Enhance Student Buy-in and Utilization of Research-based Instructional Strategies

\$299,920NSF
Brassil, ChadBiological Sciences

Impact of the Summer Institution on Faculty Teaching and Student Achievement
\$393,068 NSF through University of Colorado

Cress Nipper, Cynthia **Special Education and Communication Disorders**

STTR: Infant Assessment of Early Communication Risk Factors: The ECBS
\$600,123NIH-NIDCD through Brookes Publishing Company

Cui, Bai **Mechanical & Materials Engineering**

Mechanisms of Toughening Structural Ceramics by Thermal Engineered Laser Shock Peening
\$348,336NSF
Lu, Yongfeng Electrical and Computer Engineering
Nastasi, Michael Nebraska Center for Energy Sciences Research

Cupp, Andrea **Animal Science**

Causes and Consequences of Androgen Excess on Oocyte Quality
\$499,994 USDA-NIFA
Wood, Jennifer Animal Science

DeLong, John **Biological Sciences**

*Understanding the Consequences of Body Size Evolution in Ecological Communities
\$450,000 James S. McDonnell Foundation

Detweiler, Carrick **Computer Science and Engineering**

*At the Water's Edge:
Installation and Optimization of Robotic Sensing Systems
\$759,400 USDA-NIFA
Bradley, Justin Computer Science and Engineering

Co-Aerial-Ecologist:
Robotic Water Sampling and Sensing in the Wild
\$956,210 USDA-NIFA
Burgin, Amy Natural Resources
Elbaum, Sebastian Computer Science and Engineering
Waite, Matthew Journalism and Mass Communications

CSR: Small: Adaptive and Autonomous Energy Management on a Sensor Network Using Aerial Robots
\$390,000NSF

DiRusso, Concetta **Biochemistry**

Activators of Lipid Accumulation in Algae
\$550,000NSF
Adamec, Jiri Biochemistry
Cerny, Ronald Chemistry

Dodd, Michael **Psychology**

Task Switching and Visual Behavior
\$581,696NIH-NEI
Hoffman, Lesa Psychology

Dodds, Eric **Chemistry**

Gas-Phase Structural Analysis of Metal Cationized Carbohydrates
\$360,000NSF

Dombrowski, Kirk **Sociology**

REU Site: Social Network Analysis for Solving Minority Health Disparities
\$349,996NSF
Anderson-Knott, Mindy Statistics

Dowben, Peter **Physics and Astronomy/
Nebraska Center for Materials and Nanoscience**

*Spin and Dipole Ordering at Molecular Film Interfaces
\$442,944NSF

*Doped Boron Carbide Polymers: Fundamental Studies of a Novel Class of Materials for Enhanced Radiation Detection
\$363,250DoD-DTRA

Voltage-Controlled, Low-Power Nonvolatile Spintronic Memory
\$899,830 Semiconductor Research Corp. through University of Minnesota
Binek, Christian Physics and Astronomy

Du, Liangcheng **Chemistry**

Discovering New Anti-Infective Agents from *Lyso bacter*
\$838,922NIH-NIAID

Duncan, Daniel **Nebraska Innovation Campus**

Biotech Connector
\$750,000DOC-ED

Duppong Hurley, Kristin **Special Education and Communication Disorders**

University of Nebraska's Post-Doctoral Program
in Emotional Disturbance
\$643,776ED
Torkelson-Trout, Alexandra Special Education and
Communication Disorders

Randomized Clinical Trial of the Boys Town In-Home Program
\$706,989 Father Flanagan's Boys' Home

Dussault, Patrick **Chemistry**

A New Paradigm for Ether Synthesis
\$390,000NSF

Effect of Composition and Particle Size in Oxidation Catalysis
by Metal Oxide Solid Solution Nanoparticles
\$560,358NSF

Dvorak, Bruce **Civil Engineering**

Water Innovation Network for
Sustainable Small Systems (WINSSS)
\$338,160 EPA through University of Massachusetts-Amherst
Lai, Rebecca Chemistry
Ray, Chittaranjan Civil Engineering

Dwyer, Matthew **Computer Science and Engineering**

SHF: Small: Measurable Program Analysis
\$507,653NSF

Dzenis, Yuris **Mechanical & Materials Engineering**

Bulk Nanostructured Materials
for Navy Applications
\$702,271 DoD-ONR

Biomimetic Nanostructured Materials
Based on Synthetic Spider Silk
\$300,000NSF

GOALI: Nanomanufacturing of Ultrahigh-Performance Continuous
Carbon Nanofibers and Assemblies
\$299,947NSF
Papkov, Dimitry Mechanical & Materials Engineering

Elbaum, Sebastian **Computer Science and Engineering**

SHF: Small: Testing in the Presence of Continuous Change
\$425,000NSF
Rothermel, Gregg Computer Science and Engineering

SHF: Small: Solving the Search for Relevant Code
in Large Repositories with Lightweight Specifications
\$449,033NSF

Elkins, Lynne **Earth and Atmospheric Sciences**

*Assessing Segment-scale Compositional Control over
Slow-spreading Ridge Morphology
\$259,150NSF

Enders, Axel **Physics and Astronomy**

UNO-NASA Space Grant Consortium:
Neutron Voltaics for Deep Space Missions
\$546,569 NASA through UNO
Dowben, Peter Physics and Astronomy/Nebraska
Center for Materials and Nanoscience
Ianno, Natale Electrical and Computer Engineering

Erickson, Galen **Animal Science**

*Evaluation of Algal Biomass as Potential Cattle Feed
\$284,091Evonik Industries
Brodersen, Bruce Veterinary Medicine and Biomedical Sciences
Loy, J. Dustin Veterinary Medicine and Biomedical Sciences
Watson, Andrea Animal Science

Eskridge, Kent **Statistics**

GAANN Fellowship Program for Statistics
\$887,202ED

Espy, Kimberly **Psychology**

Neurocognitive Mechanisms of Developing
Executive Control and Risk for ADHD in Preschool
\$415,250NIH-NIMH
Garza, John Research and Economic Development
James, Tiffany Research and Economic Development
Molfese, Dennis Psychology
Nelson, Jennifer Research and Economic Development

Faller, Ronald**Midwest Roadside Safety Facility**

*MASH TL-4 Steel-tube Bridge Rail and Guardrail Transition
 \$926,851 DOT-IL DOT/OH DOT through
 Nebraska Department of Transportation
 Bielenberg, Robert Midwest Roadside Safety Facility
 Rosenbaugh, Scott Midwest Roadside Safety Facility
 Schmidt, Jennifer Midwest Roadside Safety Facility

*Test Level 3 Dynamic Testing and Evaluation of
 MnDOT's Noise Wall System under AASHTO MASH 2016
 \$305,115 DOT-MN DOT through
 Nebraska Department of Transportation
 Holloway, James Midwest Roadside Safety Facility
 Lechtenberg, Karla Midwest Roadside Safety Facility
 Rosenbaugh, Scott Midwest Roadside Safety Facility
 Schmidt, Jennifer Midwest Roadside Safety Facility

*Dynamic Testing and Evaluation of a New York DOT
 Prototype Box Beam Guardrail End Terminal System
 under AASHTO MASH 2016 TL-3 Guidelines
 \$265,250 New York State Department of Transportation
 through Nebraska Department of Transportation
 Lechtenberg, Karla Midwest Roadside Safety Facility
 Reid, John Mechanical & Materials Engineering
 Schmidt, Jennifer Midwest Roadside Safety Facility

Evaluation of New Jersey TCB Performance under MASH TL-3
 \$702,369 DOT-FHWA through
 Nebraska Department of Transportation
 Bielenberg, Robert Midwest Roadside Safety Facility
 Lechtenberg, Karla Midwest Roadside Safety Facility
 Reid, John Mechanical & Materials Engineering
 Rosenbaum, Scott Midwest Roadside Safety Facility

Guidelines for Placement of Breakaway Light Poles
 behind Midwest Guardrail System
 \$262,603 DOT-FHWA through
 Nebraska Department of Transportation
 Bielenberg, Robert Midwest Roadside Safety Facility
 Reid, John Mechanical & Materials Engineering

Iowa DOT Combination Bridge Separation
 Barrier with Bicycle Railing
 \$254,445 DOT-FHWA through
 Nebraska Department of Transportation
 Bielenberg, Robert Midwest Roadside Safety Facility
 Reid, John Mechanical & Materials Engineering
 Rosenbaugh, Scott Midwest Roadside Safety Facility

Development of Concrete Bridge Rails, Median Barriers,
 and Roadside Barriers for Test Level 5 of
 AASHTO MASH in Manitoba, Canada
 \$297,890 Government of Manitoba-
 Infrastructure & Transportation
 Rosenbaugh, Scott Midwest Roadside Safety Facility
 Schmidt, Jennifer Midwest Roadside Safety Facility

Phase II Conceptual Development of an Impact
 Attenuation System for Intersecting Roadways
 \$256,184 DOT-FHWA through
 Nebraska Department of Transportation
 Bielenberg, Robert Midwest Roadside Safety Facility
 Reid, John Mechanical & Materials Engineering

Adaptation of the SAFER Barrier
 for Roadside and Median Applications
 \$990,000 Nebraska Department of Transportation
 Reid, John Mechanical & Materials Engineering

Fernando, Samodha**Animal Science**

*Improving Air Quality by Reducing Methane Emissions from Cattle
 \$348,298 Nebraska Environmental Trust
 Erickson, Galen Animal Science
 Kononoff, Paul Animal Science

Dietary Intervention and Microbial Community Analysis
 toward Methane Mitigation
 \$749,941 USDA-AFRI
 Erickson, Galen Animal Science
 Jenkins, Karla Panhandle Research and Extension Center
 Klopfenstein, Terry Animal Science
 Luebbe, Matthew Panhandle Research and Extension Center
 Rasby, Richard Animal Science

Fielding, Christopher**Earth and Atmospheric Sciences**

ELT Collaborative Research:
 Causes and Effects of the Permian-Triassic Biotic Crisis
 Inferred from Continental Margin Sections and Modeling
 \$400,157 NSF
 Frank, Tracy Earth and Atmospheric Sciences

Fontaine, Joseph **Natural Resources**

Climatic Constraints on Bobwhite Quail
Populations along Their Northern Extent
\$424,913 DOI-FWS through
Nebraska Game and Parks Commission
Bachman, Gwendolyn Biological Sciences

Assessing the Effects of Habitat Incentive Programs and
Public Access Programs on Pheasant Population
Dynamics and Hunter Harvest
\$818,704 Nebraska Game and Parks Commission
Powell, Larkin Natural Resources

Forbes, Cory **Natural Resources/
Robert B. Daugherty Water for Food Institute**

IUSE: Fostering Undergraduate Students'
Disciplinary Learning and Water Literacy
\$299,018 NSF
Brozovic, Nicholas Agricultural Economics/
Robert B. Daugherty Water for Food Institute
Franz, Trenton Natural Resources/
Robert B. Daugherty Water for Food Institute

Modeling Hydrologic Systems in Elementary Science
\$327,537 NSF

Francisco, Joseph **Chemistry**

Radical Chemistry on Cloud and Aerosol Surfaces
\$269,915 NSF

Franzen-Castle, Lisa **Nutrition and Health Sciences**

*iCook: A 4-H Program to Promote Culinary Skills and
Family Meals for Obesity Prevention
\$332,321 USDA-NIFA through University of Maine
Krehbiel, Michelle Extension

Voices for Food
\$618,314 USDA-NIFA through South Dakota State University
Kroupa, Michelle Northeast Research and Extension Center
Sale, Brenda Northeast Research and Extension Center

Fritz, Sherilyn **Earth and Atmospheric Sciences/
Biological Sciences**

*FESD Type 1: The Dynamics of Mountains, Landscapes,
and Climate in the Distribution and Generation of
Biodiversity of the Amazon/Andean Forest
\$378,847 NSF through Duke University

Fuchs, Brian **Natural Resources**

*Drought Information Services for Agriculture
across the United States
\$827,501 USDA-OCE
Bathke, Deborah Natural Resources
Svoboda, Mark Natural Resources
Tadesse, Tsegaye Natural Resources

Fuchs, Matthias **Physics and Astronomy**

*Nonlinear X-Ray Optics
\$594,760 DOE

Gamon, John **Natural Resources**

Evaluating Growing Season Length and Productivity across the
ABoVE Domain Using Novel Satellite Indices and a Ground Sensor
\$665,893 NASA
Billesbach, David Biological Systems Engineering

Gardner, Scott **University of Nebraska State Museum/
Biological Sciences**

CSBR: Natural History: Securing and Digitizing Data for
Parasite Biodiversity Specimens in the Manter Laboratory
\$499,991 NSF
Racz, Gabor University of Nebraska State Museum

Gaussoin, Roch **Agronomy and Horticulture**

Development of Quality Protein Popcorn as a Non-GMO
Approach to Enhanced Nutritional Quality,
Pop Volume and Flavor Profile
\$694,200 ConAgra
Holding, David Agronomy and Horticulture
Rodriguez, Oscar Agronomy and Horticulture
Rose, Devin Food Science and Technology

Gay, Timothy **Physics and Astronomy**

*Accurate Electron Spin Optical Polarimetry (AESOP)
\$565,000 NSF
Polarized Electron Physics
\$642,714 NSF

Ge, Yufeng	Biological Systems Engineering
*VisNIR-Based Multi-sensing Penetrometer for in situ High-resolution Depth Sensing of Soils	
\$499,896	USDA-NIFA
*PAPM EAGER: Transitioning to the Next-generation Plant Phenotyping Robots	
\$285,000	USDA-NIFA
Pitla, Santosh	Biological Systems Engineering
Schnable, James	Biological Systems Engineering
IDBR: Type A: Multispectral Laser 3D Ranging and Imaging System for Plant Phenotyping	
\$534,194	NSF
Walia, Harkamal	Agronomy and Horticulture
Yu, Hongfeng	Computer Science and Engineering
Gibson, Robert	Biological Sciences
GAANN Integrative Ecology and Evolution	
\$544,420	ED
Gogos, George	Mechanical & Materials Engineering
Highly Permanent Biomimetic Micro/Nanostructured Surfaces by Femtosecond Laser Surface Processing for Thermal Management Systems	
\$563,131	NASA-EPSCoR through UNO
Alexander, Dennis	Electrical and Computer Engineering
Anderson, Troy	Electrical and Computer Engineering
Ianno, Natale	Electrical and Computer Engineering
Ndao, Sidy	Mechanical & Materials Engineering
Shield, Jeffrey	Mechanical & Materials Engineering
Golick, Douglas	Entomology
*Community as Habitat: Nebraska Communities Supporting Pollinators and Landscape Diversity through Native Waterwise Plant Habitats	
\$364,520	Nebraska Environmental Trust
Evertson, Justin	Nebraska State Forest Service
Goosby, Bridget	Sociology
Intergenerational Transmission of Race Disparities in Health	
\$546,345	NIH-NICHD
Graef, George	Agronomy and Horticulture
Soybean Breeding and Genetic Studies for Nebraska	
\$266,813	Nebraska Soybean Board

