RESEARCH

Office of Research and Economic Development

RESEARCH AND CREATIVE ACTIVITY

July 1, 2017 – June 30, 2018

Major Sponsored Programs and Faculty Awards for Research and Creative Activity

University of Nebraska–Lincoln

Bob Wilhelm

Vice Chancellor for Research
and Economic Development

This booklet highlights successes in research, scholarship and creative activity by University of Nebraska–Lincoln faculty during the fiscal year July 1, 2017–June 30, 2018.

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 patents and licensing agreements issued for products of Nebraska research.

Notably, the university reached a major milestone in FY2017: earning $302 million in total research expenditures, a 23 percent increase over the past decade. Our outstanding faculty made it possible to reach that longstanding goal.

The list of accomplishments in this booklet is remarkable. Each line represents the "glory" side of research. What often goes unrecognized is the grit underlying this work: the intense dedication to inquiry and practice; the long hours spent writing and revising proposals; the patience given to organizing and analyzing data. The university, the state of Nebraska and the world are stronger because of our faculty's dedication to giving their best every day.

As a university, we will continue making long-term investments to grow our research enterprise and to position Nebraska as a hub for innovation. The celebration of the university's 150th anniversary in 2019 offers a ripe opportunity for us to consider who we are now, and what we strive to become. The Nebraska Commission of 150—which includes more than 150 faculty, staff, students, alumni and friends—is working to define the university's path to distinction and impact during the next 25 years. Research and economic development must play a crucial role in advancing the university during its next chapter, and I'm confident our talented, committed faculty will rise to the challenge.

I appreciate your interest in and support for Nebraska research. In my first six months here, I have met with many of our faculty and been impressed by their talents, goals and vision for the future. I'm pleased to present this record of accomplishments. With hard work and dedication from all involved in the university's research endeavors, I'm confident we can build on past successes and make a lasting impact.

Bob Wilhelm

CONTENTS

“The university, the state of Nebraska and the world are stronger because of our faculty’s dedication to giving their best every day.”

Awards of $5 Million or More

Active awards, July 1, 2017–June 30, 2018

* Indicates new in 2017–2018

Cahoon, Edgar — Biochemistry/Center for Biotechnology/ Center for Plant Science Innovation/ Nebraska Center for Redox Biology

RII Track-1: Center for Root and Rhizobiome Innovation (CRRI)

$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 Established 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.

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 studies and tests promising strategies to help child welfare agencies recruit and retain staff workers. Nebraska collaborates with three national child welfare consultants and researchers at the University of Colorado, Denver; University of Louisville; and University of Tennessee, Knoxville. The center draws 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 – 10/31/17
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 – 12/31/18
Thippareddi, Harshavardhan .....Food Science and Technology

Rodney Moxley, Charles Bessey Professor of Veterinary Medicine and Biomedical Sciences, 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, leads 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

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

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)

$11,271,372 . . . . . .NIH-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
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 $7.285 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

$9,600,000 . . . . . .NSF
11/1/14 – 10/31/20

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, 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.

Walia, Harkamal — Agronomy and Horticulture

*RII Track-2 FEC: Comparative Genomics and Phenomics Approach to Discover Genes Underlying Heat Stress Resilience in Cereals
$5,783,738 ..... NSF-EPSCoR
8/1/17 – 7/31/21
Morota, Gota ..... Animal Science
Obata, Toshihiro ..... Biochemistry
Yu, Hongfeng ..... Computer Science and Engineering
Zhang, Chi ..... Biological Sciences
Zhang, Qi ..... Statistics

Harkamal Walia, associate professor of agronomy and horticulture, leads a project to explore the effects of high nighttime temperatures on wheat and rice. Temperature stress can lead to severe losses in the yield and quality of crops, especially wheat and rice, two major cereal crops worldwide. With the support of a $5.78 million grant from the National Science Foundation's Established Program to Stimulate Competitive Research (EPSCoR), Walia's team is investigating genes and genetic variants in wheat and rice to identify genetic markers and physiological characteristics tied to heat tolerance. The team will also collaborate with researchers from Arkansas State University and Kansas State University.

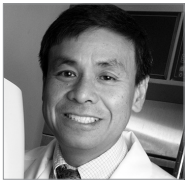
Wilhelm, Bob — Office of Research and Economic Development

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.

Wood, Charles — Biological Sciences/ Nebraska Center for Virology

Nebraska Center for Virology
$5,499,715 ..... NIH-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, John ..... Nebraska 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.

Yoder, Ron — Institute of Agriculture and Natural Resources

*Rwandan Institute of Conservation Agriculture (RICA)
$17,210,366 ..... Various Sources
10/13/17 – 12/31/20
Davis, Josh ..... Global Engagement
Heng-Moss, Tiffany ..... College of Agricultural Sciences and Natural Resources

The Rwanda Institute for Conservation Agriculture (RICA) is a unique and innovative English language institution dedicated to preparing the next generation of agricultural leaders of Rwanda and East Africa. Under the leadership of Ron Yoder, senior associate vice chancellor for IANR, the University of Nebraska is serving as a critical academic partner, helping to design and implement the curriculum and campus operations, especially during RICA's critical start-up phase. RICA students will learn the principles of conservation agriculture and One Health while emphasizing written communication, leadership and entrepreneurship. Students at RICA will be exposed to six different enterprises including beef cattle and small ruminants, dairy, poultry and swine, row and forage crops, vegetable and tree crops, irrigation and mechanization.

Zempleni, Janos — Nutrition and Health Sciences

COBRE: Nebraska Center for the Prevention of Obesity Diseases through Dietary Molecules
$11,306,520 ..... NIH-NIGMS
8/5/14 – 5/31/19
Chung, Soonkyu ..... Nutrition and Health Sciences
Cui, Juan ..... Computer Science and Engineering
Fomenko, Dmitri ..... Biochemistry
Ramer-Tait, Amanda ..... Food 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, 2017–June 30, 2018

* Indicates new in 2017–2018

Allen, Craig — **Natural Resources**

*NRT-INFEWS: Training in Theory and Application of Cross-scale Resilience in Agriculturally Dominated Social Ecological Systems

$2,998,886 ..... NSF

Elbaum, Sebastian ..... Computer Science and Engineering

Munoz-Arriola, Francisco ..... Biological Systems Engineering

Shank, Nancy ..... Public Policy Center

Twidwell, Dirac Jr. ..... Agronomy and Horticulture

Allmand, Matthew — **Extension/Biological Systems Engineering/ Food Science and Technology**

Manufacturing Extension Partnership Center for Nebraska

$2,043,164 ..... DOC-NIST

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

$2,797,503 ..... NIH-NICHD

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

Redox Biology Center

$4,305,466 ..... NIH-NIGMS

Molecular Mechanisms of Disease

$1,093,432 ..... NIH-NIGMS

Black, Paul ..... Biochemistry

Bellows, Laurie — **Graduate Studies**

TRIO – Ronald E. McNair Postbaccalaureate Achievement Program

$1,161,325 ..... ED

Bevins, Rick — **Psychology**

*Interoceptive Conditioning with Nicotine: Changes in Abuse Liability

$1,786,220 ..... DHHS-NIDA

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

$4,654,133 ..... NSF through Princeton University

Bockelman, Brian ..... Computer Science and Engineering

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

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

*Center for Advanced Bioenergy and Bioproducts Innovation

$3,886,388 ..... DOE through University of Illinois-Urbana-Champaign
Cahoon, Edgar ..... Biochemistry/ Center for Plant Science Innovation

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

School Psychology Specialization in Toddlers with Autism Spectrum Disorders

$1,249,730 ..... ED

Detweiler, Carrick — **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
Duncan, Brittany ..... Computer Science and Engineering
Pytlik Zillig, Lisa ..... Public Policy Center
Twidwell, Dirac Jr. ..... Agronomy and Horticulture

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

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

$3,211,865 ..... NIH-NIDA
Khan, Bilal ..... Sociology

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

*E2CDA: Type I: Antiferromagnetic Magneto-electric Memory and Logic

$3,573,423 ..... NSF/Semiconductor Research Corp
Binek, Christian ..... Physics and Astronomy/Nebraska Center for Materials and Nanoscience
Sinitskii, Alexander ..... Chemistry/Nebraska Center for Materials and Nanoscience
Tsymbal, Evgeny ..... Physics and Astronomy/Nebraska Center for Materials and Nanoscience

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

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

Indigenous Roots Teacher Education Program

$1,174,067 ..... ED

Erixson, John — **Nebraska State Forest Service**

Cooperative Forestry Program

$2,692,741 ..... USDA-FS

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)

$1,703,849 ..... USDA-FNS through Nebraska Department of Health and Human Services
Behrends, Donna ..... Nutrition and Health Sciences
Boeckner, Linda ..... Extension
Hartline, Morgan ..... Nutrition and Health Sciences
Sehi, Natalie ..... Nutrition and Health Sciences

Fontaine, Joseph — **Natural Resources**

Assessing the Effects of Habitat Incentive Programs and Public Access Programs on Pheasant Population Dynamics and Hunter Harvest

$1,989,522 ..... Nebraska Game and Parks Commission
Damsky, David ..... Natural Resources
Foggia, Jennifer ..... Natural Resources
Reed, Tyler ..... Natural Resources

Use and Satisfaction of Public Hunting Opportunities

$1,938,757 ..... 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

$1,136,6002 ..... NSF

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

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

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

SALSA Project Hot Water Drill Operations with WISSARD Main Drill and Parts of UNL Roving Drill (Prime Mover)

$1,333,019 ..... NSF through Dartmouth College
McManis, James ..... College of Engineering

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 ..... Natural Resources

Helikar, Tomas — **Biochemistry**

A Predictive Multi-scale Model of the Immune System: An Integrated Resource for Interdisciplinary Applications

$1,780,567 ..... NIH-NIGMS

An Innovative Computational Modeling Intervention to Facilitate Learning of Biology Using Simulation and Dynamical Systems Approaches

$2,321,012 ..... NSF
Brassil, Chad ..... Biological Sciences
Dauer, Joseph ..... Natural Resources
Harris, Steven ..... Plant Pathology

Hibberd, Chuck — **Extension/ Nebraska Local Technical Assistance Program**

Nebraska Local Technical Assistance Program FY 2016

$1,118,920 ..... DOT-FHWA through Nebraska Department of Transportation

Houston, Adam — **Earth and Atmospheric Sciences**

RII Track-2 FEC: Unmanned Aircraft System for Atmospheric Physics

$1,454,757 ..... NSF through Oklahoma State University
Detweiler, Carrick ..... Computer Science and Engineering
Pytlik 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

$1,050,000 ..... DoD-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, Ayse ..... Civil 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, Michael ..... Psychology/ 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

Khalimonchuk, Oleh — **Biochemistry**

Mechanisms of Mitochondrial Quality Control and Protection

$1,421,695 ..... NIH-NIGMS

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

$1,998,928 ..... 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

Kravchenko, Ilya — **Physics and Astronomy**

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

Li, Ming — **Psychology**

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

Lodl, 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
$1,975,000 ..... DoD-ONR

Lubben, Bradley — **Agricultural Economics**

North Central Risk Management Education Center
$3,253,008 ..... USDA-NIFA

MacDonald, James — **Animal Science**

*Enhancing Animal Protein through Crops and Cattle
$1,000,000 ..... Foundation for Food and Agriculture Research
Awada, Tala ..... Natural Resources
Banerjee, Simanti ..... Agricultural Economics
Blanco, Humberto ..... Agronomy and Horticulture
Drewnoski, Mary ..... Animal Science
Erickson, Galen ..... Animal Science
Okalebo, Jane ..... Natural Resources
Parsons, Jay ..... Agricultural Economics
Redfearn, Daren ..... Agronomy and Horticulture
Suyker, Andy ..... Natural Resources

Meiklejohn, Colin — **Biological Sciences**

*Investigating the Special Role of Sex Chromosomes in Speciation: Discovering the Molecular Identities, Functions, and Evolutionary Histories of X-Linked Hybrid Male Sterility Genes in *Drosophila*
$1,298,165 ..... DHHS-NIGMS

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

Lincoln Upward Bound
$1,358,634 ..... ED

Upward Bound Math/Science Program
$1,385,670 ..... ED

Molfese, Victoria — **Child, Youth and Family Studies**

Development Implications of Early Childhood Sleep
$1,387,788 ..... 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

Neta, Maital — **Psychology/ Center for Brain, Biology and Behavior**

*Functional Brain Networks Mediating Individual Differences in Valence Bias

$1,781,034 ..... DHHS-NIMH

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

Pannier, Angie — **Biological Systems Engineering**

*Using Cell Priming and Telecommunications Modeling to Enhance Gene Delivery for Stem Cell Therapies (DP2)

$2,197,500 ..... DHHS-NIBIB

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

Rajca, Andrzej — **Chemistry**

*New Nitroxide Spin Labels for Distance Measurements in Biological Systems

$1,745,253 ..... DHHS-NIGMS
Rajca, Suchada ..... Chemistry

Synthesis of Metal-Free Magnetic Resonance Imaging Contrast Agents

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

Ray, Chittaranjan — **Civil Engineering/Water Center/ Robert B. Daugherty Water for Food Institute**

*Securing Water for and from Agriculture through Effective Community and Stakeholder Engagement

$1,040,893 ..... USDA-NIFA through Pennsylvania State University
Burbach, Mark ..... Natural Resources/ Robert B. Daugherty Water for Food Institute
Fulginiti, Lilyan ..... Agricultural Economics/ Robert B. Daugherty Water for Food Institute
Groskopf, Jessica ..... Panhandle Research and Extension Center/ Robert B. Daugherty Water for Food Institute
Perrin, Richard ..... Agricultural Economics/ Robert B. Daugherty Water for Food Institute
Rudnick, Daran ..... West Central Research and Extension Center/ Robert B. Daugherty Water for Food Institute

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

$1,154,970 ..... 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, Vaughn Jr. — **Student Affairs**

UNL Educational Talent Search
$2,291,400 .....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
$1,648,002 ..... 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

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

Nebraska Partnership TEAMS
(Teaching to Enhance Achievement in Mathematics and Science)
$1,068,400 . . . . . 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