Grassini, Patricio	Agronomy and Horticulture
Benchmarking Soybean Production Systems in the North-Central USA	
\$872,920	North Central Soybean Research Program
Griep, Mark	Chemistry
Framing the Chemistry Curriculum	
\$749,285	NSF
REU Site: Research Experiences for Undergraduates in Chemical Assembly at the University of Nebraska	
\$270,000	NSF
Grosskopf, Kevin	Durham School of Architectural Engineering and Construction
IMPACT - Trade Adjustment Assistance Grant	
\$725,842	DOL through Central Community College
Harms, Peter	Management
Luthans, Fred	Management
Shen, Zhigang	Durham School of Architectural Engineering and Construction
Stentz, Terry	Durham School of Architectural Engineering and Construction
Torraco, Richard	Educational Administration
Gruverman, Alexei	Physics and Astronomy/ Nebraska Center for Materials and Nanoscience
*Domain Wall Engineering for Novel Nanoelectronics	
\$338,422	NSF
Guo, Jiantao	Chemistry
Mechanistic Study of Cellulosome through Reprogramming Its Assembly	
\$312,541	NSF
Niu, Wei	Chemistry
Guretzky, John	Agronomy and Horticulture
Developing Research and Extension Skills of Students in Integrated Agronomic Systems	
\$275,667	USDA-NIFA
Blanco, Humberto	Agronomy and Horticulture
Elmore, Roger	Agronomy and Horticulture
Howell Smith, Michelle	Nebraska Center for Research on Children, Youth, Families and Schools
Redfearn, Daren	Agronomy and Horticulture

Hage, David

Instrumentation Development:
Label-Free and Rapid 3D-Nanostructure
Ultrathin-Layer Imaging Chromatography
\$402,483NSF

Chromatographic Automation of Immunoassays
\$809,387NIH-NIGMS

Han, Ming**Electrical and Computer Engineering**

*Mechanically Durable and Thermally Stable
Fiber Bragg Gratings for Sensing Applications
\$300,872 DoD-ONR

Femtosecond Laser System for Fiber-Optic Sensor Fabrication
\$329,117 DoD-ONR-DURIP

Adaptive and Sensitive Fiber-Optic Sensor Systems for
Detection of Acoustic Emissions in Vibrational Environment
\$300,810 DoD-ONR

Multiplexed Fiber-Ring Laser Acoustic Emission
Sensors for Structural Health Monitoring
\$300,270 DoD-ONR

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

Integrating Multiple Analyses to
Understand Gene Regulatory Networks
\$496,000NSF

Harwood, David**Earth and Atmospheric Sciences/
Antarctic Drilling Program**

*Subglacial Antarctic Lakes Scientific Access (SALSA):
Integrated Study of Carbon Cycling in
Hydrologically Active Subglacial Environments
\$299,175NSF
McManis, James Engineering/Antarctic Drilling Program

SALSA Project Hot Water Drill Operations with
WISSARD Main Drill and Parts of UNL Roving Drill (Prime Mover)
\$356,894 NSF through Dartmouth College
McManis, James Engineering

Developing New Science and Technology for Subglacial Studies
of the Whillans Ice Plain and West Antarctic Ice Sheet
\$616,775NSF

Chemistry

SIMPLE: Sub-Ice Investigation of Marine
and Planetary-Analog Ecosystems
\$383,297NASA through University of Texas at Austin

Hauptman, Kelli**Center on Children, Families and the Law**

Court Improvement Project Infant/Toddler Program
\$655,843 The Sherwood Foundation®
Cole-Mossman, Jennie Center on Children, Families and the Law

Hayes, Michael**Natural Resources**

Drought Information Services for
Agriculture across the United States
\$839,442 USDA-OCE
Fuchs, Brian Natural Resources
Svoboda, Mark Natural Resources

Drought Risk Management for the United States
\$693,696 DOC-NOAA through University of Oklahoma
Bathke, Deborah Earth and Atmospheric Sciences
Fuchs, Brian Natural Resources
Knutson, Cody Natural Resources
Svoboda, Mark Natural Resources
Tadesse, Tsegaye Natural Resources

Heaton, Ruth**Teaching, Learning and Teacher Education/
Nebraska Center for Research on
Children, Youth, Families and Schools/
Center for Science, Mathematics
and Computer Education**

Math Early On II
\$662,227 Buffett Early Childhood Fund
Leeper Miller, Jennifer Child, Youth and Family Studies
Molfese, Victoria Child, Youth and Family Studies/
Nebraska Center for Research on
Children, Youth, Families and Schools/
Center for Science, Mathematics
and Computer Education

Hebert, Michael**Special Education and
Communication Disorders**

Structures: Improving the Reading Comprehension
of Struggling Readers in the 4th Grade through
Expository Text Structure and Writing
\$399,073ED
Nelson, J. Ron Special Education and
Communication Disorders

Hebets, Eileen **Biological Sciences**
 A Comparative Systems Approach to Complex Animal Signaling
 \$645,000NSF

Navigation and the Neural Integration of
 Multimodal Sensory Information in the Brain of an Arthropod
 \$285,215NSF

Heng-Moss, Tiffany **Entomology**
 Mitigating Insect Herbivory of Warm-Season Bioenergy Grasses –
 Getting Ahead of the Curve
 \$277,435USDA-ARS
 Bradshaw, JeffreyEntomology
 Lagrimini, MarkAgronomy and Horticulture

Hermiller, Susan **Mathematics**
 Topology and Geometry of Cayley Graphs for Groups
 \$251,096NSF

Holding, David **Agronomy and Horticulture**
 A Novel Functional Genomics Platform
 for Dissecting Maize Kernel Maturation and Protein Quality
 \$412,985USDA-NIFA
 Zhang, ChiBiological Sciences

Hong, Xia **Physics and Astronomy/
 Nebraska Center for Materials and Nanoscience**
 *Nanoscale Ferroelectric Control of Novel Electronic States in
 Layered Two-dimensional Materials
 \$750,262DOE

Hope, Debra **Psychology**
 *Community Partnership to Identify Intervention Targets
 to Improve Mental Health Services to Transgender Individuals
 in Underserved Areas
 \$399,418NIH-NIMH

Houston, Adam **Earth and Atmospheric Sciences**
 *Investigating Soil Moisture-Convective Precipitation Feedbacks
 with Soil Moisture Active Passive
 \$402,364NASA through The Ohio State University

NRI: Targeted Observation of Severe Local Storms
 Using Aerial Robots
 \$425,652NSF

Huang, Jinsong **Mechanical & Materials Engineering**
 RII Track-2 FEC: Low-Cost, Efficient Next-Generation Solar Cells
 for the Coming Clean Energy Revolution
 \$654,000NSF through Brown University
 Hong, XiaPhysics and Astronomy
 Zeng, XiaoChemistry

Combined Macroscopic and Nanoscopic Studies of the
 Photovoltaic Behavior of Organic Perovskite Solar Cells
 \$480,000NSF
 Gruerman, AlexeiPhysics and Astronomy

ARI-MA: Trap-Triggered Organic Field Effect Transistor
 as Low-Cost, Uncooled, Highly Sensitive Solid-State
 Photodetector for Radiation Sensing
 \$450,000NSF

Room-Temperature Operation Single-Photon Detectors Based
 on Nanoparticle Super-Gated Organic Field Effect Transistors
 \$305,000NSF

Hunt, Thomas **Northeast Research and Extension Center**
 *Evaluating the Efficacy of Insect Resistance Management Plans for
 Delaying the Onset of *Bacillus Thuringiensis* Toxin Resistance
 in Western Bean Cutworm Populations
 \$492,497USDA-NIFA
 Peterson, JulieWest Central Research and Extension Center

Hunt, William **Anthropology**
 Pilot Project: A Multidisciplinary Exploratory Study
 of Alpine Cairns, Baranof Island, Southeast Alaska
 \$290,992NSF
 Hartley, RalphAnthropology

Hutkins, Robert **Food Science and Technology**
 Application of a Novel Synbiotic to Modulate the
 Human Gut Microbiota and Improve Health in Obese Adults
 \$489,699USDA-NIFA
 Walter, JensFood Science and Technology

Ianno, Natale **Electrical and Computer Engineering**
 REU Site: Research Experience for Undergraduates in
 Nanohybrid Functional Materials
 \$306,032NSF

Ihlo, Tanya **Nebraska Center for Research on Children, Youth, Families and Schools**
 Nebraska Multi-Tiered System of Support Implementation Support Team
 \$600,270ED through Nebraska Department of Education

Irmak, Suat **Biological Systems Engineering**
 Continuous Evapotranspiration and Consumptive Water Use Measurements of Various Cropping Systems and Natural Ecosystems
 \$355,956 Nebraska Environmental Trust

Impact of Rotational Cover Crops on Soil Quality Parameters, Soil Water Holding Capacity, Soil-Water Retention Curves, and Field-Scale Water Balance Dynamics
 \$490,340 USDA-NRCS
 Chatterjee, Sumantra Biological Systems Engineering
 Djaman, Koffi Biological Systems Engineering
 Mutiibwa, Denis Biological Systems Engineering
 Odhiambo, Lameck Biological Systems Engineering
 Skaggs, Kari Biological Systems Engineering

Impact of Tillage Practices on Corn and Soybean Transpiration, Nutrient Dynamics, and Crop Water Productivity
 \$538,809 Nebraska Environmental Trust
 Eisenhauer, Dean Biological Systems Engineering
 Gates, John Earth and Atmospheric Sciences

Iyengar, Srikanth **Mathematics**
 Commutative Algebra: Homological and Homotopical Aspects
 \$435,785 NSF

Jackson-Ziems, Tamra **Plant Pathology**
 Uncovering the Genetic Basis of Tolerance to Goss's Wilt in North American Maize
 \$293,431 Dow AgroSciences

Jhala, Amitkumar **Agronomy and Horticulture**
 Pollen-Mediated Gene Flow from Acetolactate Synthase-Inhibiting Herbicide-Resistant Sorghum to Johnsongrass
 \$296,286 E. I. Dupont
 Lindquist, John Agronomy and Horticulture

Josiah, Scott **Nebraska State Forest Service**
 *Community Adjacent Fuels Award
 \$572,654 USDA-FS

Protecting, Rehabilitating and Restoring Nebraska's Pine Forest Ecosystems
 \$989,667 Nebraska Environmental Trust

Hazardous Mitigation Treatments on Non-Federal Lands
 \$431,970 USDA-FS

Conservation and Stewardship Education for Nebraska Educators and Youth
 \$295,781 USDA-FS

Kelling, Clayton **Veterinary Medicine and Biomedical Sciences**
 *Establishing One Health Best Practices for Range Bison Herds
 \$400,000 DHHS-CDC-NIOSH

Khan, Bilal **Sociology**
 *Applying Behavioral Ecological Network Models to Enhance Distributed Spectrum Access in Cognitive Radio
 \$296,969 NSF
 Dombrowski, Kirk Sociology

Kilic, Ayse **Civil Engineering/Natural Resources**
 Developing and Enhancing Landsat Derived Evapotranspiration and Surface Energy Products
 \$309,900 DOI-GS through University of Idaho

CPNRD Mapping Evapotranspiration with High Resolution Satellite Data
 \$585,832 Central Platte NRD

Kim, Yong Rak **Civil Engineering/Nebraska Transportation Center**
 *Identification and Modeling of Interphase in Cementitious Mixtures through Integrated Experimental-Computational Multiscale Approach
 \$275,362 NSF
 Turner, Joseph Mechanical & Materials Engineering/Nebraska Transportation Center

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

Getting Ready 0-3 (GR03): Supporting the Development of Infants/Toddlers through an Integrated Parent-Teacher Relationship-Based Approach
 \$999,208 DHHS-ACF
 Hawley, Leslie Nebraska Center for Research on Children, Youth, Families and Schools
 Marvin, Christine Special Education and Communication Disorders/ Nebraska Center for Research on Children, Youth, Families and Schools
 Raikes, Helen Child, Youth and Family Studies/ Nebraska Center for Research on Children, Youth, Families and Schools
 Sheridan, Susan Nebraska Center for Research on Children, Youth, Families and Schools

Knutson, Cody **Natural Resources**

*The Wind River Indian Reservation's Vulnerability to the Impacts of Drought and the Development of Decision Tools to Support Drought Preparedness
 \$253,547 DOI-GS through Colorado State University Svoboda, Mark Natural Resources
 Drought Impacts: Vulnerability Thresholds in Monitoring and Early Warning Research
 \$542,073 NSF
 Svoboda, Mark Natural Resources
 Transforming Climate Variability and Change Information for Cereal Crop Producers
 \$284,468 USDA-NIFA through Purdue University Shulski, Martha Natural Resources

Koelsch, Richard **Extension**

Nebraska Extension Implementation Program
 \$716,100 USDA-NIFA
 Bradshaw, Jeffrey Panhandle Research and Extension Center
 Cortinas, Manuel Veterinary Medicine and Biomedical Sciences
 Glewen, Keith Southeast Research and Extension Center
 Jackson-Ziems, Tamra Plant Pathology
 Jhala, Amitkumar Agronomy and Horticulture
 Kamble, Shripat Entomology
 Ogg, Clyde Agronomy and Horticulture
 Wright, Robert Entomology

Korus, Jesse **Natural Resources**

*Nebraska GeoCloud: An Integrated Bedrock Mapping and Hydrogeologic Framework Database and Map Viewer
 \$264,014 Nebraska Department of Natural Resources through Lower Platte South NRD
 Cameron, Kathleen Natural Resources
 Joekel, Matt Natural Resources

Kovalev, Alexey **Physics and Astronomy**

Statistical Mechanics of Non-Local Disordered Models with Associated Quantum LDPC Codes
 \$255,000 NSF

Krehbiel, Michelle **Extension**

Nebraska CYFAR Sustainable Community Project
 \$673,750 USDA-NIFA
 Chai, Weiwen Nutrition and Health Sciences
 Fischer, Jean Nutrition and Health Sciences
 Franzen-Castle, Lisa Nutrition and Health Sciences
 Jones, Georgia Nutrition and Health Sciences

Lackey, Susan **Natural Resources**

Developing Hydrogeologic Databases to Assist in Water Resources Management
 \$539,100 Lower Elkhorn NRD

Lee, Jaekwon **Biochemistry**

Mechanistic Insights into Copper Metabolism
 \$834,761 NIH-NIDDK
 Kim, Heejeong Biochemistry

Lewis, Elizabeth **Teaching, Learning and Teacher Education**

Longitudinal Evaluation of Noyce Science Teachers to Determine Sources of Effective Teaching
 \$799,890 NSF
 Claes, Daniel Physics and Astronomy
 Harwood, David Earth and Atmospheric Sciences
 Heng-Moss, Tiffany College of Agricultural Sciences and Natural Resources

Lewis, Jim **Mathematics/Center for Science,
Mathematics and Computer Education**
UNL-LPS Title I Mathematics
Professional Development Partnership
\$553,196 Lincoln Public Schools
Homp, Michelle Center for Science, Mathematics
and Computer Education
Smith, Wendy Center for Science, Mathematics
and Computer Education

Lewis, Ronald **Animal Science**
*Understanding Parasite Resistance in Organic Livestock
and Using a Systems Approach for Control
\$291,478 USDA-ARS

Li, Qingsheng **Biological Sciences/
Nebraska Center for Virology**
Early Innate/IgA Anti-HIV/SIV Response in Exposed Uninfected
\$417,151 NIH-NIAID through Wistar Institute