Storz, Jay — **Biological Sciences**

*RII Track-2 FEC: Using Natural Variation to Educate, Innovate, and Lead (UNVEIL): A Collaborative Research Network to Advance Genome-to-Phenome Connections in the Wild
$1,856,000 . . . . . NSF through University of Montana
Meiklejohn, Colin . . . . . Biological Sciences
Montooth, Kristi . . . . . Biological Sciences

Mutational Pleiotropy, Epistasis, and the Adaptive Evolution of Hemoglobin Function
$1,386,044 . . . . . NIH-NHLBI
Moriyama, Hideaki . . . . Biological Sciences/Center for Biotechnology

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
$1,790,999 . . . . . NSF through University of Wisconsin-Madison

Takacs, James — **Chemistry**

Catalytic Asymmetric Hydroboration: Uncapping the Potential with Two-point Binding Substrates
$1,232,002 . . . . . DHHS-NIGMS

Tamayol, Ali — **Mechanical & Materials Engineering**

*Multifunctional Dressing for Treatment of Diabetic Wounds
$1,200,150 . . . . . DHHS-NIH

Terry, Benjamin — **Mechanical & Materials Engineering**

*En-route Care for Acute Respiratory Distress Syndrome (ARDS) Maturation

$1,215,434 ..... DOD-Offutt Air Force Base-STRATCOM through National Strategic Research Institute

Thomas, Amanda — **Teaching, Learning and Teacher Education/ Nebraska Center for Research on Children, Youth, Families and Schools**

*Nebraska STEM: Supporting Elementary Rural Teacher Leadership

$1,499,493 ..... NSF

Forbes, Cory ..... Natural Resources/ Nebraska Center for Research on Children, Youth, Families and Schools

Homp, Michelle ..... Center for Science, Mathematics and Computer Education/ Nebraska Center for Research on Children, Youth, Families and Schools

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

Scharmann, Lawrence .... Teaching, Learning and Teacher Education/ Nebraska Center for Research on Children, Youth, Families and Schools

Smith, Wendy ..... Center for Science, Mathematics and Computer Education/ Nebraska Center for Research on Children, Youth, Families and Schools

Soh, Leen-Kiat ..... Computer Science and Engineering/ Nebraska Center for Research on Children, Youth, Families and Schools

Thomas, Julie ..... Teaching, Learning and Teacher Education/ Nebraska Center for Research on Children, Youth, Families and Schools

Trainin, Guy ..... Teaching, Learning and Teacher Education/ Nebraska Center for Research on Children, Youth, Families and Schools

Wei, Sally ..... College of Engineering/ 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

Duppong 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

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

Umphlett, Natalie — **Natural Resources**

High Plains Regional Climate Center

$2,030,937 ..... DOC-NOAA

Sorensen, William ..... Natural Resources

Stiles, Crystal ..... Natural Resources

Umstadter, Donald — **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

Van Etten, James — **Plant Pathology/ Nebraska Center for Virology**

*RII Track-2 FEC: G2P in VOM: An Experimental and Analytical Framework for Genome to Phenome Connections in Viruses of Microbes

$1,192,224. . . . . NSF through University of Delaware
DeLong, John . . . . . Biological Sciences/ Nebraska Center for Virology
Dunigan, David. . . . . Plant Pathology/ Nebraska Center for Virology

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, Lydiah . . . . . Teaching, Learning and Teacher Education

Walia, Harkamal — **Agronomy and Horticulture**

Physiological and Genetic Mechanisms Underlying Salt Tolerance in Rice across Developmental Stages

$2,035,509 . . . . . NSF
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

West, John — **Nebraska Center for Virology**

*KSHV, HIV and the Kaposi's Sarcoma Tumor Niche

$2,793,519 . . . . . DHHS-NCI
Wood, Charles . . . . . Biological Sciences/Biochemistry/ Nebraska Center for Virology

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

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

*Zambia AIDS Malignancies Diagnosis and Pathogenesis Program

$3,842,954 . . . . . DHHS-NCI
Angeletti, Peter. . . . . Biological Sciences/ Nebraska Center for Virology
West, John. . . . . Nebraska Center for Virology

*The Impact of Cannabis on Inflammation and HIV-1 Reservoirs in Zambia

$3,447,340 . . . . . DHHS-NIDA
Li, Qingsheng . . . . . Biological Sciences/ Nebraska Center for Virology
West, John. . . . . 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)

$3,720,850 . . . . . 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

$2,523,061 . . . . . 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, 2017–June 30, 2018

* Indicates new in 2017–2018

Adamowicz, Michael — College of Agricultural Sciences and Natural Resources

*The Human Virome as Trace Evidence in Forensic Investigation
$698,382 . . . . . DOJ-NIJ
Clarke, Jennifer . . . . . Food Science and Technology/Statistics
Fernando, Samodha . . . . . Animal Science
Herr, Joshua . . . . . Plant Pathology

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

Alexander, Dennis — Electrical and Computer Engineering

*Quarter Scale Critical Heat Exchanger for International Space Station
$350,000 . . . . . NASA-Johnson Space Center
Zuhlke, Craig . . . . . 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
$559,466 . . . . . 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 Jr. . . . . 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

Amundsen, Keenan — Agronomy and Horticulture

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

Asadollahipajouh, Mojdeh — Midwest Roadside Safety Facility

*Determination of Zone of Intrusion Envelopes under MASH Impact Conditions for Rigid Barrier
$400,000 . . . . . National Academy of Sciences-NCHRP
Bielenberg, Robert . . . . . Midwest Roadside Safety Facility
Faller, Ronald . . . . . Midwest Roadside Safety Facility
Schmidt, Jennifer . . . . . Midwest Roadside Safety Facility
Stolle, Cody . . . . . Midwest Roadside Safety Facility

Avalos, George — Mathematics

Analysis and Control Theory for Moving Boundary and Nonlinear Phenomena in Interactive Partial Differential Equations
$328,901 . . . . . NSF
Toundykov, Daniel . . . . . Mathematics

Avramov, Luchezar — Mathematics

Cohomology over Commutative Rings: Structure and Applications
$458,919 . . . . . NSF

Awada, Tala — **Natural Resources**

*Carbon Flux from Great Plains Agroecosystems Associated with the ARS LTAR Network

$260,000 . . . . . USDA-ARS
Erickson, Galen . . . . . Animal Science
Suyker, Andy . . . . . Natural Resources

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

Developing the Tools and Germplasm for Hybrid Wheat

$975,000 . . . . . USDA-NIFA

Balkir, Sina — **Electrical and Computer Engineering**

*Low-profile PMT Scintillator Read-out System

$987,191 . . . . . DOD-DTRA through Kansas State University
Bauer, Mark . . . . . Electrical and Computer Engineering
Hoffman, Michael . . . . . Electrical and Computer Engineering

Banerjee, Simanti — **Agricultural Economics**

The Impacts of Conservation Auction Design on Auction Performance and Community Welfare: Evidence from Lab and Artefactual Experiments

$498,641 . . . . . USDA-NIFA

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

*EAGER: MAKER: Nebraska Innovative Maker Co-Laboratory (NiMC)

$299,639 . . . . . NSF
Farritor, Shane . . . . . Mechanical & Materials Engineering
Keshwani, Jenny . . . . . Biological Systems Engineering

Nebraska Wearable Technologies

$984,189 . . . . . NSF
Keshwani, Jennifer . . . . . Biological Systems Engineering
Krehbiel, Michelle . . . . . 4-H Youth Development
Nelson, Carl . . . . . Mechanical & Materials Engineering
Nugent Gwen . . . . . Nebraska Center for Research on Children, Youth, Families and Schools
Weiss, Wendy . . . . . Textiles, Merchandising and Fashion Design

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

Genome Wide Analysis of *M. Paratuberculosis* Pathogenesis

$499,981 . . . . . USDA-NIFA

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

REU Site: Sustainability of Horizontal Civil Networks in Rural Areas

$352,698 . . . . . NSF
Jones, Elizabeth . . . . . Nebraska Transportation Center
Kim, Yong Rak . . . . . Civil Engineering
Li, Xu . . . . . Civil Engineering
Li, Yusong . . . . . Civil Engineering
Linzell, Daniel . . . . . Civil Engineering
Steelman, Joshua . . . . . Nebraska Transportation Center

WSC Category 1: Influence of Climate and Agricultural Clustering on Groundwater Contamination by Trace Organics

$599,663 . . . . . USDA-NIFA
Gates, John . . . . . Earth and Atmospheric Sciences
Li, Xu . . . . . Civil Engineering
Li, Yusong . . . . . Civil Engineering
Rosenbaum, David . . . . . Economics
Snow, Daniel . . . . . Water Center
Tang, Zhenghong . . . . . Community and Regional Planning Program
Thompson, Eric . . . . . Bureau of Business Research

Bashford, Gregory — **Biological Systems Engineering**

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

$364,006 . . . . . NSF
Nelson, Carl . . . . . Mechanical & Materials Engineering

Neurological Consequences of Emboli Burden during Cardiopulmonary Bypass

$278,242 . . . . . Gerber Foundation

Basolo, Alexandra — **Biological Sciences**

The Consistency of Behavioral Plasticity Across Different Selective Contexts

$512,998 . . . . . NSF

Batelaan, Herman — **Physics and Astronomy**

Coherent Electron Control

$398,442 . . . . . NSF

Becker, Donald — **Biochemistry/ Nebraska Center for Redox Biology/ Center for Plant Science Innovation**

*REU Site: Training in Redox Biology

$298,186 . . . . . NSF

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

Alfano, Jim . . . . Plant Pathology/Nebraska Center for Redox Biology/ Center for Plant Science Innovation

Du, Liangcheng . . . . . Chemistry/Nebraska Center for Redox Biology/ Center for Plant Science Innovation

Franco Cruz, Rodrigo. . Veterinary Medicine and Biomedical Sciences/ Nebraska Center for Redox Biology/ Center for Plant Science Innovation

Khalimonchuk, Oleh. . . . . Biochemistry/ Nebraska Center for Redox Biology/ Center for Plant Science Innovation

Lee, Jaekwon. . . . . Biochemistry/Nebraska Center for Redox Biology/ Center for Plant Science Innovation

Ro, Seung-Hyun . . . Biochemistry/Nebraska Center for Redox Biology/ Center for Plant Science Innovation

Stone, Julie . . . . . Biochemistry/Nebraska Center for Redox Biology/ Center for Plant Science Innovation

Wilson, Mark. . . . . Biochemistry/Nebraska Center for Redox Biology/ Center for Plant Science Innovation

Zhang, Limei . . . . . Biochemistry/ Center for Plant Science Innovation/ Nebraska Center for Redox Biology/

Coordination of Functions by Proline Metabolic Proteins

$546,436 . . . . . NIH-NIGMS through University of Missouri-Columbia

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**

*Reproductive Success, Survival, and Cause-specific Mortality of Bighorn Sheep in Nebraska

$544,000 . . . . . Nebraska Game and Parks Commission

Assessment of Adult Female and Neonatal Mule Deer (*Odocoileus hemionus*) Survival, Movements and Habitat Use in Nebraska

$701,420 . . . . . Nebraska Game and Parks Commission

Berkowitz, David — **Chemistry**

*Medical Countermeasure Drug Discovery and Development

$757,782 . . . . . DOD-Offutt Air Force Base-STRATCOM through National Strategic Research Institute

Helikar, Tomas . . . . . Biochemistry

Powers, Robert . . . . . Chemistry

New Approaches to Catalyst Screening and Development

$593,872 . . . . . NSF

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

Alliance for Food Security through Reduction of Postharvest Loss and Food Waste

$930,007 . . . . . 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

Black, Paul — **Biochemistry**

*Waste to Oil and High Value Bioproducts

$734,608. . . . . Nebraska Department of Economic Development through Vestal W2O

Allen, James . . . . . Biochemistry

Blanco, Humberto — **Agronomy and Horticulture**

*Enhancing Soil Ecosystem Services with Cover Crops

$252,471 . . . . . Nebraska Environmental Trust
Ferguson, Richard . . . . . Agronomy and Horticulture
Jasa, Paul . . . . . Biological Systems Engineering

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

Brewer, Gary — **Entomology**

*A Multi-tactic Push-Pull Strategy for Controlling Stable Flies on Pasture Cattle in Nebraska and Florida

$325,000 . . . . . USDA-NIFA
Boxler, David . . . . . West Central Research and Extension Center
Hanford, Kathryn . . . . . Statistics
Stockton, Matt . . . . . West Central Research and Extension Center

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

Nebraska Research Network in Functional Genomics

$423,408 . . . . . 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

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

$280,000 . . . . . 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

Carroll, John — **Natural Resources**

Wildlife Management and Human Dimensions
$255,000 ..... DOI-FWS through 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
$680,662 ..... DOE

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

*Developing Genetic and Genomics Tools for *Tetraselmis* sp.
$346,108 ..... Gordon and Betty Moore Foundation
Clemente, Thomas ..... Agronomy and Horticulture/ 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
$288,371 ..... DOI-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
$468,000 ..... NSF

Christensen, Alan — **Biological Sciences**

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

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

Ciftci, Ozan — **Food Science and Technology**

*Development of an Integrated Green Process to Obtain a High-value, Stable and Bioavailable Lycopene Product from Tomato Processing Industry Waste
$489,781 ..... USDA-NIFA
Demirel, Yasar ..... Chemical and Biomolecular Engineering

Ciobanu, Daniel — **Animal Science**

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

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

*EAGER: Non-integrative Transient Delivery of Reagents into Plant Cells via the Type IV Secretion System of *A. tumefaciens*
$299,006 ..... NSF

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

A Resource for Functional Genomics to Support Soybean Genetics and Breeding
$835,378 ..... NSF through University of Georgia

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

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, Yusong ..... Civil Engineering

Cornelius, Christopher — **Chemical and Biomolecular Engineering**

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

Couch, Brian — **Biological Sciences**

Cultivating Active Learners by Enabling Instructors to Monitor and Enhance Student Buy-in and Utilization of Research-based Instructional Strategies
$299,920 ..... NSF
Brassil, Chad ..... Biological Sciences

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

Cramer, Joel — **Nutrition and Health Sciences**

*Proof of Concept Study: Carbohydrates and Children
$277,215 ..... Abbott Laboratories
Koehler, Karsten ..... Nutrition and Health Sciences
Su, Qiaozhu ..... Nutrition and Health Sciences

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

*STTR: Infant Screening of Communication Risk: The CISS
$389,960 ..... DHHS-NIDCD through Brookes Publishing Co., Inc.