Lodi, Kathleen **Extension**
Living Soil: A New Exhibit at Raising Nebraska
\$250,000 Nebraska Environmental Trust

Loecke, Terrance **Natural Resources**
Can Improving Predictions of Soil Oxygen Dynamics Increase
Understanding of Greenhouse Gas Hotspots and Hot Moments
\$699,254 NSF
Bernadt, Tonya Natural Resources
Burgin, Amy Natural Resources
Franz, Trenton Natural Resources
Pathak, Tapan Natural Resources

Lou, Marjorie **Veterinary Medicine and Biomedical Sciences**
Protein-Thiol Mixed Disulfide in Cataractogenesis
\$409,259 NIH-NEI
Wu, Hong Li Veterinary Medicine and Biomedical Sciences

Lu, Yongfeng **Electrical and Computer Engineering**
*Radar 2021
\$356,105 Honeywell FM & T

*High-power Laser System for Repairing Al-Mg Alloy Ship Plates
\$349,506 DoD-ONR-DURIP

Post-Detonation Radiological and Nuclear Forensics
Using Laser-Assisted Mass Spectrometry in Open Air
\$750,000 DoD-DTRA

Vertically Aligned Carbon-Nanotubes Embedded
in Ceramic Matrices for Hot Electrode Applications
\$400,000 DOE-NETL

Ultrafast Fiber Laser Sampling and Plasma-Enhanced Laser Induced
Breakdown Spectroscopy to Combat WMD
\$488,000 DoD-DTRA through University of Pittsburgh

Diamond Coating Adaptive to Substrate Materials
Using a Diamond-Composite Buffer Layer
\$793,342 DoD-MDA

Fast Growth of Large Diamond Crystals in Open Air
\$275,195 NSF

Low-Temperature Epitaxy of Gallium Nitride Thin Films
\$275,338 NSF

Luck, Joe **Biological Systems Engineering**
*Using Precision Technology in On-farm Field Trials
to Enable Data-intensive Fertilizer Management
\$513,798 USDA-NIFA through
University of Illinois at Urbana-Champaign
Ferguson, Richard Agronomy and Horticulture
Glewen, Keith Agronomy and Horticulture
Mieno, Taro Agricultural Economics
Thompson, Laura Agronomy and Horticulture

*Next-generation Spray Drift Mitigation via
Field-deployable, Real-time Weather Monitoring and
Novel Spray Nozzle Control Technologies
\$499,916 USDA-NIFA
Kruger, Greg West Central Research and Extension Center
Pitla, Santosh Biological Systems Engineering

Mamo, Martha **Agronomy and Horticulture**

*Fostering the Next Generation of Agricultural and Natural Resources Professionals through Experiential Learning in Research, Education and Extension
\$281,475 USDA-NIFA
Keshwani, Jennifer Biological Systems Engineering
Lambe, David Agronomy and Horticulture
Lee, Donald Agronomy and Horticulture
Matkin, Gina Agricultural Leadership, Education and Communication
Sandall, Leah Agronomy and Horticulture
Schacht, Walter Agronomy and Horticulture
Speth, Carol Agronomy and Horticulture

Grazing Management Effect on Micro- and Macro-Scale Fate of Carbon and Nitrogen in Rangelands
\$497,000 USDA-NIFA
Bradshaw, Jeffrey Panhandle Research and Extension Center
Eskridge, Kent Statistics
Ferguson, Richard Agronomy and Horticulture
Guretzky, John Agronomy and Horticulture
Jenkins, Karla Panhandle Research and Extension Center
Schacht, Walter Agronomy and Horticulture
Volesky, Jerry West Central Research and Extension Center
Whipple, Sean Panhandle Research and Extension Center
Wingeyer, Ana Agronomy and Horticulture
Yang, Haishun Agronomy and Horticulture

Markham, Jonathan **Biochemistry**

Plant Sphingolipids: New Targets for Engineering Cold-Tolerance in Crops
\$408,000 USDA-NIFA
Cahoon, Edgar Biochemistry

McMahon, Patrice **Political Science**

Study of the U.S. Institute on Civic Engagement
\$687,445 DOS-BECA
Major, Linda Student Affairs
Pfister, Damien Communication Studies

Meinke, Lance **Entomology**

Characterizing Resistance Evolution to Pyrethroid Insecticides
\$528,340 Monsanto
Miller, Nicholas Entomology

Miller, Nicholas **Entomology**

The Genetics of Emerging Resistance to Cry3Bb1 Corn
\$500,000 Monsanto
Meinke, Lance Entomology

Mitra, Amit **Plant Pathology**

Development of Transgenic Beans for Broad-Spectrum Resistance against Fungal Diseases
\$250,000 USDA-NIFA
Steadman, James Plant Pathology
Urrea Florez, Carlos Panhandle Research and Extension Center

Moreau, Regis **Nutrition and Health Sciences**

Bioactivity of Curcumin and Gut Inflammation
\$480,214 USDA-NIFA
Hage, David Chemistry

Mower, Jeffrey **Agronomy and Horticulture**

Tracing Processes of Genome Evolution using Plantaginaceae
\$594,190 NSF

Nastasi, Michael **Mechanical & Materials Engineering/
Nebraska Center for Energy Sciences Research**

Radiation Tolerance and Mechanical Properties of Advanced Ceramic/Metal Composites
\$994,292 DOE

Neale, Christopher **Biological Systems Engineering/
Robert B. Daugherty Water for Food Institute**

*Improving Variable Rate Irrigation Efficiency using a Real-time Soil Water Adaptive Control Model Informed by Sensors Deployed on Unmanned Aircraft Systems
\$499,978 USDA-NIFA
Ge, Yufeng Biological Systems Engineering
Heeren, Derek Biological Systems Engineering
Luck, Joe Biological Systems Engineering
Meyer, George Biological Systems Engineering
Woldt, Wayne Biological Systems Engineering

Nelson, Carl **Mechanical & Materials Engineering**

Multifunction Robotic Tools for Natural Orifice
and Single-Incision Surgery

\$395,905 NIH-NIBIB
Farritor, Shane Mechanical & Materials Engineering

A Novel Pediatric Gait Rehabilitation Device

\$394,911 NIH-NICHD

REU Site: Undergraduate Research Opportunities
in Biomedical Devices at the University of Nebraska-Lincoln

\$303,265 NSF
Bashford, Gregory Biological Systems Engineering

Nelson, Timothy **Psychology/
Center for Brain, Biology and Behavior**

*Role of Executive Control in Adolescent Substance Use
and Co-occurring Problems

\$339,115 NIH-NIDA through
Boys Town National Research Institute

Espy, Kimberly Psychology/
Center for Brain, Biology and Behavior

Nelson, Jennifer Psychology/
Center for Brain, Biology and Behavior

Nguyen, Lim **Durham School of Architectural
Engineering and Construction**

*Development of HPC+ Components for

MIL-STD 188-125-1 Compliant Shotcrete Dome Facility

\$325,052 American Business Continuity Domes, Inc
Tuan, Christopher Civil Engineering

Niu, Wei **Chemistry**

SusChEM: Novel 1,2-Propanediol Biosynthesis from
Renewable Feedstocks through Enzyme Discovery

\$317,611 NSF
Guo, Jiantao Chemistry

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

*Analysis of Effective Science Coaching: What, Why and How

\$699,584 NSF
Houston, James Nebraska Center for Research on
Children, Youth, Families and Schools

Kunz, Gina Nebraska Center for Research on
Children, Youth, Families and Schools

Oglesby, Robert **Earth and Atmospheric Sciences**

Program to Strengthen Institutional Capacity to
Better Assess Climate Impacts
in Latin America and the Caribbean (LAC)

\$307,000 Inter-American Development Bank
Rowe, Clinton Earth and Atmospheric Sciences

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

Molecular Structures of Porcine Reproductive
and Respiratory Virus (PRRSV)
that Contribute to Protective Immunity

\$500,000 USDA-AFRI
Pattnaik, Asit Veterinary Medicine and Biomedical Sciences

Pannier, Angela **Biological Systems Engineering**

*Understanding Molecular Factors that
Regulate Initiation of Porcine Embryo Elongation

\$465,000 USDA-NIFA

Pérez, Lance **Electrical and Computer Engineering**

Spatial Visualization Skills and Engineering Problem Solving

\$645,943 NSF

A Chautauqua Program for the 21st Century

\$448,603 NSF

Piepenbrink, Kurt **Food Science and Technology**

*Structural Basis of Type IV Pilus-Induced
Clostridium difficile Microcolony Formation

\$259,560 NIH-NIAID

Pierobon, Massimiliano **Computer Science and Engineering**

MCB EAGER: TelePathy: Telecommunication Systems Modeling and
Engineering of Cell Communication Pathways

\$307,700 NSF
Buan Murphy, Nicole Biochemistry

Powell, Larkin **Natural Resources**

Management of Private Grazing Lands in Nebraska:
Do Differences in Ranch Management and Landowner
Characteristics Affect Conservation Impacts

\$344,521 Nebraska Game and Parks Commission
Schacht, Walter Agronomy and Horticulture

Persistent Effects of Wind-Power Development
on Prairie Grouse in Nebraska
\$717,487 Nebraska Game and Parks Commission
Brown, Mary Natural Resources
Fontaine, Joseph Natural Resources

Powers, Robert **Chemistry**
*ABI Innovation: A Metabolomics Toolkit
for NMR and Mass Spectrometry
\$695,000 NSF

Proctor, Christopher **Agronomy and Horticulture**
*Optimizing Cropping Systems for Resilience to Stress:
The Role of Maturity Group Selection and Cover Crops
on Yield, Weeds, Insects and Microbes
\$461,187 USDA-NIFA
Drewnoski, Mary Animal Science
Elmore, Roger Agronomy and Horticulture
Everhart, Sydney Plant Pathology
McMechan, Anthony Eastern Nebraska Research
and Extension Center
Parsons, Jay Agricultural Economics
Redfearn, Daren Agronomy and Horticulture
Werle, Rodrigo West Central Research and Extension Center

Qian, Yi **Electrical and Computer Engineering**
Spectrum and Energy Efficient Radio Resource Access in
Wireless Networks with Densely Deployed Underlay Devices
\$300,000 NSF
Sharif-Kashani, Hamid Electrical and Computer Engineering

Qiao, Wei **Electrical and Computer Engineering**
*Online Nonintrusive Identification and Monitoring of Internal Weak
Points of Electro-energy Devices Using Package Surface Temperature
\$337,897 NSF

Cognitive Prediction-Enabled Online Intelligent Fault Diagnosis
and Prognosis for Wind Energy Systems
\$359,852 NSF

Qu, Liyan **Electrical and Computer Engineering**
*Voltage and Frequency Power Converter
Based on Electromagnetic Induction
\$493,349 DOE-ARPA-E

Raikes, Helen **Child, Youth and Family Studies**
Evaluation of Early Steps to School Success
\$679,993 Save the Children

Rajca, Andrzej **Chemistry**
Nitrogen-Centered Radicals
\$480,000 NSF

Ramamurthy, Byravamurthy **Computer Science and Engineering**
CC*DNI Integration: Innovating Network Cyberinfrastructure
through Openflow and Content Centric Networking in Nebraska
\$572,112 NSF
Bockelman, Brian Computer Science and Engineering
Swanson, David Computer Science and Engineering

Ray, Chittaranjan **Water Center/Civil Engineering/
Robert B. Daugherty Water for Food Institute**
*Sustaining Agriculture through Adaptive Management Resilient to
a Declining Ogallala Aquifer and Changing Climate
\$945,567 USDA-NIFA through Colorado State University
Rudnick, Daran West Central Research and Extension Center/
Robert B. Daugherty Water for Food Institute
Schoengold, Karina Agricultural Economics/Robert B. Daugherty
Water for Food Institute
Shaver, Tim West Central Research and Extension Center/
Robert B. Daugherty Water for Food Institute

*Integrating the Vadose Zone for Improved Management
of Nebraska Ground Water Quality
\$276,813 Nebraska Environmental Trust
Snow, Daniel Water Center/
Robert B. Daugherty Water for Food Institute

Rebarber, Richard **Mathematics**
Nebraska Math Scholars
\$599,996 NSF
Curto, Carina Mathematics
Hartke, Stephen Mathematics
Williams, Amber Student Affairs
Woodward, Gordon Mathematics

Riley, Mark **Biological Systems Engineering**
Nebraska AgrAbility
\$729,000 USDA-NIFA
Frecks, Nancy West Central Research and Extension Center
Nielsen, Sharon West Central Research and Extension Center

Rosenbaugh, Scott **Midwest Roadside Safety Facility**

*Cost-efficient, TL-2 Bridge Rail for Low-volume Roads
\$309,141 DOT-FHWA through
Nebraska Department of Transportation
Bielenberg, Robert Midwest Roadside Safety Facility
Faller, Ronald Midwest Roadside Safety Facility

Samal, Ashok **Computer Science and Engineering**

Speech Movement Classification for Diagnosing and Treating ALS
\$256,061 NIH-NIDCD through
MGH Institute of Health Professions
Marx, David Statistics

Saraf, Ravi **Chemical and Biomolecular Engineering**

*High Specificity MicroRNA Microarray Analysis without
PCR for Cancer Screening and Research
\$490,048 NIH-NCI

Scalora, Mario **Public Policy Center/Psychology**

*The Influence of Subjective and Objective Rural School Security
on Law Enforcement Engagement Models
\$645,952 DOJ-NIJ
Bulling, Denise Public Policy Center
DeKraai, Mark Public Policy Center

Schacht, Walter **Agronomy and Horticulture**

Demonstrating Grazing Land Resilience to Drought
in the Central and Northern Great Plains
\$363,120 USDA-NRCS through South Dakota State University
Knutson, Cody Natural Resources
Stockton, Matthew West Central Research and Extension Center
Volesky, Jerry West Central Research and Extension Center

Schnable, James **Agronomy and Horticulture/
Center for Plant Science Innovation**

Identifying Mechanisms Conferring Low Temperature Tolerance
in Maize, Sorghum, and Frost-tolerant Relatives
\$455,000 USDA-NIFA
Roston, Rebecca Biochemistry/
Center for Plant Science Innovation

Schubert, Eva **Electrical and Computer Engineering**

MRI: Development of an Ion-Beam-Assisted Glancing Angle
Deposition Tool (iGLAD) for 3D Nanostructure Thin Film Preparation
with in situ Ellipsometry Control
\$411,501 NSF
Bartelt-Hunt, Shannon Civil Engineering
Hage, David Chemistry
Hofmann, Tino Electrical and Computer Engineering
Ianno, Natale Electrical and Computer Engineering
Korlacki, Rafal Electrical and Computer Engineering
Lai, Rebecca Chemistry
Pannier, Angela Biological Systems Engineering
Schmidt, Daniel Electrical and Computer Engineering
Schubert, Mathias Electrical and Computer Engineering
Sinitskii, Alexander Chemistry

Searls, Mindi **Earth and Atmospheric Sciences/
Center for Science, Mathematics and
Computer Education**

GP-IMPACT: Building a Comprehensive
Geoscience Learning Experience
\$400,075 NSF
Arthurs, Leilani Earth and Atmospheric Sciences/
Center for Science, Mathematics and
Computer Education
Bathke, Deborah Earth and Atmospheric Sciences
Harwood, David Earth and Atmospheric Sciences