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

Cui, Bai — **Mechanical & Materials Engineering**

*Understanding the Mechanisms of the Pulsed Electric Current Process for Joining Oxide-Dispersion-Strengthened Alloys
$307,825 ..... NSF
Nastasi, Michael .... Nebraska Center for Energy Sciences Research
Zhou, Qin ..... Mechanical & Materials Engineering

Mechanisms of Toughening Structural Ceramics by Thermal Engineered Laser Shock Peening
$348,336 ..... NSF
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

Dauer, Jenny — **Natural Resources**

*Making Decisions about Socioscientific Issues in Multidisciplinary Postsecondary Learning Environments
$299,998 ..... NSF

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**

*COTS Autonomous Tracking and Indicating Prototype
$616,286 ..... DOD-Offutt Air Force Base-STRATCOM through National Strategic Research Institute
Bradley, Justin ..... Computer Science and Engineering
Duncan, Brittany ..... Computer Science and Engineering

*Detection of Nuclear Threats Using Deployable Sensors
$469,293 . . . . . .DOD-Offutt Air Force Base-STRATCOM through National Strategic Research Institute
Bradley, Justin. . . . . .Computer Science and Engineering
Duncan, Brittany . . . . . .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
Waite, Matthew . . . . . Journalism and Mass Communications

DiLillo, David — **Psychology**

*Intervention to Promote Pro-social Bystander Behaviors
$402,117 . . . . . .DHHS-NICHD
Brock, Becca . . . . . .Psychology
Gervais, Sarah . . . . . .Psychology

DiRusso, Concetta — **Biochemistry**

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

Dodd, Michael — **Psychology**

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

Dodds, Eric — **Chemistry**

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

Dombrowski, Kirk — **Sociology**

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

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

*Controlling Structural, Electronic, and Energy Flow Dynamics of Catalytic Processes through Tailored Nanostructures
$260,001 . . . . . .University of Central Florida

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

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

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

Duncan, Brittany — **Computer Science and Engineering**

*REU Site: Undergraduate Research Opportunities in Unmanned Systems Foundations and Applications
$344,649 . . . . . .NSF
Bradley, Justin. . . . . .Computer Science and Engineering
Detweiler, Carrick . . . . . .Computer Science and Engineering

Duncan, Daniel — **Nebraska Innovation Campus**

Biotech Connector
$750,000 . . . . . .DOC-ED

Duppong Hurley, Kristin — **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
$390,000 . . . . . .NSF

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

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

Dzenis, Yuris — **Mechanical & Materials Engineering**

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

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

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

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

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

Elkins, Lynne — **Earth and Atmospheric Sciences**

*Testing Extrusion Tectonics, Rifting, and Lithosphere-Asthenosphere Coupling Models for the Central Highlands Diffuse Igneous Province, Vietnam
$413,437 ..... NSF
Burberry, Cara ..... Earth and Atmospheric Sciences

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

Erickson, Galen — **Animal Science**

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

Erixson, John — **Nebraska State Forest Service**

*Genomic Tools, Genetic Resources, and Outreach to Expand Commercial U.S. Hazelnut Production
$685,869 ..... USDA-NIFA through Oregon State University
Clare, Aaron ..... Nebraska State Forest Service
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
Duplissis, John ..... Nebraska State Forest Service

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

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

Eskridge, Kent — **Statistics**

GAANN Fellowship Program for Statistics
$887,202 ..... ED

Espy, Kimberly — **Psychology**

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

Fabrikant, Ilya — **Physics and Astronomy**

*Inelastic Electron Collisions with Molecules and Clusters
$269,465 ..... NSF

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

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

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

Fernandez-Ballester, Lucia — **Mechanical & Materials Engineering**

*Nucleation Control of Conjugated Polymers through Melt-crystallization and Self-seeding
$345,000 ..... NSF

Fernando, Samodha — **Animal Science**

*Investigating Mobile Genetic Elements and Resistance Gene Reservoirs towards Understanding the Emergence and Ecology of Antimicrobial Resistance in Beef Cattle Production Systems
$830,751 ..... USDA-NIFA
Bartelt-Hunt, Shannon ..... Civil Engineering
Loy, Dustin ..... Veterinary Medicine and Biomedical Sciences
Messer, Tiffany ..... Biological Systems Engineering
Morota, Gota ..... Animal Science
Paz Manzano, Henry ..... Animal Science
Schmidt, Amy ..... Animal Science/Biological Systems Engineering
Snow, Daniel ..... Water Center
Stowell, Rick ..... Biological Systems Engineering

*Moving Beyond Rumen Microbiota Composition to Identify Interactions between Host Genotype and Rumen Function towards Identifying Genetic Markers and Microbial Functions that Influence Feed Efficiency
$500,000 ..... USDA-NIFA
Morota, Gota ..... Animal Science
Paz Manzano, Henry ..... Animal Science
Spangler, Matthew ..... 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

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

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 and Research for Agriculture across the United States

$927,774 ..... USDA-OCE

Svoboda, Mark ..... Natural Resources

Fuchs, Matthias — **Physics and Astronomy**

*Phase-Space Investigation of Laser-driven Weakly Relativistic Electron Beams

$420,000 ..... NSF

Centurion, Martin ..... Physics and Astronomy

Shadwick, Bradley ..... Physics and Astronomy

Nonlinear X-Ray Optics

$594,760 ..... DOE

Gamon, John — **Natural Resources**

Dimensions NASA: Linking Remotely Sensed Optical Diversity to Genetic, Phylogenetic and Functional Diversity to Predict Ecosystem Processes

$716,893 ..... NSF

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: Digitizing and Conserving Specimens in the Manter Laboratory of Parasitology

$499,988 ..... NSF

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

Gettinger, Donald ..... University of Nebraska State Museum

Racz, Gabor ..... University of Nebraska State Museum

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

Gilmore, Troy — **Natural Resources**

*Evaluation of Watershed-scale Groundwater Transit Time Distributions from Field Sampling and Numerical Modeling
$387,030 ..... NSF
Mittelstet, Aaron ..... Biological Systems Engineering
Zlotnik, Vitaly ..... Earth and Atmospheric Sciences

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

Graef, George — **Agronomy and Horticulture**

*Utilizing Unique Genetic Diversity to Combine Elevated Protein Concentration with High Yield in New Varieties and Experimental Lines
$515,426 ..... United Soybean Board/Smith/Bucklin
Hyten, David Jr. ..... Agronomy and Horticulture

*Increasing the Rate of Genetic Gain for Yield in Soybean Breeding Programs
$420,461 ..... North Central Soybean Research Program through Ohio State University
Hyten, David Jr. ..... Agronomy and Horticulture

Soybean Breeding and Genetic Studies for Nebraska
$286,060 ..... Nebraska Soybean Board

Grassini, Patricio — **Agronomy and Horticulture**

*Developing a Platform to Monitor N Footprint in Agro-Ecosystems
$431,000 ..... USDA-NIFA
Brozovic, Nicholas ..... Agricultural Economics/ Robert B. Daugherty Water for Food Institute
Gibson, Kate ..... Robert B. Daugherty Water for Food Institute
Rattalino Edreira, Juan Ignacio ..... 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
$339,683 ..... NSF

Gruverman, Alexei — **Physics and Astronomy/ Nebraska Center for Materials and Nanoscience**

Domain Wall Engineering for Novel Nanoelectronics
$338,422 ..... NSF

Gupta, Jhinuk — **Food Science and Technology**

*Tobacco Starch Isolation and Characterization
$446,250 . . . . . R.J. Reynolds Tobacco Company
Danao, Mary-Grace . . . . . Food Science and Technology
Weller, Curtis . . . . . Food Science and Technology

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 — **Chemistry**

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

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

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
$299,175 . . . . . NSF
McManis, James . . . . . Engineering/Antarctic Drilling Program

Hayes, Michael — **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
$399,073 . . . . . ED
Nelson, J. Ron . . . . . Special Education and Communication Disorders

Hebets, Eileen — **Biological Sciences**

A Comparative Systems Approach to Complex Animal Signaling
$645,000 . . . . . NSF

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

Hermiller, Susan — **Mathematics**

Topology and Geometry of Cayley Graphs for Groups
$251,096 . . . . . NSF

Holding, David — **Agronomy and Horticulture**

A Novel Functional Genomics Platform for Dissecting Maize Kernel Maturation and Protein Quality
$412,985 . . . . . USDA-NIFA
Zhang, Chi . . . . . Biological Sciences

Hong, Xia — **Physics and Astronomy/ Nebraska Center for Materials and Nanoscience**

*Exploring Spin-Orbit Coupling and Correlated Phenomena in Iridate-based Ferroelectric Transistors and Tunnel Junctions
$499,012 ..... NSF

Nanoscale Ferroelectric Control of Novel Electronic States in Layered Two-dimensional Materials
$750,262 ..... DOE

Hope, Debra — **Psychology**

Community Partnership to Identify Intervention Targets to Improve Mental Health Services to Transgender Individuals in Underserved Areas
$399,418 ..... NIH-NIMH

Housh, Terry — **Nutrition and Health Sciences/ Nebraska Center for the Prevention of Obesity Diseases through Dietary Molecules**

*Bioavailability and Distribution of Bovine Milk Exosomes and their RNA, Lipid and Protein Cargos in Mice
$347,185 ..... PureTech Health
Zempleni, Janos ..... Nutrition and Health Sciences/ Nebraska Center for the Prevention of Obesity Diseases through Dietary Molecules

Houston, Adam — **Earth and Atmospheric Sciences**

Investigating Soil Moisture-Convective Precipitation Feedbacks with Soil Moisture Active Passive
$402,364 ..... NASA through The Ohio State University

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

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
$492,497 ..... USDA-NIFA
Peterson, Julie ..... West Central Research and Extension Center

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

*Digestive Tract Microbiome in Healthy Term Infants Receiving Mothers-own Breast Milk or Cows Milk-based Infant Formulas
$265,749 ..... Mead Johnson Nutrition
Izard, Jacques ..... Food Science and Technology

Ianno, Natale — **Electrical and Computer Engineering**

REU Site: Research Experience for Undergraduates in Nanohybrid Functional Materials
$306,032 ..... NSF

Ihlo, Tanya — **Nebraska Center for Research on Children, Youth, Families and Schools**

Nebraska Multi-Tiered System of Support Implementation Support Team
$878,534 ..... ED 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

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

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 Natural Resources District

Kim, Surin — **Textiles, Merchandising and Fashion Design**

*Leveraging Community Connections, Local Issues, and Youth High Tech Entrepreneurship Education to Nurture Rural Economic Opportunities

$493,560 . . . . . USDA-NIFA
De Guzman, Maria. . . . . Child, Youth and Family Studies
Guru, Ashu . . . . . 4-H State Office
Nicholas, Claire . . . . . Textiles, Merchandising and Fashion Design

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

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

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
Joeckel, 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

$648,750 . . . . . 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

$649,100 . . . . . Lower Elkhorn NRD

Lechtenberg, Karla — **Midwest Roadside Safety Facility**

*Crash Testing MoDOT Devices

$376,367 . . . . . Missouri Department of Transportation through Nebraska Department of Roads
Faller, Ronald . . . . . Midwest Roadside Safety Facility
Holloway, Jim . . . . . Midwest Roadside Safety Facility
Schmidt, Jennifer . . . . . Midwest Roadside Safety Facility

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, 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**

*Impact of Fc N-glycan Structure on HIV-specific Antibody Functions

$295,950 . . . . . DHHS-NIAID through University of Wyoming

*Long-acting Antiretroviral Nanoparticles for HIV Prophylaxis

$259,125 . . . . . DHHS-NIAID through Creighton University

Lindquist, John — **Agronomy and Horticulture**

*A Risk-assessment Model and Population Genomics Tools for Monitoring Herbicide-resistance Evolution in Weedy Sorghum

$499,998 . . . . . USDA-NIFA
Jhala, Amit . . . . . Agronomy and Horticulture
Sigmon, Brandi . . . . . Agronomy and Horticulture
Tenhumberg, Brigitte . . . . . Mathematics/Biological Sciences

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

Lu, Yongfeng — **Electrical and Computer Engineering**

Radar 2021
$578,025 ..... 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

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

Males, Lorraine — **Teaching, Learning and Teacher Education**

*Examining the Impact of the CPM Implementation in an Urban District
$361,292 ..... College Preparatory Mathematics (CPM) Educational Program

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

Meinke, Lance — **Entomology**

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

Messer, Tiffany — **Biological Systems Engineering**

*Photodegradation of Insecticides in Rivers Adjacent to Agricultural Intensive Regions: A Novel Water Quality Monitoring Approach

$498,500 . . . . . USDA-NIFA

Snow, Daniel . . . . . Water Center

Moreau, Regis — **Nutrition and Health Sciences**

Bioactivity of Curcumin and Gut Inflammation

$480,214 . . . . . USDA-NIFA

Hage, David . . . . . Chemistry

Munoz-Arriola, Francisco — **Biological Systems Engineering**

*From Gene to Global Hydroclimatic Controls on Hybrid Performance Predictability

$490,000 . . . . . USDA-NIFA

Hernandez Jarquin, Juan Diego . . . . . Agronomy and Horticulture

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**

A Novel Pediatric Gait Rehabilitation Device

$394,911 . . . . . NIH-NICHD

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

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

$636,372 . . . . . 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 — **Electrical and Computer Engineering**

*ABC Group SRA: Center for Electromagnetic Concrete R&D and Shielding Innovations

$301,408 . . . . . American Business Continuity Domes, Inc.