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

Development of Radically Enhanced alnico Magnets (DREaM)
\$600,000 DOE-Ames Laboratory
Shield, Jeff Mechanical & Materials Engineering
Skomski, Ralph Physics and Astronomy
DMREF: Design and Synthesis of Novel Magnetic Materials
\$461,154 NSF
Xu, Xiaoshan Physics and Astronomy

Shadwick, Bradley **Physics and Astronomy**

*High Fidelity Modeling of Laser-Plasma Accelerators
\$450,000 NSF
Kalmykov, Serge Physics and Astronomy
Theory and Modeling of Petawatt Laser Pulse
Propagation in Low Density Plasmas
\$419,999 DOE
Kalmykov, Serge Physics and Astronomy

Shield, Jeffrey **Mechanical & Materials Engineering/
Nebraska Center for Materials and Nanoscience**

*Grain and Interface Engineering for
High-efficiency Hybrid Perovskite Solar Cells
\$450,000DoD-AFOSR

Development of Textured High Energy Nanocomposite
Permanent Magnets for Electric Motors and Generators
\$347,726National Oilwell Varco

MPPR Sauce Fluid Dynamic Study for Perfect Dispense System
\$550,000 ConAgra
Zhang, Zhaoyan Mechanical & Materials Engineering

Sinitskii, Alexander **Chemistry**

*Extended Atomically Precise Graphene Nanoribbons and
Nanostructures with Improved Electrical Conductivity
\$768,496 DoD-ONR
Enders, Axel Physics and Astronomy

Polarization-Mediated Modulation of Electronic Properties
of Hybrid Ferroelectric Based Heterostructures
\$409,996NSF
Gruverman, Alexei Physics and Astronomy

Smith, Wendy **Mathematics/Center for Science,
Mathematics and Computer Education**

*Student Engagement in Mathematics through
an Institutional Network for Active Learning
\$332,442NSF
Donsig, AllanMathematics
Wakefield, NathanMathematics

NebraskaNOYCE Phase II:
Investigating the Impact in High-Need Districts
\$299,878NSF
Lai, Yuan-Juang Mathematics/Center for Science,
Mathematics and Computer Education
Lewis, Jim Mathematics/Center for Science,
Mathematics and Computer Education
Males, LorraineTeaching, Learning and Teacher Education

Midwest Regional Robert Noyce Connections 2014-2015:
Building Communities of Practice

\$799,420NSF
Lewis, ElizabethTeaching, Learning and Teacher Education
Lewis, Jim Mathematics/Center for Science,
Mathematics and Computer Education
Pedersen, JonTeaching, Learning and Teacher Education
Swidler, StephenTeaching, Learning and Teacher Education

Smyth, Jolene **Sociology/
Survey Research and Methodology**

*Using Statistical and Survey Methodology Research to Improve
or Redesign Surveys Related to Science and Engineering
\$345,000 USDA-NASS
Olson, Kristen Sociology/Survey Research and Methodology

Snow, Daniel **Water Center/
Robert B. Daugherty Water for Food Institute**

Vadose Zone Nitrate Study for the City of Hastings, NE: 2015
\$299,982City of Hastings, NE
Ray, ChittaranjanWater Center/
Robert B. Daugherty Water for Food Institute

Snow, Gregory **Physics and Astronomy**

GAANN Fellowships for Physics at UNL
\$408,315ED
Adenwalla, Shireen..... Physics and Astronomy
Batelaan, Herman Physics and Astronomy
Claes, Daniel..... Physics and Astronomy
Dominguez, Aaron..... Physics and Astronomy
Gay, Timothy..... Physics and Astronomy
Uiterwaal, Cornelis Physics and Astronomy

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

Computational Creativity to Improve Computer Science Education for
CS and non-CS Undergraduates
\$873,250NSF
Ingraham, Elizabeth Art, Art History and Design
Moore, Brian Music
Ramsay, Stephen English
Shell, Duane Educational Psychology

Sokolov, Andrei **Physics and Astronomy/
Nebraska Center for Materials and Nanoscience**

Robust Room Temperature Electric Field Control
of Structural Magnetic and Transport Properties
of Ultra-Thin Shape Memory Heusler Alloys Films
\$364,567NSF

Spangler, Matthew **Animal Science**

National Program for Genetic Improvement
of Feed Efficiency in Beef Cattle
\$488,959 USDA-NIFA through University of Missouri

Starace, Anthony **Physics and Astronomy**

Strong Field & Ultrafast Atomic and Molecular Processes
\$270,000NSF

Steadman, James **Plant Pathology**

Feed the Future Innovation Lab for
Collaborative Research on Grain Legumes
\$392,749AID through Michigan State University
Urrea Florez, Carlos Panhandle Research and Extension Center

Stevens, Jeffrey **Psychology/
Center for Brain, Biology and Behavior**

*Similarity as a Process Model of Intertemporal Choice
\$655,376NSF
Soh, Leen-Kiat Computer Science and Engineering/
Center for Brain, Biology and Behavior

Storz, Jay **Biological Sciences**

Causes of Parallel Molecular Evolution:
Insights from Protein Engineering
\$262,752NSF
Moriyama, Hideaki Biological Sciences

Subbiah, Jeyamkondan **Biological Systems Engineering/
Food Science and Technology**

*Immersive Educational Game Simulations to Enhance
Understanding of Corn-Water Ethanol-Beef System Nexus
\$999,644NSF
Chen, Jiajia Food Science and Technology
Guru, Ashu Extension
Keshwani, Deepak Biological Systems Engineering
Keshwani, Jenny Biological Systems Engineering
Koelsch, Richard Biological Systems Engineering
Rosenbaum, David Bureau of Business Research
Thompson, Eric Bureau of Business Research

Radio Frequency Processing for Improving
Microbiological Safety of Low Moisture Foods
\$299,989 USDA-NIFA
Birla, Sohan Biological Systems Engineering
Thippareddi, Harshavardhan Food Science and Technology

Sutter, Eli **Mechanical & Materials Engineering**

*In-situ Electron Microscopy of DNA-guided Self-assembly
and Reconfiguration of 3D Nanocrystal Superlattices
\$534,231DoD-ARO
Sutter, Peter Electrical and Computer Engineering

Hybrid Materials by Integration of
Semiconductor Nanowires and Layered Crystals:
Chemical Transformations and Functional Properties
\$500,000 NSF
Sutter, Peter Electrical and Computer Engineering

Sutter, Peter **Electrical and Computer Engineering**

*Exploring and Embracing Heterogeneity
in Atomically Thin Energy Materials
\$600,000 DOE
Sutter, Eli Mechanical & Materials Engineering

Tadesse, Tsegaye **Natural Resources**

Seasonal Prediction of Hydro-Climatic Extremes
in the Greater Horn of Africa under Evolving Climate Conditions
to Support Adaptation Strategies
\$987,767 NASA
Baigorria, Guillermo Agronomy and Horticulture/
Natural Resources
Beyene, Shimelis Anthropology
Hayes, Michael Natural Resources
Wardlow, Brian Natural Resources

Takacs, James **Chemistry**

Catalytic Asymmetric Hydroboration:
Uncapping the Potential with Two-Point Binding Substrates
\$900,114NIH-NIGMS

Taylor, Stephen **Food Science and Technology**
 Effects of Food Processing on Food Allergens - Assessment and
 Improvement of Detection Methods
 \$500,000 USDA-NIFA
 Baumert, Joseph Food Science and Technology
 Hutkins, Robert Food Science and Technology
 Keshwani, Deepak Biological Systems Engineering
 Subbiah, Jeyamkondan Biological Systems Engineering/
 Food Science and Technology

Tenhumberg, Brigitte **Biological Sciences/Mathematics**
 Evaluating Integrated Resistance Management Strategies
 in Variable Environments
 \$388,279 Monsanto
 Chirakkal, Haridas Biological Sciences
 Meinke, Lance Entomology

Terry, Benjamin **Mechanical & Materials Engineering**
 *En Route Care Patient Viability Technology Development
 \$308,015 National Strategic Research Institute
 Oxygen Microbubble Peritoneal Ventilation Treatment
 for Acute Respiratory Distress Syndrome
 \$405,929 NIH-NHLBI

Thomas, Steven **Natural Resources**
 Dimensions: An Integrative Traits-Based Approach
 to Predicting Variation in Vulnerability
 of Tropical and Temperate Stream Biodiversity to Climate Change
 \$310,811 NSF

Trainin, Guy **Teaching, Learning and Teacher Education**
 NEA Foundation Grant Evaluation OPS
 \$336,008 National Education Association Foundation through
 Omaha Public Schools
 Hamann, Edmund Teaching, Learning and Teacher Education

Tuan, Christopher **Civil Engineering**
 Conductive Concrete for Airfield Heated Pavement Construction
 \$276,649 DOT-FAA
 Nguyen, Lim Electrical and Computer Engineering

Tucker, Shane **University of Nebraska State Museum**
 Highway Paleontology Program
 \$765,766 DOT-FHWA through
 Nebraska Department of Transportation

Turner, Joseph **Mechanical & Materials Engineering**
 *An Integrated Experimental and Computational Approach
 to Discover Biomechanical Mechanisms
 of Leaf Epidermal Morphogenesis
 \$385,927 NSF
 Development of Improved Product Performance
 through Optimization and Modeling of
 Engineering Materials, Processing, and Function
 \$428,963 Amsted Industries

Twidwell, Dirac Jr. **Agronomy and Horticulture**
 Juniper Invasions and Landscape Intervention Potential:
 A Statewide Assessment
 \$433,136 DOI-FWS through
 Nebraska Game and Parks Commission
 Allen, Craig Natural Resources

Tyler, Kimberly **Sociology**
 Stressors, Protective Factors, and Substance Use
 among Homeless Youth and Young Adults
 \$408,768 NIH-NIDA
 Olson, Kristen Sociology/Survey Research and Methodology

Umstadter, Donald **Physics and Astronomy**
 *Ultra-low Emittance Electron Beams
 from Laser-Plasma Photo-cathodes
 \$314,998 NSF
 Banerjee, Sudeep Physics and Astronomy
 Chen, Shouyuan Physics and Astronomy

Van Den Broeke, Matthew **Earth and Atmospheric Sciences**
 Aeroecology as a Test-Bed for Interdisciplinary STEM Training
 \$391,463 NSF through University of Oklahoma
 Quantifying the Relative Roles
 of Progressive Land Use Change, Irrigation, and Remote Forcing
 in Southern Great Plains Precipitation Variability
 \$446,697 NSF
 Hu, Qi Natural Resources
 Oglesby, Robert Earth and Atmospheric Sciences/
 Natural Resources

van Dijk, Karin **Biochemistry**
 *Engaging the Next Generation of Biochemists
 \$599,096 NSF
 Couch, Brian Biological Sciences
 Helikar, Tomas Biochemistry
 Roston, Rebecca Biochemistry

Van Ethen, James **Plant Pathology**
 Evaluation of the Natural History of Algal Viruses Associated
 with Patients Diagnosed with Human Psychiatric Disorders
 \$397,147 Stanley Medical Research Institute

Vu, Hiep **Nebraska Center for Virology**
 Determine the Correlates of Protection against Porcine Reproductive
 and Respiratory Syndrome Viruses Infection
 \$477,635 USDA-NIFA
 Ma, Fangrui Center for Biotechnology/
 Nebraska Center for Virology
 Osorio, Fernando Veterinary Medicine and Biomedical Sciences/
 Nebraska Center for Virology

Vuran, Mehmet Can **Computer Science and Engineering**
 *NeTS: Small: 2G for UG: High Data-rate and Long-range
 Communication Techniques for Wireless Underground Networks
 \$450,000 NSF
 Irmak, Suat Biological Systems Engineering

NeTS: Small: Advancing Time Synchronization
 for Sustainable Wireless Networks
 \$500,000 NSF
 Zhong, Ziguo Computer Science and Engineering

CyberSEES: Type 1: Improving Crop Production Efficiency
 Using Wireless Underground Sensor-Guided Irrigation Systems
 \$300,000 NSF
 Irmak, Suat Biological Systems Engineering

Cog-TV with Neighborhood Watch:
 Business and Technical Aspects
 of Cognitive Radio TV Sets for Enhanced Spectrum Access
 \$283,879 NSF
 Batur, Demet Management

Walia, Harkamal **Agronomy and Horticulture**
 *UNL-VBC Collaboration: Using Plant Phenomics
 to Capture Dynamic Growth Responses in Maize
 \$341,500 Valent USA

ABI Innovation: A Computational Framework for Integrating Image
 Informatics with Transcriptomics for Discovering Spatiotemporally
 Resolved Regulatory Gene Networks in Plants
 \$563,801 NSF
 Yu, Hongfeng Computer Science and Engineering
 Zhang, Chi Biological Sciences
 Zhang, Qi Statistics

Walker, Judy **Mathematics/Center for Science,
 Mathematics and Computer Education**
 *NSF INCLUDES: WATCH US --
 Women Achieving Through Community Hubs in the United States
 \$299,024 NSF

Walker, Mark **Mathematics**
 GAANN: Department of Mathematics
 \$544,420 ED
 Bellows, Laurie Graduate Studies
 Hermiller, Susan Mathematics
 Lewis, Jim Mathematics
 Rebarber, Richard Mathematics
 Walker, Judy Mathematics

Walters, Cory **Agricultural Economics**
 Northern Plains Regional Farm Business Management
 and Benchmarking Partnership
 \$443,561 USDA-NIFA
 Banerjee, Simanti Agricultural Economics
 Lubben, Bradley Agricultural Economics

Wang, Jian **Mechanical & Materials Engineering**
 *Computational and Experimental Characterization
 of Twin-Twin Interactions in Hexagonal Metals
 \$388,037 NSF
 *Plasticity of High-strength Multiphase Metallic Composites
 \$250,018 DOE through University of Michigan

Wang, Lily **Durham School of Architectural Engineering and Construction**

Evidence-Based Interactions between Indoor Environmental Factors and Their Effects on K-12 Student Achievement
\$998,433 EPA
Bovaird, James Educational Psychology
Lau, Josephine Durham School of Architectural Engineering and Construction
Waters, Clarence Durham School of Architectural Engineering and Construction

Waters, Brian **Agronomy and Horticulture**

Discovering New Aspects of Iron Uptake Regulation Controlled by the *efe* Gene
\$452,000 USDA-NIFA

Exploring Iron & Copper Cross-Talk in Iron Deficient *Arabidopsis Thaliana*
\$391,077 NSF

Weaver, Eric **Biological Sciences/Nebraska Center for Virology**

Foundation Immunogens for Influenza Vaccines
\$629,370 NIH-NIAID

Whitbeck, Les **Sociology**

*Stress and Type 2 Diabetes among Indigenous Adults
\$260,343 NIH-NIDDK through University of Minnesota Duluth
Crawford, Devan Sociology
Hartshorn, Kelley Sociology

White, Brett **Animal Science**

*Role of GnRH-II and Its Receptor in Testicular Function of Swine
\$480,000 USDA-NIFA

Wiener, Richard **Psychology**

Therapeutic Jurisprudence and Probationer Decision Making: A Social Cognitive Model
\$641,614 DOJ-NIJ

Wilson, Mark **Biochemistry**

Biochemical Definition of LRRK2 Protein Complexes
\$409,704 Michael J. Fox Foundation