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

Odhiambo, Lameck — **Biological Systems Engineering**

*Reconfiguring Farmers' Behavior to Reduce Irrigation Water Use through Water Measurements and Social Norms Interventions: A Case Study in the Republican River Basin

$453,539 . . . . . USDA-NIFA

Olson, Kristen . . . . . Sociology

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

Otu, Hasan — **Electrical and Computer Engineering**

*Identification and Characterization of Interaction Atlases in Humans
$399,477 ..... DHHS-National Library of Medicine
Sayood, Khalid ..... Electrical and Computer Engineering

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**

*CIF: Small: WetComm: Foundations of Wet Communication Theory
$499,528 ..... NSF
Niu, Wei. ..... Chemical and Biomolecular Engineering

Pitla, Santosh — **Biological Systems Engineering**

*In-field Tractor Operational Load Profile Generation in Support of Advanced Tractor Testing in Mixed-mode Power States

$472,887 ..... USDA-NIFA
Hoy, Roger. ..... Biological Systems Engineering
Luck, Joe ..... Biological Systems Engineering
Rohrer, Rodney ..... Biological Systems Engineering

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

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

Qu, Liyan — **Electrical and Computer Engineering**

Voltage and Frequency Power Converter Based on Electromagnetic Induction

$493,349 ..... DOE-ARPA-E

Radu, Petronela — **Mathematics**

*Higher Order Nonlocal Models in Continuum Mechanics

$290,621 . . . . . NSF
Foss, Mikil . . . . . Mathematics

Raikes, Helen — **Child, Youth and Family Studies**

Evaluation of Early Steps to School Success

$734,694 . . . . . Save the Children

Rajca, Andrzej — **Chemistry**

*Organic Nanoparticles for Dual MRI-Guided Therapeutic Selection and Ovarian Cancer Drug Delivery

$316,735 . . . . . DHHS-NCI through Massachusetts Institute of Technology

Nitrogen-Centered Radicals

$495,000 . . . . . 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

Rasby, Rick — **Extension**

Nebraska Extension Implementation Program

$627,447 . . . . . USDA-NIFA
Bradshaw, Jeffrey . . . . . Panhandle Research and Extension Center
Glewen, Keith . . . . . Southeast Research and Extension Center
Green, Jody . . . . . Southeast Research and Extension Center
Jackson-Ziems, Tamra . . . . . Plant Pathology
Jhala, Amitkumar . . . . . Agronomy and Horticulture
Larson, Jonathan . . . . . Southeast Research and Extension Center
Ogg, Clyde . . . . . Agronomy and Horticulture
Wright, Robert . . . . . Entomology
Wu-Smart, Judy . . . . . Entomology

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

$384,227 . . . . . 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

Riekhof, Wayne — **Biological Sciences**

*The Life History and Systems Biology of Fungal-Algal Mutualisms

$639,910 . . . . . NASA
Harris, Steven . . . . . Plant Pathology
Herr, Joshua . . . . . Plant Pathology

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

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

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

*High-throughput, High-resolution Phenotyping of Nitrogen Use Efficiency Using Coupled In-plant and In-soil Sensors

$334,169 ..... DOE-ARPA-E through Iowa State University

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

Schubert, Mathias — **Electrical and Computer Engineering**

*The Influence of Doping and Annealing onto the Lattice Dynamics, Band Structure and Free Charge Carrier Properties in Monoclinic Gallium Aluminum Oxide Semiconductor Alloys

$430,052 ..... NSF
Korlacki, Rafal ..... Electrical and Computer Engineering

*The Strain-Stress Relationships for Band Gap, Phonon and Plasmon Energies in Monoclinic Ga2O3 and Related Materials

$323,393 ..... DOD-AFOSR

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**

*Generation and Control of Self-organized Nonlinear Kinetic Structures in High-energy Density Plasmas in the Presence of Intense Magnetic Fields and Ultrashort Laser Pulses

$632,020 ..... DOE

High Fidelity Modeling of Laser-Plasma Accelerators

$524,991 ..... NSF
Kalmykov, Serge ..... Physics and Astronomy

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

*Wireless Digital Train Line for Passenger Trains: Exploring Railroad Requirements, Achieving Synergy, and Designing WiDTL for Next-generation Passenger Rail Services
$300,045 . . . . . DOT-FRA
Hempel, Michael . . . . . Electrical and Computer Engineering

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

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

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

Sinitskii, Alexander — **Chemistry**

Extended Atomically Precise Graphene Nanoribbons and Nanostructures with Improved Electrical Conductivity
$768,496 . . . . . DoD-ONR

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

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

*Teacher Leadership (T-LEAD): Investigating the Persistence and Trajectories of Noyce Master Teaching Fellows
$701,004 . . . . . .NSF

Student Engagement in Mathematics through an Institutional Network for Active Learning
$332,442 . . . . . .NSF
Donsig, Allan . . . . . .Mathematics
Wakefield, Nathan . . . . . .Mathematics

NebraskaNOYCE Phase II: Investigating the Impact in High-Need Districts
$349,864 . . . . . .NSF
Lai, Yuan-Juang . . . . . Mathematics/Center for Science, Mathematics and Computer Education
Lewis, Jim . . . . . Mathematics/Center for Science, Mathematics and Computer Education
Males, Lorraine . . . . . .Teaching, 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
$460,000 . . . . . 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
$299,982 . . . . . .City of Hastings, NE
Ray, Chittaranjan . . . . . .Water Center/ Robert B. Daugherty Water for Food Institute

Snow, Gregory — **Physics and Astronomy**

GAANN Fellowships for Physics at UNL
$408,315 . . . . . .ED
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
$873,250 . . . . . .NSF
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
$364,567 . . . . . .NSF

Spangler, Matthew — **Animal Science**

*Beef Cattle Production System Decision Support Tools to Enable Improved Genetic, Environmental, and Economic Resource Management
$299,312 . . . . . USDA-NIFA

Stains, Marilyne — **Chemistry/Center for Science, Mathematics and Computer Education**

*Mapping Change in Higher Education Social Networks and STEM Reforms

$524,243 . . . . . NSF
Couch, Brian . . . . . Biological Sciences

Starace, Anthony — **Physics and Astronomy**

Strong Field & Ultrafast Atomic and Molecular Processes

$360,000 . . . . . NSF

Steadman, James — **Plant Pathology**

Feed the Future Innovation Lab for Collaborative Research on Grain Legumes

$392,749 . . . . . AID 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

$655,576 . . . . . NSF
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

$262,752 . . . . . NSF
Moriyama, Hideaki . . . . . Biological Sciences

Subbiah, Jeyam — **Food Science and Technology/ Biological Systems Engineering**

*Enhancing Low-moisture Food Safety by Improving Development and Implementation of Pasteurization Technologies

$943,617 . . . . . USDA-NIFA through Michigan State University

Immersive Educational Game Simulations to Enhance Understanding of Corn-Water Ethanol-Beef System Nexus

$999,644 . . . . . NSF
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

$534,231 . . . . . DoD-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

Terry, Benjamin — **Mechanical & Materials Engineering**

*Development of a Gastrointestinal Tissue Attachment Mechanism

$250,000. . . . . Progenity, Inc.