Wilson, Richard **Plant Pathology**

IOS: Molecular Mechanisms Connecting Plant Defense Suppression with *Magnaporthe oryzae* Growth in Rice Cells
\$570,000 NSF

Defining Mechanisms of Nutrient Adaptation to Host Rice Cells by the Blast Fungus
\$500,000 USDA-NIFA

Witt-Swanson, Lindsey **Sociology/Bureau of Sociological Research**

Behavioral Risk Factor Surveillance Survey
\$559,234 DHHS-CDC through Nebraska Department of Health and Human Services
Gohring, Nicole Bureau of Sociological Research

2016-2017 Student Health and Risk Prevention Surveillance System
\$287,847 DHHS-SAMHSA through Nebraska Department of Health
Meiergerd, Kimberly Bureau of Sociological Research

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

*Comparative Virology Research Training Program
\$830,930 NIH-NIAID
Van Etten, James Plant Pathology

Chronic HIV Infection and Aging in NeuroAIDS (CHAIN) Center
\$521,954 NIH-NIMH through UNMC

Wortmann, Charles **Agronomy and Horticulture**

Developing and Fine-Tuning Fertilizer Recommendations within an Integrated Soil Fertility Management Framework
\$444,228 Alliance for Green Revolution in Africa through CABI

Wortman, Samuel **Agronomy and Horticulture**

*Leveraging Management to Speed Degradation of Bio-based Mulches in Soil
\$499,718 USDA-NIFA
Drijber, Rhae Agronomy and Horticulture

Wragge, Annette **Special Education and Communication Disorders**

Nebraska Autism Spectrum Disorders Network, State Coordinator Project
\$303,895 ED through Nebraska Department of Education

Xu, Lisong **Computer Science and Engineering**

*NeTS: Small: Exploring the Design Space of Bandwidth Estimation Methods Using Packet Sequence Information
\$498,878NSF

NeTS: Small: Systematically and Scalably Testing Network Programs under Packet Dynamics
\$499,810NSF
Elbaum, SebastianComputer Science and Engineering

Yu, Hongfeng **Computer Science and Engineering**

EarthCube IA: Optimal Data Layout for Scalable Geophysical Analysis in a Data-Intensive Environment
\$332,941NSF

CGV: Small: A Scalable Visual Analytics Framework for Exascale Scientific Simulations
\$405,378NSF

Yuen, Gary **Plant Pathology**

*Genetics and Genomics of Pathogen Resistance in Switchgrass
\$297,152USDA-ARS through DOE

Zempleni, Janos **Nutrition and Health Sciences**

Roles of Milk-Borne MicroRNAs in the Regulation of Gut Inflammation
\$499,812USDA-NIFA
Ramer-Tait, AmandaFood Science and Technology

Assessment of the Role of microRNAs in Infant Formulas for Bone Health
\$286,799Gerber Foundation

Zeng, Lirong **Plant Pathology**

*Role of Organelle-localized Lys63-linked Ubiquitination in Plant Immunity
\$685,000NSF

Zera, Anthony **Biological Sciences**

Nutritional Physiology of Life History Allocation Trade-Offs
\$343,500NSF

Zhu, Jinying **Civil Engineering**

*Online Monitoring System for Concrete Structures Affected by Alkali-Silica Reaction (ASR)
\$800,000DOE

Zygielbaum, Art **Natural Resources**

Dimensions NASA: Linking Remotely Sensed Optical Diversity to Genetic, Phylogenetic and Functional Diversity to Predict Ecosystem Processes
\$716,893NSF

Early Career Awards

Active awards, July 1, 2016–June 30, 2017

* Indicates new in 2016–2017

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.



Bartelt-Hunt, Shannon

Civil Engineering
CAREER: The Influence of Soil Attachment
on the Biologic Activity of Extracellular Proteins
\$413,883NSF



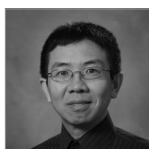
Bassett, Gilles

Agronomy and Horticulture/Biochemistry/
Center for Plant Science Innovation
CAREER: The Metabolism of Prenylated
Benzoquinones through the Lens of
Plant-Prokaryote Phylogenomics
\$784,820NSF



Gu, Linxia

Mechanical & Materials Engineering
CAREER: Bridging Cellular-Level Changes
to Vascular Tissue Response to Reveal Basic
Mechanisms of Restenosis
\$457,308NSF



Guo, Jiantao

Chemistry
CAREER: Quadruplet Codon Decoding:
Mechanistic Studies and Application in
Cellular Genetic Code Expansion
\$622,320NSF



Hong, Xia

Physics and Astronomy
CAREER: Interface Engineered Multiferroics
and Nanoscale Phase Modulation in Complex
Oxide Heterostructures
\$600,000NSF



Lai, Rebecca

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



Li, Xu

Civil Engineering
CAREER: Effects of Nutrients on
Antimicrobial Resistance and Subsistence
\$400,000NSF



Lim, Jung Yul

Mechanical & Materials Engineering
CAREER: Adipocytic Mechanotransduction
for Obesity
\$430,554NSF



Males, Lorraine

Teaching, Learning and Teacher Education
*CAREER: Examining Prospective Secondary
Mathematics Teachers Learning to Use Curriculum
Materials to Plan and Enact Instruction
\$628,995NSF



Montooth, Kristi

Biological Sciences
CAREER: The Physiology and Genetics of
Adaptation in a Complex Environment
\$683,365NSF



Morin, Stephen

Chemistry/Nebraska Center for
Materials and Nanoscience
CAREER: Morphological Control of Crystalline
Materials Using Deformations of Elastomeric
Substrates and Fluid Flow for the Bottom-up
Fabrication of Hybrid Materials
\$649,474NSF

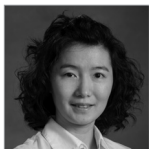


Pannier, Angela

Biological Sciences
CAREER: Nanostructured Thin Films for
Substrate-Mediated Gene Delivery
\$419,051NSF

**Qiao, Wei**

Electrical and Computer Engineering
 CAREER: Stochastic Optimization and Coordinating Control for the Next-Generation Electric Power System with Significant Wind Penetration
 \$407,999NSF

**Qu, Liyan**

Electrical and Computer Engineering
 CAREER: Adjustable-Voltage-Ratio Magnetolectric Transformer: A New Voltage Conversion and Control Device for Smart Grids
 \$500,000NSF

**Sinitskii, Alexander**

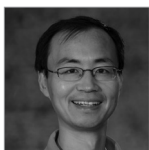
Chemistry
 CAREER: Narrow Graphene Nanoribbons with Tunable Electronic Properties
 \$538,477NSF

**Stains, Marilyne**

Chemistry/Center for Science, Mathematics and Computer Education
 CAREER: The Winding Roads to Effective Teaching: Characterizing the Progressions in Instructional Knowledge and Practices of STEM Faculty
 \$959,849NSF

**Vuran, Mehmet**

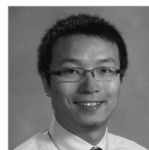
Computer Science and Engineering
 CAREER: Bringing Wireless Sensor Networks Underground
 \$418,760NSF

**Xu, Xiaoshan**

Physics and Astronomy
 CAREER: Hexagonal Ferrite Thin Films for the High-Temperature Magnetolectric Memory Effect
 \$591,256NSF

**Yu, Hongfeng**

Computer Science and Engineering
 *CAREER: Scalable Techniques for Visualizing Very Large Graphs
 \$476,951NSF

**Zhang, Jian**

Chemistry
 CAREER: Tuning Photoredox Properties of Carbazolic Porous Organic Frameworks for Visible-Light-Mediated Catalysis
 \$527,154NSF

Air Force Young Investigator Program

YIP awards support scientists and engineers who have received Ph.D. or equivalent degrees in the last five years and show exceptional ability and promise for conducting basic research.

**Fuchs, Matthias**

Physics and Astronomy
 YIP: Next-Generation X-Ray Lightsource and First Applications
 \$369,422DoD-AFOSR

Department of Energy Early Career Research Program

DOE's Early Career Research Program supports the development of individual research programs of outstanding scientists early in their careers and stimulates research careers in the disciplines supported by the DOE Office of Science.

**Kovalev, Alexey**

Physics and Astronomy
 Non-Collinear Magnetism and Dynamic Effects in Dzyaloshinskii-Moriya Magnets
 \$750,000DOE

Arts and Humanities Awards \$250,000 or More

Active awards, July 1, 2016–June 30, 2017

* Indicates new in 2016–2017

Heitman, Carolyn

Anthropology/Center for Digital Research in the Humanities

Salmon Pueblo Archaeological Research Collection
\$300,000 NEH
05/01/2015 – 10/31/2017
Walter, Katherine Center for Digital Research in the Humanities



With a \$300,000 National Endowment for the Humanities grant, anthropologist Carrie Heitman is part of a team of researchers who are digitizing about 1.5 million photographs, field notes and other records generated during 1970s and 1980s excavations of the 1,000-year-old Salmon Pueblo in northwestern New Mexico. The Chaco Research Archive,

which Heitman directs, will house the digitized records. Digital access will allow researchers to explore more fully this historically and culturally significant community. Collaborators are the Salmon Ruins Museum, Archaeology Southwest, Nebraska's Center for Digital Research in the Humanities and the University of Virginia's Institute for Advanced Technology in the Humanities, home to the Chaco Research Archive.

Jewell, Andrew

Center for Digital Research in the Humanities

Complete Letters of Willa Cather
\$271,980 NEH
10/01/2014 – 09/30/2017
Homestead, Melissa English/Center for Digital
Research in the Humanities



The National Endowment for the Humanities is supporting the work of Andrew Jewell, associate professor of libraries in the Center for Digital Research in the Humanities, to digitally publish the complete correspondence of Willa Cather on the open-access Willa Cather Archive (cather.unl.edu). Publication on the archive will allow interoperation of the

edition with other Cather documents (photographs, texts, published scholarship and archival materials) and wide accessibility as data for

humanities scholars doing various kinds of research. When finished, *The Complete Letters of Willa Cather* will bring unprecedented access to the revealing personal voice of one of the most important figures in American literary history and will dramatically expand the body of Cather materials available to scholars, teachers, students and general readers.

Kooser, Ted

English

American Life in Poetry Project
\$453,385 Poetry Foundation
1/1/05 – 12/31/17



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 English department, where the project office is located.

Price, Kenneth

English/Center for Digital Research in the Humanities

Walt Whitman as an Author before *Leaves of Grass*
\$330,000 NEH
08/01/13 – 01/31/17



With a \$330,000 award from the National Endowment for the Humanities, the Walt Whitman Archive, a digital archive that makes Whitman's vast work easily and conveniently accessible to scholars, students, and general readers alike, is expanding its content to include Whitman-authored materials written before the 1855 edition of *Leaves of Grass*.

The Whitman Archive is gathering, editing and annotating these early materials for digital publication, offering a seamlessly integrated presentation of Whitman's literary contributions in the lead-up to his masterpiece, *Leaves of Grass*. This three-year project is led by Kenneth Price, Hillegass University Professor of English and co-director of the Center for Digital Research in the Humanities.

Shear, Donna

University of Nebraska Press

Recovering Languages and Literacies of the Americas:
A Collaborative Initiative

\$781,900 Andrew W. Mellon Foundation
1/3/11 - 12/31/17



This \$781,900 grant from the Andrew W. Mellon Foundation gives the University of Nebraska Press, along with the University of Oklahoma Press and the University of Texas Press, resources to help linguistic scholars publish indigenous language grammars and dictionaries, literacy studies, ethnographies and other linguistic monographs. Twenty-seven

books - nine from each press - will be published on the grammar and literacy of endangered languages. The initiative also aims to generate broader interest in linguistic monographs and to find more efficient, cost-effective ways to produce monographs. These publications are important resources for academics in the fields of linguistics, indigenous studies and social sciences, and to communities wishing to preserve their language and culture, said Donna Shear, University of Nebraska Press director, who is leading this collaboration.

Walter, Katherine

**University Libraries/Center for Digital
Research in the Humanities**

National Digital Newspaper Program: Nebraska

\$763,012 NEH
Mering, Margaret University Libraries



The Nebraska Digital Newspaper Project selects, digitizes and provides access to historically significant Nebraska newspapers, as well as ethnic titles, representing geographic, political, and social breadth. These titles will be accessible through Chronicling America at the Library of Congress and through Nebraska Newspapers, our state newspaper site.

Wisnicki, Adrian

**English/Center for Digital
Research in the Humanities**

The Livingstone Online Enrichment and Access Project (LEAP)

\$275,000 NEH
9/1/13 - 8/31/17
Pytlík Zillig, Brian University Libraries/Center for Digital
Research in the Humanities



Adrian Wisnicki, assistant professor of English and spectral imaging specialist at the Center for Digital Research in the Humanities, leads Livingstone Online, <http://livingstoneonline.org>, a large multi-institutional project to update the digital home for Livingstone's manuscripts.

Wisnicki and colleagues are collaborating with more than 30 archives worldwide, developing a sustainable digital platform, and conducting scholarship and outreach activities. More than \$430,000 in grants from the National Endowment for the Humanities fund Wisnicki's Livingstone work.

Arts and Humanities Awards \$50,000 to \$249,999

Active awards, July 1, 2016–June 30, 2017

* Indicates new in 2016–2017

Barker, Bradley **Extension**

*Library Innovation Studios: Transforming Rural Communities
\$236,771 IMLS through Nebraska Library Commission
Boeckner, Linda Extension
Farritor, Shane Mechanical & Materials Engineering
Hancock, Connie Panhandle Research and Extension Center
Narjes, Charlotte Agricultural Economics

Jockers, Matthew **English/Center for Digital Research in the Humanities**

Text Mining the Novel:
Establishing the Foundations of a New Discipline
\$112,524 Government of Canada-SSHRC through
McGill University

Lorang, Elizabeth **Center for Digital Research in the Humanities**

*Extending Image Analysis for Archival Discovery (Aida)
\$462,317 IMLS
Soh, Leen-Kiat Computer Science and Engineering

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

*Unearthing the “Buried Masterpiece” of American Literature:
A Digital Variorum of the 1855 *Leaves of Grass*
\$300,000 NEH

Richards-Rissetto, Heather **Anthropology/ Center for Digital Research in the Humanities**

*Keeping Data Alive: Supporting Reuse and
Repurposing of 3D Data in the Humanities
\$74,368 NEH
Walter, Katherine Center for Digital Research in the Humanities

Thomas, William **History/Center for Digital Research in the Humanities**

O Say Can You See:
Early Washington, D.C., Law and Family Project
\$200,000 NEH

Walter, Katherine **Center for Digital Research in the Humanities**

*From Prairie to Palace: Buffalo Bill’s Wild West in Europe
\$52,711 NEH through Buffalo Bill Center of the West

Wisnicki, Adrian **English/Center for Digital Research in the Humanities**

Explorer David Livingstone’s 1870 Field Diary
and Select 1871 Letters: A Multispectral Critical Edition
\$158,605 NEH
Pytlik Zillig, Brian University Libraries/Center for Digital
Research in the Humanities

Arts and Humanities Awards \$5,000 to \$49,999

Active awards, July 1, 2016–June 30, 2017

* Indicates new in 2016–2017

Dombrowski, Kirk **Sociology**
*Looking Past Skin: Nebraska Immigration Today and Yesterday
\$6,500 Humanities Nebraska
Matthews, Kim Sociology

Engen-Wedin, Nancy **Lied Center for Performing Arts**
Heather Hensen's Flight, A Crane's Story
\$15,000 NEH

Hoff, Michael **Art, Art History and Design**
*Antiochia ad Cragum Excavations: 2017 Season
\$30,000 Merops Foundation

James, Michael **Textiles, Merchandising and Fashion Design**
Robert Hillestad Textiles Gallery
\$10,000 Pearle Francis Finigan Foundation
Historic Costume Collection
\$6,000 Friends of the Hillestad Textiles Gallery

Price, Kenneth **English/Center for Digital Research in the Humanities**
*Fame and Infamy: Walt Whitman's Old-Age Correspondence
\$14,317 National Historical Publications and Records Commission through University of Iowa
Walt Whitman and Post-Reconstruction America
\$16,451 National Historical Publications and Records Commission through University of Iowa

Schleck, Julia **English**
*Beyond East and West: Exchanges and Interactions across the Early Modern World (1400-1800)
\$21,074 NEH through Indiana University

Seaton, Melynda **Center for Great Plains Studies**
*Contemporary Indigeneity 2016: Spiritual Borderlands
\$8,000 Woods Charitable Fund

Shear, Donna **University of Nebraska Press**
Early American Regions
\$30,100 University of Georgia

Smith, Harris **Johnny Carson School of Theatre and Film**
*Nebraska Rep Relaunch
\$7,500 Cooper Foundation

Walter, Katherine **University Libraries/Center for Digital Research in the Humanities**
Humanities without Walls
\$43,188 Andrew W. Mellon Foundation through University of Illinois-IPRH



Pioneering Partnerships for Innovation

NUtech Ventures' mission is to facilitate the commercialization and practical use of innovations generated through the research activities at the University of Nebraska-Lincoln. We do this by identifying, evaluating, protecting, marketing and licensing the university's intellectual property to promote economic development and improve the quality of life.

Patents Issued in 2016-2017

Recognition for faculty and other university personnel
who received patents for their inventions
July 1, 2016–June 30, 2017

**P. Stephen Baenziger, Jerry Bohlmann, Mitchell Montgomery,
Greg Dorn, Richard Little, Chris Hoagland, Agronomy and Horticulture**
Title: NE06545
Date: 7/6/2016
Number: 201400398
Country: United States

**P. Stephen Baenziger, Jerry Bohlmann, Mitchell Montgomery,
Greg Dorn, Richard Little, Agronomy and Horticulture**
Title: NE05548
Date: 7/6/2016
Number: 201400410
Country: United States

Christian Binek, Physics and Astronomy

Title: Refrigeration through Voltage-controlled Entropy Change
Date: 2/21/2017
Number: 9,574,802
Country: United States

Chin Li “Barry” Cheung, Neil J. Lawrence, Gonghua Wang, Chemistry

Title: Cerium Oxide Having High Catalytic Performance
Date: 2/7/2017
Number: 9,561,491 B2
Country: United States

**Carrick Detweiler, Sebastian Elbaum, John-Paul Ore, Computer
Science; Baoliang Zhao, Mechanical & Materials Engineering**

Title: Aerial Water Sampler
Date: 3/28/2017
Number: 9,606,028
Country: United States

Stephen G. DiMagno, Chemistry

Title: Fluorination of Aromatic Ring Systems
Date: 12/2/2016
Number: 6049804
Country: Japan

Title: Processes and Reagents for Making Diaryliodonium Salts
Date: 11/1/2016
Number: 702736
Country: New Zealand

**Peter A. Dowben, Bernard Doudin, Zhengzheng Zhang,
Physics and Astronomy**

Title: Zwitterion Quinonoid Molecules as N-Type Organic
Semiconductor and Hole Injection Enhancer for Organic
Electronics Devices
Date: 9/6/2016
Number: JP,6002134,B
Country: Japan

Title: Zwitterion Quinonoid Molecules as N-Type Organic Semiconductor and Hole Injection Enhancer for Organic Electronics Devices

Date: 12/27/2016

Number: 2,609,639

Country: France

Title: Zwitterion Quinonoid Molecules as N-Type Organic Semiconductor and Hole Injection Enhancer for Organic Electronics Devices

Date: 12/27/2016

Number: 2,609,639

Country: Germany

Title: Zwitterion Quinonoid Molecules as N-Type Organic Semiconductor and Hole Injection Enhancer for Organic Electronics Devices

Date: 12/27/2016

Number: 2,609,639

Country: United Kingdom

Patrick H. Dussault, Wantanee Sittiwong, Robert Powers, Chemistry; Raul Barletta, Veterinary and Biomedical Sciences

Title: Amphiphilic Cyclobutenes and Cyclobutanes

Date: 3/24/2017

Number: 702154

Country: New Zealand

Shane M. Farritor, Mechanical & Materials Engineering

Title: System for Imaging and Measuring Rail Deflection

Date: 4/18/2017

Number: 9,628,762

Country: United States

Ming Han, Electrical and Computer Engineering

Title: Fiber-optic Sensors for Temperature Measurement from Cryogenic to Above 1000°C

Date: 6/13/2017

Number: 9,677,949

Country: United States

Milford A. Hanna, Pratik N. Bhandari, Biological Systems Engineering

Title: Method for the Production of Substituted Polysaccharides Via Reactive Extrusion

Date: 5/2/2017

Number: 9,637,560

Country: United States

Tomas Helikar, Mathematics

Title: System and Method for Dynamic Modeling of Biochemical Processes

Date: 8/2/2016

Number: 9,405,863

Country: United States

Jinsong Huang, Fawen Guo, Mechanical & Materials Engineering

Title: Nanocomposite Photodetector

Date: 6/20/2017

Number: 9,685,567

Country: United States

Jinsong Huang, Qingfeng Dong, Rui Dong, Yuchuan Sao, Cheng Bi, Qi Wang, Zhengguo Xiao, Mechanical & Materials Engineering

Title: Photovoltaic Perovskite Material and Method of Fabrication

Date: 7/12/2016

Number: 9,391,287

Country: United States

Jinsong Huang, Yuchuan Shao, Qingfeng Dong, Mechanical & Materials Engineering

Title: Systems and Methods for Scalable Perovskite Device Fabrication

Date: 2/28/2017

Number: 9,583,724

Country: United States

Haorong Li, Yanshun Yu, Daihong Yu, Architectural Engineering

Title: Gas Collection

Date: 6/20/2017

Number: 9,684,314

Country: United States

Sally Mackenzie, Roberto de la Rosa Santamaria, Agronomy and Horticulture

Title: An Inducible Cytoplasmic Male Sterility and Fertility Restoration System for Hybrid Seed Production in Crops

Date: 10/25/2016

Number: 9,476,040

Country: United States

Title: Plants With Useful Traits and Related Methods

Date: 4/28/2017

Number: 6133275

Country: Japan

Title: Plants With Useful Traits and Related Methods

Date: 5/3/2017

Number: ZL201280031753.8

Country: China

Nicole Buan Murphy, Jennifer Catlett, Biochemistry

Title: Microbial Strains and Methods of Making and Using

Date: 3/21/2017

Number: 9,598,678

Country: United States

Jody G. Redepenning, Alexander Sinitskii, Benjamin Wymore, Chemistry

Title: Polymer on Graphene

Date: 1/31/2017

Number: 9,558,929

Country: United States

Christopher Y. Tuan, Civil Engineering; Lim Nguyen, Electrical and Computer Engineering

Title: Structural Concrete Mix for Construction for Electromagnetic Wave/Pulse Shielding

Date: 6/13/2017

Number: 9,681,592

Country: United States

Donald P. Umstadter, Physics and Astronomy

Title: Method of Aligning a Laser-Based Radiation Source

Date: 11/1/2016

Number: 9,485,847

Country: United States

Mehmet C. Vuran, Xin Dong, David J. Anthony, Computer Science

Title: Antenna for Wireless Underground Communication

Date: 3/9/2017

Number: 2013292513

Country: Australia

Yue Zhao, Wei Qiao, Electrical and Computer Engineering

Title: Methods of Estimating a Position of a Rotor in a Motor Under Transient and Systems Thereof

Date: 2/21/2017

Number: 9,577,555

Country: United States

2016-2017 License Agreements

Recognition for faculty whose technologies formed the basis of licensing agreements with industry partners
July 1, 2016–June 30, 2017

P. Stephen Baenziger, Jerry Bohlmann, Mitchell Montgomery, Greg Dorn, Richard Little, Chris Hoagland, Agronomy and Horticulture
Technology: (5) Overland Wheat
Technology: Multiple Wheat Varieties

Jie Cheng, F. Fred Choobineh, Electrical and Computer Engineering
Technology: System to Extend Wind Turbine Power Generation Capabilities

George Graef, Les Korte, Dennis White, Travis Wegner, James Specht, Agronomy and Horticulture
Technology: Soybean Varieties

Yuguo Lei, Chemical and Biomolecular Engineering
Technology: Large Scale Cell Manufacture System

Richard Moberly, Molly Brummond, Susan Poser, Marc Pearce, College of Law
Technology: Professional Skills Tracking Mobile App

Tri D. Setiyono, James E. Specht, Kenneth G. Cassman, Agronomy and Horticulture; **Albert Weiss**, School of Natural Resources; **Achim Dobermann**
Technology: SoySim Software

Stephen Taylor, Joseph Baumert, Susan Hefle, Food Science and Technology
Technology: Allergen Kits – 4 licenses

Benjamin S. Terry, Mechanical & Materials Engineering
Technology: Extrapulmonary Ventilation Technology

Benjamin S. Terry, Pengbo Li, Wanchuan Xie, Alfred Tsubaki, Weston Lewis, Mechanical & Materials Engineering
Technology: Medical Sensor System

Carlos Urrea Florez, Panhandle Research and Extension Center; **James Steadman**, Plant Pathology
Technology: Great Northern Bean “Panhandle Pride”

Hiep Vu, Animal Science; **Asit Pattnaik, Fernando Osorio**, Veterinary and Biomedical Sciences; **Fangrui Ma**, Biological Sciences
Technology: PRRVS Vaccine

Daniel T. Walters, Haishun Yang, Patricio Grassini, Kenneth G. Cassman, Agronomy and Horticulture; **Achim Dobermann**
Technology: Hybrid Maize Software

Yiqi Yang, Textiles, Merchandising and Fashion Design
Technology: Methods of Enhancing Dyeability of Polymers

Sherif Yehia, Christopher Y. Tuan, Civil Engineering; **Bing Chen, Lim Nguyen**, Electrical and Computer Engineering
Technology: Conductive Concrete – 2 licenses

Creative Activity

Faculty who created, performed or produced works in the fine and performing arts and architecture, television and film, or digital/software design, nationally or internationally,

July 1, 2016–June 30, 2017

Submitted by faculty, chairs/heads or deans

Scott L. Anderson

Glenn Korff School of Music

Solo performer, trombone. "Obscurities from the Paris Conservatory Repertoire for Trombone." American Trombone Workshop, Fort Meade, Washington, DC.

John R. Bailey

Glenn Korff School of Music

Conductor. International Flute Orchestra concert tour of Ireland and Northern Ireland. Christ Church Cathedral, Dublin, Ireland; St. Anne's Cathedral, Belfast, Northern Ireland; Unionhall, Derry, Northern Ireland.

Diane Barger

Glenn Korff School of Music

Solo performer, clarinet. "Sonata." Board of Director's Recital, International Clarinet Association ClarinetFest, Lawrence, Kansas.

Paul Barnes

Glenn Korff School of Music

Solo performer, piano. "Philip Glass at 80: Exploring the Pedagogical Implications of the Études for Piano." Music Teachers National Association Conference, Baltimore, Maryland.

Solo performer, piano. Italian tour featuring his "Philip Glass Retrospective Recital." Il Tempietto Concerti, Marcello Theater, Rome, Italy.

Solo featured performer, piano. "New Generations: The Études of Philip Glass and Music of the Next Generation." WFMT's Impromptu, WFMT Studios, Chicago, Illinois.

Wheeler Winston Dixon

Film Studies

Video producer. "Life of Luxury," "An American Dream" and "Beat Box." Screenings at the Amos Emo Gallery Brooklyn, New York, and The Sla307 Art Space, New York, New York.

Gwendolyn Audrey Foster

English and Film Studies

Video producer. "Echo and Narcissus," "Mirror" and "Tenderness." Screenings at the Amos Emo Gallery Brooklyn, New York, and The Sla307 Art Space, New York, New York.

Dana Fritz

School of Art, Art History and Design

Sculptor. "(dis)similar articulations (series)." Dana Fritz Exhibition, Scottsdale Museum of Contemporary Art, Scottsdale, Arizona.

Photographer. "Views Removed." Dana Fritz Exhibition, Sioux City Art Center, Sioux City, Iowa.

Carrie C. Heitman

Anthropology/Center for Digital Research in the Humanities

Director. "Ohio Hopewell: Ancient Crossroads of the American Midwest." Web Exhibition, hopewell.unl.edu.

Elizabeth Ingraham

School of Art, Art History and Design

Quilt artist. "Regarding Nebraska." Elizabeth Ingraham Exhibition, International Quilt Study Center and Museum, Lincoln, Nebraska.

Michael F. James

Textiles, Merchandising and Fashion Design

Quilt artist. "Adrift," digitally and hand-fabricated wall quilt. Crossing Generations Exhibition, Hoffman Gallery, Oregon College of Arts and Crafts, Portland, Oregon.

Quilt artist. "Allegory," digitally and hand-fabricated wall quilt. Pushing the Surface 2017 Exhibition, Johnson-Humrickson House Museum, Coschocton, Ohio.

Karen Kunc

School of Art, Art History and Design

Print artist. "From the Sketch to the Block." Karen Kunc Solo Exhibition, Salón Cultural San Miguel, Arcos de la Frontera, Spain.

Print artist. "Rifts of Condensities." 3rd International Printmaking Triennial Exhibition, Art Pavilion Cvijeta Zuzoric, Belgrade, Serbia.

Jamie Loizzo Agricultural Leadership, Education and Communication

Director. "Streaming Science." Podcast series, <https://streamingscience.com/>, Lincoln, Nebraska.

JD Madsen**Johnny Carson School of Theatre and Film**

Scenic designer. "Little Mermaid." Weber Stage, Ogden, Utah.

Scenic designer. "The Addams Family." Centerpointe Legacy Theatre, Centerville, Utah.

Scenic designer. "Eurydice." Next Stop Theatre, Washington, DC.

Scenic designer. "Assassins." Next Stop Theatre, Washington, DC.

Scenic designer. "Ulysses: An American Mythology." Opéra Louisiane, Manship Theatre, Baton Rouge, Louisiana.

Scenic designer. "Sex with Strangers." Signature Theatre, Washington, DC.

Scenic designer. "Little Women." Catholic University, Washington, DC.

Amanda Morales**Teaching, Learning and Teacher Education**

Film performer. "A Walk in My Shoes: Social Justice in Education," a documentary film. College of Education, Kansas State University, Manhattan, Kansas.

Clark Potter**Glenn Korff School of Music**

Performer, viola and piano. "Sonata for Viola and Piano (1946) by Ernest Gold" (world premiere). Stage Music by Film Composers, Kimball Recital Hall, Lincoln, Nebraska.

Guy J. Reynolds**English/Cather Project**

Director. "Prairie Songs: Remembering Antonia." Group performance featuring piano, voice, violin, Johnny Carson Theater, Lincoln, Nebraska.

Laurel Shoemaker**Johnny Carson School of Theatre and Film**

Lighting designer. "Performing Practice: Stages of Staging Our Selves." Dance Gala 2016, University of Iowa, Space Place, Iowa City, Iowa.

Lighting designer. "Ulysses: An American Mythology." Opéra Louisiane, Manship Theatre, Baton Rouge, Louisiana.

William Shomos**Glenn Korff School of Music**

Director. "Ulysses: An American Mythology." Opéra Louisiane, Manship Theatre, Baton Rouge, Louisiana.

Hans Sturm**Glenn Korff School of Music**

Performer, bass. "Bass Meets Voice: Original Pieces for Jazz Voice and Bass." International Society of Bassists Biennial Convention, Ithaca College, Ithaca, New York.

Solo performer, bass. "Solo Works by François Rabbath." Instituto Superior de Arte, Havana, Cuba.

Performer, bass. "A Day In Paris: Original Pieces for Bass and Piano." BassEurope Congress, Prague, Czech Republic.

Solo performer, bass. "Solo Works by François Rabbath." Haute École du Musique, Geneva, Switzerland.

Richard K. Sutton**Agronomy and Horticulture/
Landscape Architecture Program**

Watercolor artist. "Havelock Elevator"; "Machine in the Garden." Collecting Nebraska Exhibition, Great Plains Art Museum, Lincoln, Nebraska.

David von Kampen**Glenn Korff School of Music**

Composer. "Benediction." Sacred Songs, First Congregational Church, Los Angeles, California.

Books

Faculty who wrote or edited books published July 1, 2016–June 30, 2017

Submitted by faculty, chairs/heads or deans

Jonis Agee English

Author. *The Bones of Paradise*. New York, NY: William Morrow.

J. Clark Archer Geography (w/Anthropology)

Author, with Richard Edwards, Leslie Howard, Fred Shelley, Donald Wilhite, David Wishart. *Atlas of Nebraska*. Lincoln, NE: University of Nebraska Press.

Grace Bauer English

Author. *MEAN/TIME*. Albuquerque, NM: University of New Mexico Press.

Florin Bobaru Mechanical & Materials Engineering

Editor, with John T. Foster, Philippe H. Geubelle, Stewart A. Silling. *Handbook of Peridynamic Modeling*. Boca Raton, FL: Chapman and Hall/CRC Press, Taylor and Francis Group.

Kelsy Burke Sociology

Author. *Christians under Covers: Evangelicals and Sexual Pleasure on the Internet*. Berkeley, CA: University of California Press.

Janet F. Carlson Buros Center for Testing/ Educational Psychology

Editor, with Kurt F. Geisinger, Jessica L. Jonson. *The Twentieth Mental Measurements Yearbook*. Lincoln, NE: Buros Center for Testing.

Timothy P. Carr Nutrition and Health Sciences

Author, with Sareen S. Gropper, Jack L. Smith. *Advanced Nutrition and Human Metabolism (7th Ed.)*. Boston, MA: Cengage Learning.

Matt Cohen English

Author. *Whitman's Drift: Imagining Literary Distribution*. Iowa City, IA: University of Iowa Press.

Joel T. Cramer Nutrition and Health Sciences

Author, with Terry J. Housh, Joseph P. Weir, Travis W. Beck, Glen O. Johnson. *Laboratory Manual for Exercise Physiology, Exercise Testing, and Physical Fitness*. Scottsdale, AZ: Holcomb Hathaway Publishers, Inc. (now Taylor Francis Publishers).

Kwame Dawes English

Author. *City of Bones*. Evanston, IL: Northwestern University Press.

Robert Denicola Law

Author, with Ralph Brown. *Copyright, Unfair Competition, and Related Topics Bearing on the Protection of Works of Authorship (12th Ed.)*. St. Paul, MN: Foundation Press.

Robert F. Diffendal, Jr. (emeritus) Geology

Author. *Great Plains Geology*, Discover the Great Plains Series. Lincoln, NE: University of Nebraska Press.

Wheeler Winston Dixon English

Author, with Richard Graham. *A Brief History of Comic Book Movies*. Cham, Switzerland: Palgrave Macmillan.

Cheryl D. Dunn Agronomy and Horticulture

Author, with Mitchell B. Stephenson, James Stubbendieck. *Common Grasses of Nebraska: Rangeland, Prairie, Pasture (Including Grass-Like Plants)*. Lincoln, NE: University Printing.

Editor, with Mitchell B. Stephenson, James Stubbendieck. *Common Forbs and Shrubs of Nebraska: Rangeland, Prairie, and Pasture*. Lincoln, NE: University Printing.

Richard Edwards Center for Great Plains Studies/Economics

Author, with Jacob K. Friefeld and Rebecca S. Wingo. *Homesteading the Plains: Toward a New History*. Lincoln, NE: University of Nebraska Press.

Galen Erickson Animal Science

Editor. *2017 Beef Cattle Report*. Lincoln, NE: University Printing.

Rodrigo Franco Veterinary Medicine and Biomedical Sciences

Editor. *Oxidative Stress and Redox Signalling in Parkinson's Disease*. London, UK: Royal Society of Chemistry.

Iker Gonzalez-Allende Modern Languages and Literatures

Editor. *El Exilio Vasco: Estudios en Homenaje al Profesor José Ángel Ascunce Arrieta [The Basque Exile: Studies in Homage to Professor Jose Angel Ascunce Arrieta]*. Bilbao, Spain: University of Deusto Press.

Richard L. Graham University Libraries/English

Author, with Wheeler Winston Dixon. *A Brief History of Comic Book Movies*. Cham, Switzerland: Palgrave Macmillan.

Timothy Hemsath **Architecture Program**

Author, with Kaveh Alagheh Bandhosseini. *Energy Modeling in Architectural Design*. New York, NY: Routledge.

Matthew L. Jockers **English**

Author, with Jodie Archer. *The Bestseller Code*. New York, NY: St. Martin's Press.

Valerie Jones **Advertising**

Editor, with Ming Wang. *The New Advertising: Branding, Content and Consumer Relationships in the Data-driven Social Media Era*. Santa Barbara, CA: ABC-CLIO, LLC.

David Karle **Architecture**

Author, with Sarah Thomas Karle. *Conserving the Dust Bowl: The New Deal's Prairie States Forestry Project*. Baton Rouge, LA: Louisiana State University Press.

Sarah Thomas Karle **Landscape Architecture**

Author, with David Karle. *Conserving the Dust Bowl: The New Deal's Prairie States Forestry Project*. Baton Rouge, LA: Louisiana State University Press.

Casey Ryan Kelly **Communication Studies**

Author. *Food Television and Otherness in an Age of Globalization*. Lanham, NJ: Rowan & Littlefield.

Stevan Knezevic **Northeast Research and Extension Center**

Editor. *2017 Guide for Weed, Disease, and Insect Management in Nebraska*. Lincoln, NE: University Printing.

Peter M. Lefferts **Glenn Korff School of Music**

Editor, with William J. Summers. *English Thirteenth Century Polyphony: A Facsimile Edition*. London, UK: Stainer & Bell for the British Academy.

Brian D. Lepard **Law**

Editor. *Reexamining Customary International Law*. New York, NY: Cambridge University Press.

Carole Levin **History**

Editor, with Anna Riehl Bertolet, Jo Eldridge Carney. *A Biological Encyclopedia of Early Modern Englishwomen: Exemplary Lives and Memorable Acts, 1500-1650*. New York, NY: Routledge, Taylor and Francis Group.

John W. Maag **Special Education and Communication Disorders**

Author. *Behavior Management: From Theoretical Implications to Practical Applications*. Boston, MA: Cengage.

Max Perry Mueller **Classics and Religious Studies**

Author. *Race and the Making of the Mormon People*. Chapel Hill, NC: The University of North Carolina Press.

Glenn E. Nierman **Glenn Korff School of Music**

Author, with Lynn Tuttle, Kelly Parkes, Johanna Siebert, Rebecca Wilhelm. *Workbook for Building and Evaluating Effective Music Education in Ensembles*. Reston, VA: National Association for Music Education.

Author, with Lynn Tuttle, Kelly Parkes, Johanna Siebert, Rebecca Wilhelm. *Workbook for Building and Evaluating Effective Music Education in General Music*. Reston, VA: National Association for Music Education.

Gwen C. Nugent **Nebraska Center for Research on Children, Youth, Families and Schools**

Editor, with Gina M. Kunz, Susan M. Sheridan, Todd A. Glover, Lisa L. Knoche. *Rural Education Research in the United States: State of the Science and Emerging Directions*. Cham, Switzerland: Springer International.

Erica Ryherd **Architectural Engineering**

Editor, with David T. Bradley, Lauren M. Ronsse. *Worship Space Acoustics: 3 Decades of Design*. New York, NY: Springer.

Michael J. Scheel **Educational Psychology**

Author, with Collie W. Conoley. *Goal Focused Positive Psychotherapy: A Strengths Oriented Approach*. New York, NY: Oxford University Press.

David J. Sellmyer **Nebraska Center for Materials and Nanoscience/ Physics and Astronomy**

Editor, with Yanglong Hou. *Magnetic Nanomaterials: Fundamentals, Synthesis and Applications*. Weinheim, Germany: Wiley-VCH.

Esti Sheinberg **Glenn Korff School of Music**

Editor, with Anatoly Milka, translated by Marina Rirzarev. *Rethinking J.S.Bach's The Art of Fugue*. London and New York, NY: Routledge.

Greg A. Somerville

**School of Veterinary Medicine
and Biomedical Sciences**

Editor. *Staphylococcus: Genetics and Physiology*. London: Caister Academic Press.

Joseph Starita

Journalism

Author. *A Warrior of the People: How Susan LaFlesche Overcame Gender and Racial Inequality to Become America's First Indian Doctor*. New York, NY: St. Martin's Press.

Jeffrey R. Stevens

Psychology

Editor. *Impulsivity: How Time and Risk Influence Decision Making*. New York, NY: Springer.

Julie Thomas

Teaching, Learning and Teacher Education

Author, with Donna Farland-Smith. *Eureka! Grade 3-5 Science Activities and Stories*. Arlington, VA: NSTA Press.

Laura Thompson

Southeast Research and Extension District

Editor, with Keith Glewen. *Nebraska Extension On-Farm Research, 2016 Growing Season Results*. Lincoln, NE: University Printing.

Jerry D. Volesky

West Central Research and Extension Center

Editor, with Nadine Bishop, Bethany Johnston, Jess Milby, Jeff Nichols, Mitch Stephenson, Troy Walz, Sara Winslow, Kristin Dickinson. *Range Judging Handbook and Contest Guide for Nebraska*. Lincoln, NE: University Printing.

Stacey Waite

English

Author. *Teaching Queer: Radical Possibilities for Writing and Knowing*. Pittsburgh, PA: University of Pittsburgh Press.

Yiqi Yang

**Textiles, Merchandising and Fashion Design/
Biological Systems Engineering**

Editor, with Jianyong Yu, Helan Xu, Baozhong Sun. *Porous Lightweight Composites Reinforced with Fibrous Structures*. Berlin, Germany: Springer-Verlag GmbH Germany.

Recognitions and Honors

Faculty who have been elected to honor academies or who have received national or international honors or awards

July 1, 2016–June 30, 2017

Submitted by faculty, chairs/heads or deans

Joseph S. Francisco

**Chemistry/Dean of the
College of Arts and Sciences**

National Academy of Sciences

Brian Larkins

**Agronomy and Horticulture/
Associate Vice Chancellor for Life Sciences**

National Academy of Sciences

James Van Etten

Plant Pathology

National Academy of Sciences

Kathleen Anderson

Animal Science

2017 ESS Fellow Award, Equine Science Society

Katherine Ankeron

Architecture

Fellow, Interior Design Educators Council

Christos Argyropoulos

Electrical and Computer Engineering

Fellow, Office of Naval Research

Young Scientist Award, International Union of Radio Science

Larry Berger

Animal Science (emeritus)

Distinguished Alumnus Award, Kansas State University Department of Animal Science and Industry

Christopher R. Bilder

Statistics

Fellow, American Statistical Association

Kenneth Bloom

Physics and Astronomy

Fellow, American Physical Society

Allison Bonander

Communication Studies

Outstanding New Coach Award, American Forensic Association

Dawn O. Braithwaite

Communication Studies

Namesake of the Dawn O. Braithwaite Award for Qualitative Research, Central States Communication Association

Edgar Cahoon

Biochemistry

Honorary Doctorate, Swedish University of Agricultural Sciences
Faculty of Landscape Architecture, Horticulture and Crop Production Science

Fellow, American Society of Plant Biologists

Les Carlson

Marketing

Fellow, American Academy of Advertising

Kenneth Cassman

Agronomy and Horticulture (emeritus)

Highly Cited Researcher 2016, Clarivate Analytics

Katherine M. Castle

Communication Studies

Pearson Award for Innovation in Teaching with Technology,
Association for Business Communication

Heng Chen

Supply Chain Management and Analytics

Outstanding Paper in Air Transportation, Institute for Operations Research and the Management Sciences

Thomas Clemente

Agronomy and Horticulture

Crop Science Research Award, Crop Science Society of America

Archie Clutter

Agricultural Research Division

Rockefeller Prentice Memorial Award in Animal Breeding and Genetics, American Society of Animal Science

Matt Cohen

English

Fellowship, National Endowment for the Humanities

Andrea Cupp

Animal Science

Animal Physiology and Endocrinology Award, American Society of Animal Science

Dawne Y. Curry

History/Ethnic Studies

U.S. Fulbright Scholar Award, U.S. Department of State

Jennifer A. Davidson **Economics**

Rising Star Award, Council for Economic Education and National Association of Economic Educators

National Business Person of the Year, Nebraska Future Business Leaders of America

Kwame Dawes **English**

Gold Medal in Writing/Publishing, Independent Publisher Book Awards

Jeffrey L. Day **Architecture Program/
Landscape Architecture**

The Best Things America Built in 2016, with E.B. Min, for the design of Omaha's Blue Barn Theater, Slate.com

Best in Category Award of Excellence: Design as Interior, Interior Design Educators Council

Outdoor Lighting Design Illumination Award: Special Citation for Use of Light as a Beacon that Enhances the Community Culture, Illuminating Engineering Society

Bedross Der Matossian **History**

Outstanding Book Award 2013-2015, Society for Armenian Studies

Angela Dietsch **Special Education and
Communication Disorders**

Award for Early Career Contributions in Research, American Speech Language Hearing Association

David DiLillo **Psychology**

Exceptional Mentor, Association of Behavioral and Cognitive Therapies

Wayne Drummond **Architecture (emeritus)**

Honorary Member, American Society of Landscape Architects

Patrick Dussault **Chemistry**

Fellow, American Association for the Advancement of Science

Sebastian Elbaum **Computer Science and Engineering**

Distinguished Member, Association of Computing Machinery

Roger Elmore **Agronomy and Horticulture**

Fellow, Crop Science Society of America

Agronomic Education and Extension Award, American Society of Agronomy

Ronald Faller **Civil Engineering**

Best Overall Paper Award (with **Cody Stolle**, **Karla Lechtenberg** and **T. Yim**), International Roadside Safety Conference, Transportation Research Board

Practical Paper Award (with **Scott Rosenbaugh** and **Robert Bielenberg**), International Roadside Safety Conference, Transportation Research Board

Best New Innovation Paper Award (with **Karla Lechtenberg**, **Jennifer Schmidt**, **Ana Guajardo**, **Robert Bielenberg**, **John Reid** and **E. Emerson**), International Roadside Safety Conference, Transportation Research Board

Shane Farritor **Mechanical & Materials Engineering**

Fellow, National Academy of Inventors

Christina Fielder **Arts and Sciences**

Outstanding Advising Administrator Award, NACADA: The Global Community for Academic Advising

Cory Forbes **School of Natural Resources**

SENCER Leadership Fellow, National Center for Science and Civic Engagement

Bill Frakes **Journalism**

Grand Prize for journalism student project, "The Wounds of Whiteclay: Nebraska's Shameful Legacy" (faculty advisor), Robert F. Kennedy Journalism Awards

Chuck Francis **Agronomy and Horticulture**

Educator Award, North American Colleges and Teachers of Agriculture

Joseph S. Francisco **Chemistry**

Honorary Professor, Beijing University for Chemical Technology

Sherilyn C. Fritz **Earth and Atmospheric Sciences**

Tage Erlander Visiting Professorship, Swedish Research Council

Dana Fritz **School of Art, Art History and Design**

Artist Residency, Brush Creek Foundation for the Arts, Saratoga, Wyoming

Timothy Gay **Physics and Astronomy**

Speaker of the Council of Representatives, American Physical Society

Jim Gentry **Marketing**

George Fisk Award for the Best Conference Paper, 2016
Macromarketing Conference, Macromarketing Association

Konstantinos Giannakas **Agricultural Economics**

Publication of Enduring Quality Award, Canadian Agricultural
Economics Society

Alisa Gilmore **Electrical and Computer Engineering**

Innovator Award, Empowerment Network

Doug Golick **Entomology**

Innovative Teaching Award, Association of Public and Land-grant
Universities

Ronnie Green **Chancellor**

Morrison Award, American Society of Animal Science
4-H Luminary, National 4-H Council

Mark A. Griep **Chemistry**

Helen M. Free Award for Outstanding Public Outreach, American
Chemical Society
Frederick C. Luebke Award, Center for Great Plains Studies

Dee Griffin **Veterinary Medicine and Biomedical Sciences**

Industry Leadership Award, Cattle Feeders Hall of Fame

Jason Griffiths **Architecture**

Regional Excellence in Wood Design Award (co-winners include his
design studio students), Woodworks

Dale M. Grotelueschen **School of Veterinary Medicine
and Biomedical Sciences/
Great Plains Veterinary Educational Center**

Award of Excellence, American Association of Bovine Practitioners

Alexei Gruverman **Physics and Astronomy**

Ferroelectrics Recognition Award, IEEE Ultrasonics, Ferroelectrics and
Frequency Control Society

Linxia Gu **Mechanical & Materials Engineering**

Fellow, American Society of Mechanical Engineers

Christopher R. Gustafson **Agricultural Economics**

Best Article, *Journal of the International Association of Agricultural
Economists*

Frauke Hachtmann **Journalism**

Alumni Master Award, University of Nebraska Athletic Department

Deb Hamernik **Agricultural Research Division/
Animal Science**

President, American Society of Animal Science

Ted Hamann **Teaching, Learning and Teacher Education**

Equity Fellow, Midwest and Plains Equity Assistance Center

Michael Hanus **Advertising and Public Relations**

Outstanding Dissertation Award, Human Communication and
Technology Division, National Communication Association
Fellow, Visiting Professor Program, Advertising Educational
Foundation

Terry Hejny **Nebraska LEAD Program**

Agri-Award, Triumph of Agriculture Exposition Farm and Ranch
Machinery Show

Mary Anne Holmes **Earth and Atmospheric Sciences (emeritus)**

Fellow, American Association for the Advancement of Science

Melissa Homestead **English**

Fellow, Summer Stipend, National Endowment for the Humanities

Gabriel Houck **English**

Orison Fiction Prize, Orison Books

Jinsong Huang **Mechanical & Materials Engineering**

Highly Cited Researcher 2016, Clarivate Analytics

Suat Irmak **Biological Systems Engineering**

Best Paper Award in *Journal of Irrigation and Drainage Engineering*,
Irrigation and Drainage Council of the American Society of Civil
Engineers and Environmental and Water Resources Institute

Educational Aids Blue Ribbon Award, American Society of Agricultural
and Biological Engineers

Amit Jhala **Agronomy and Horticulture**
Early Career Outstanding Weed Scientist Award, Weed Science Society of America

Lisa Karr **Animal Science**
Corbin Companion Animal Biology Award, American Society of Animal Science

Casey Ryan Kelly **Communication Studies**
Early Career Award, Rhetorical and Communication Theory Division of the National Communication Association
Diane Hope Outstanding Book Award, Visual Communication Division of the National Communication Association

Imran Khan **Marketing**
Best Paper in Logistics and Supply Chain Management Track, Society for Marketing Advances Conference

Dane Kiambi **Advertising and Public Relations**
Fellow, Plank Center for Leadership in Public Relations

Kathleen J. Krone **Communication Studies**
Fredric M. Jablin Award for Outstanding Contributions to Organizational Communication, International Communication Association, Organizational Communication Division
Article of the Year, *Management Communication Quarterly*

Karen Kunc **School of Art, Art History and Design**
Sponsor's Prize, Hida-Takayama International Contemporary Woodblock Prints Triennial, Takayama, Japan
Second Prize, Book as Art 5.0: Illuminated, Decatur Art Alliance, Decatur, Georgia

Rebecca Lai **Chemistry**
Local Section Outreach Volunteer of the Year Award, American Chemical Society's Committee on Community Activities

Joe Luck **Biological Systems Engineering**
Educator/Researcher of the Year, Precision Ag Institute
Larry W. Turner Young Extension Professional Award, American Society of Agricultural and Biological Engineers

Fred Luthans **Management (emeritus)**
Lifetime Achievement Award, Organizational Behavior Division of the Academy of Management

Andre F. Maciel **Marketing**
Best Special Session Award, Consumer Culture Theory Conference
Sidney J. Levy Award, Consumer Culture Theory Consortium

Martha Mamo **Agronomy and Horticulture**
Soil Science Education and Extension Award, Soil Science Society of America

Maria Marron **College of Journalism and Mass Communications**
L.J. Hortin Distinguished Alumna Award, E.W. Scripps School of Journalism at Ohio University

Pat McBride **New Student Enrollment**
Kansas Monk Award, Benedictine College

Julia McQuillan **Sociology**
Distinguished Feminist Lecturer, Sociologists for Women in Society

Colleen E. Medill **Law**
Member of the Advisory Council on Welfare Benefit and Pension Plans, United States Department of Labor

Aleidine J. Moeller **Teaching, Learning and Teacher Education/ Modern Languages and Literatures**
Yunshuan Scholar, Guongdong University, China

Amelia M.L. Montes **English/The Institute for Ethnic Studies**
Fulbright Scholar Award for Research, Writing, and Teaching at the University of Novi Sad, Serbia, Fulbright Organization

Kaci Nash **Libraries**
Best article published in *Civil War History* in 2016 (with **William G. Thomas** and Robert Shephard), John T. Hubbell Prize

Elizabeth Niehaus **Educational Administration**
Excellence in International Research Award, American College Personnel Association

Outstanding Service to the International Community Award, American College Personnel Association

Terri Norton **Construction Engineering**
Innovator Award, Empowerment Network

Fulbright Scholar Award, Council for International Exchange of Scholars

Chigozie Obioma

Nebraska Best Book Award, Fiction Category, Nebraska Center for the Book

Best New Author Award, Go on Girl! National Bookclub

English**Kristen Olson**

Collaborative Research Award, *International Journal of Market Research*

Sociology**Lisa Pennisi**

Spirit of Service Award, Center for Civic Engagement

Natural Resources**Julie Peterson**

Young Alumni Award, Ohio Wesleyan University

Entomology/West Central Research and Extension Center**Dan Piatkowski**

Excellence in Safety Research for Active Living Award, Centers for Disease Control and Prevention

Community and Regional Planning**Gary Pickard**

Fellow, American Association for the Advancement of Science

School of Veterinary Medicine and Biomedical Sciences**Robert Powers**

Fellow, American Association for the Advancement of Science

Chemistry**Kenneth Price**

President, Society for Textual Scholarship

English/Center for Digital Research in the Humanities**Prahalada Rao**

Yoram Koren Outstanding Young Manufacturing Engineer, Society of Manufacturing Engineers

Mechanical & Materials Engineering**Mark R. Riley**

Fellow, American Institute of Medical and Biological Engineers

Biological Systems Engineering**Gregg Rothermel**

Fellow, Institute of Electrical and Electronics Engineers

Computer Science and Engineering**Rajib Saha**

Best Poster, Summer School for Chemical Engineering Faculty, American Society of Engineering Education

Chemical and Biomolecular Engineering**Philip Sapirstein**

Loeb Classical Library Foundation Fellowship, Harvard University

School of Art, Art History and Design/Center for Digital Research in the Humanities**Daniel P. Schachtman**

Fellow, American Society of Plant Biology

Agronomy and Horticulture**Rebekka Schlichting**

Grand Prize for Journalism student project, "The Wounds of Whiteclay: Nebraska's Shameful Legacy" (faculty adviser), Robert F. Kennedy Journalism Awards

Journalism**Amy Millmier Schmidt**

Standards Development Award, American Society of Agricultural and Biological Engineers

Biological Systems Engineering/Animal Science**Jennifer Schmidt**

Best New Innovation Paper Award (with Karla Lechtenberg, Ronald Faller, Ana Guajardo, Robert Bielenberg, John Reid and E. Emerson), Transportation Research Board

Civil Engineering**Hamid Sharif**

Fellow, Institute of Electrical and Electronics Engineers

Electrical and Computer Engineering**Chungwook Sim**

Daniel J. Penny Research Fellowship, Precast/Prestressed Concrete Institute

Civil Engineering**Jolene D. Smyth**

Warren J. Mitofsky Innovators Award, American Association for Public Opinion Research

Sociology**Matthew Spangler**

Continuing Service Award, Beef Improvement Federation

Animal Science**Joseph Starita**

Chief Standing Bear Humanitarian Award, Nebraska Commission on Indian Affairs

Journalism

Grand Prize for Journalism student project, "The Wounds of Whiteclay: Nebraska's Shameful Legacy" (faculty adviser), Robert F. Kennedy Journalism Awards

Jay Storz

Honorary Professor, Aarhus University of Science and Technology, Denmark

Biological Sciences

Richard K. Sutton **Agronomy and Horticulture/
Landscape Architecture Program**
Honor Award for Research, American Society of Landscape Architects

Daniel Tannenbaum **Economics**
Early Career Research Award, W.E. Upjohn Institute for Employment Research

Pat Tetreault **LGBTQA+ Resource Center**
Alumni of Distinction Award, Kansas State University

William G. Thomas III **History**
Fellowship, John Simon Guggenheim Memorial Foundation
Best article published in Civil War History in 2016 (with **Kaci Nash** and Robert Shephard), John T. Hubbell Prize

Bruce Thorson **Journalism**
Best of the West, Associated Press and National Press Photographers Association

Julie Tippens **Child, Youth and Family Studies**
Trocaire Leadership Award, Gwynedd Mercy Academy High School Alumnae Board

Christopher Tuan **Civil Engineering**
T.C. Graham Prize, Association for Iron and Steel Technology

Joseph Turner **Mechanical & Materials Engineering**
Outstanding Paper, American Society of Nondestructive Testing

Cheryl Turner **Center on Children, Families and the Law**
Trauma-Informed Care Pioneer in Education, Beyond Consequences Institute

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R.F. Bunshah Award, International Conference on Metallurgical Coatings and Thin Films

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Tian Zhang **Civil Engineering**
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Hall of Fame Award, National Association of County Agricultural Agents

Glossary of Federal Agency Abbreviations

DHS	Department of Homeland Security	ED	Department of Education
DHHS	Department of Health and Human Services	IES	Institute of Education Sciences
ACF	Administration for Children and Families	EPA	Environmental Protection Agency
CDC	Centers for Disease Control	EPSCoR	Experimental Program to Stimulate Competitive Research
NIOSH	National Institute for Occupational Safety and Health	IMLS	Institute of Museum and Library Services
SAMHSA	Substance Abuse and Mental Health Services Administration	NASA	National Aeronautics and Space Administration
DOC	Department of Commerce	NEA	National Endowment for the Arts
NIST	National Institute of Standards and Technology	NEH	National Endowment for the Humanities
NOAA	National Oceanic & Atmospheric Administration	NIH	National Institutes of Health
DoD	Department of Defense	FIC	Fogarty International Center
AFOSR	Air Force Office of Scientific Research	NCI	National Cancer Institute
ARO	Army Research Office	NCRR	National Center for Research Resources
DARPA	Defense Advanced Research Projects Agency	NEI	National Eye Institute
DTRA	Defense Threat Reduction Agency	NHLBI	National Heart, Lung and Blood Institute
DURIP	Defense University Research Instrumentation Program	NIAID	National Institute on Allergy & Infectious Diseases
JVAP	Joint Vaccine Acquisition Program	NIBIB	National Institute of Biomedical Imaging and Bioengineering
MDA	Missile Defense Agency	NICHD	National Institute of Child Health and Human Development
ONR	Office of Naval Research	NIDA	National Institute on Drug Abuse
SERDP	Strategic Environmental Research and Development Program	NIDCD	National Institute on Deafness & Communication Disorders
USAMRAA	US Army Medical Research Acquisition Activity	NIDDK	National Institute of Diabetes, Digestive & Kidney Disease
USAMRMC-TATRC	US Army Medical Research and Materiel Command-Telemedicine and Advanced Technology Research Center	NIEHS	National Institute of Environmental Health Sciences
DOE	Department of Energy	NIGMS	National Institute on General Medical Sciences
ARPA-E	Advanced Research Projects Agency-Energy	NIMH	National Institute of Mental Health
NETL	National Energy Technology Laboratory	NINDS	National Institute of Neurological Disorders & Stroke
DOI	Department of Interior	NSF	National Science Foundation
FWS	Fish and Wildlife Service	USAID	United States Agency for International Development
GS	Geological Survey	USDA	United States Department of Agriculture
DOJ	Department of Justice	AFRI	Agriculture and Food Research Initiative
NIJ	National Institute of Justice	ARS	Agricultural Research Service
DOL	Department of Labor	FNS	Food and Nutrition Service
DOS	Department of State	FS	Forestry Service
BECA	Bureau of Educational and Cultural Affairs	NASS	National Agricultural Statistics Service
DOT	Department of Transportation	NIFA	National Institute for Food and Agriculture
FAA	Federal Aviation Administration	NRCS	Natural Resources Conservation Service
FHWA	Federal Highway Administration	OCE	Office of the Chief Economist
RITA	Research and Innovative Technology Administration		

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