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

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
$312,282 ..... Amsted Industries

Twidwell, Dirac Jr. — **Agronomy and Horticulture**

Juniper Invasions and Landscape Intervention Potential: A Statewide Assessment
$967,451 ..... DOI-FWS through Nebraska Game and Parks Commission
Allen, Craig ..... Natural Resources

Umstadter, Donald — **Physics and Astronomy**

*Detection of Buried and Hidden Explosives Using Laser-driven High-energy Electron Beams
$638,252 ..... DOD-Offutt Air Force Base-STRATCOM through National Strategic Research Institute
Banerjee, Sudeep ..... Physics and Astronomy
Chen, Shouyuan ..... Physics and Astronomy

Ultra-low Emittance Electron Beams from Laser-Plasma Photo-cathodes
$374,844 ..... 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

Vu, Hiep — **Animal Science/Nebraska Center for Virology**

*Development of a Broadly Protective Diva Marker Vaccine against Porcine Reproductive and Respiratory Syndrome Virus
$489,934 ..... USDA-NIFA
Osorio, Fernando ..... Veterinary Medicine and Biomedical Sciences/ 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, John — **Computer Science and Engineering**

*SpecEES: CoSeC-RAN: Cognitive Secure Cloud RAN for Efficient Spectrum Sharing
$435,399 ..... NSF
Batur, Demet ..... Supply Chain Management and Analytics
Ryan, Jennifer ..... Supply Chain Management and Analytics
Yan, Qiben ..... 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

Walia, Harkamal — **Agronomy and Horticulture**

UNL-VBC Collaboration: Using Plant Phenomics to Capture Dynamic Growth Responses in Maize

$521,500 ..... 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

Walters, Cory — **Agricultural Economics**

Northern Plains Regional Farm Business Management and Benchmarking Partnership

$893,788 ..... 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 fefe Gene

$452,000 ..... USDA-NIFA

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

Integrating Multiple Analyses to Understand Gene Regulatory Networks

$496,000 ..... NSF

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

Behavioral Risk Factor Surveillance Survey and Adult Tobacco Survey
$682,361 ..... 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
$292,847 ..... 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

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
$337,995 ..... ED through Nebraska Department of Education

Xiang, Shi-Hua — **Veterinary Medicine and Biomedical Sciences/ Nebraska Center for Virology**

*Mucosal Delivery and Retention of Ebola Inhibitor Scytovirin Using *Lactobacillus*
$452,514 ..... DHHS-NIAID

Xu, Changmou — **Food Science and Technology**

*Improving Aronia Berry Sustainability and Fruit Quality
$461,983 ..... USDA-AMS through Nebraska Department of Agriculture
Xu, Zheng ..... Statistics
Zhang, Yue ..... Food Science and Technology

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

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

NeTS: Small: Systematically and Scalably Testing Network Programs under Packet Dynamics
$499,810 ..... NSF

Yu, Hongfeng — **Computer Science and Engineering**

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

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

Yuen, Gary — **Plant Pathology**

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

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

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

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

Zeng, Lirong — **Plant Pathology**

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

Zeng, Xiao — **Chemistry**

RII Track-2 FEC: Low-Cost, Efficient Next-Generation Solar Cells for the Coming Clean Energy Revolution

$971,001 . . . . . NSF through Brown University

Hong, Xia . . . . . Physics and Astronomy

Zhu, Jinying — **Civil Engineering**

Online Monitoring System for Concrete Structures Affected by Alkali-Silica Reaction (ASR)

$800,000 . . . . . DOE

Zuhlke, Craig — **Electrical and Computer Engineering**

*Fundamental Studies on Functionalizing Metallic Surfaces with Applications to Enhanced Heat Transfer and Drag Reduction; Novel Power Sources

$382,098. . . . . .DOD-Offutt Air Force Base-STRATCOM through National Strategic Research Institute

Alexander, Dennis. . . . . Electrical and Computer Engineering

Gogos, George . . . . . Mechanical & Materials Engineering

Ianno, Natale . . . . . Electrical and Computer Engineering

Shield, Jeffrey . . . . . Mechanical & Materials Engineering

Early Career Awards

Active awards, July 1, 2017–June 30, 2018
* Indicates new in 2017–2018

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
$413,883 . . . . . NSF

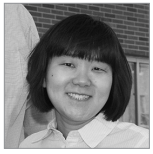
Bassett, Gilles
Agronomy and Horticulture/Biochemistry/Center for Plant Science Innovation
CAREER: The Metabolism of Prenylated Benzoquinones through the Lens of Plant-Prokaryote Phylogenomics
$784,820 . . . . . NSF

Dishari, Shudipto
Chemical and Biomolecular Engineering
*CAREER: Confined Ionomeric Systems and Imaging of Ionic Distribution
$591,000 . . . . . NSF

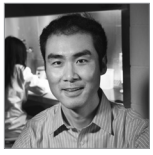
Duncan, Brittany
Computer Science and Engineering
*CAREER: Drones in Public: Foundational Interaction Research
$549,951 . . . . . NSF

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

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



Hong, Xia
Physics and Astronomy
CAREER: Interface Engineered Multiferroics and Nanoscale Phase Modulaton in Complex Oxide Heterostructures
$600,000 . . . . . NSF



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

Lim, Jung Yul
Mechanical & Materials Engineering
CAREER: Adipocytic Mechanotransduction for Obesity
$430,554 . . . . . NSF

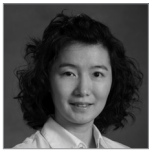
Males, Lorraine
Teaching, Learning and Teacher Education
CAREER: Examining Prospective Secondary Mathematics Teachers Learning to Use Curriculum Materials to Plan and Enact Instruction
$628,995 . . . . . NSF

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

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
$649,474 . . . . . NSF

Neta, Maital
Psychology
*CAREER: Functional Brain Networks Mediating Positivity Bias in Healthy Aging
$756,711 . . . . . NSF

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



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

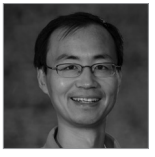
Rao, Prahalada
Mechanical & Materials Engineering
*CAREER: Smart Additive Manufacturing
$500,000 . . . . . NSF

Shizuka, Dai
Biological Sciences
*CAREER: Structure and Resilience of Social Networks under Population Turnover
$681,870 . . . . . NSF

Sinitskii, Alexander
Chemistry
CAREER: Narrow Graphene Nanoribbons with Tunable Electronic Properties
$538,477 . . . . . NSF

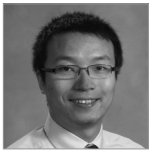
Stains, Marilyne
Chemistry/Center for Science, Mathematics and Computer Education
CAREER: The Winding Roads to Effective Teaching: Characterizing the Progressions in Instructional Knowledge and Practices of STEM Faculty
$959,849 . . . . . NSF

Wei, Sheng
Computer Science and Engineering
*CAREER: Towards the Security of Heterogeneous CPU-FPGA Systems
$496,940 . . . . . NSF



Xu, Xiaoshan
Physics and Astronomy
CAREER: Hexagonal Ferrite Thin Films for the High-Temperature Magnetoelectric Memory Effect
$591,256 . . . . . NSF

Yu, Hongfeng
Computer Science and Engineering
CAREER: Scalable Techniques for Visualizing Very Large Graphs
$476,951 . . . . . NSF



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

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
$369,422 . . . . . .DoD-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
$750,000 . . . . . DOE

Arts and Humanities Awards $250,000 or More

Active awards, July 1, 2017–June 30, 2018

* Indicates new in 2017–2018

Heitman, Carolyn — Anthropology/Center for Digital Research in the Humanities

Salmon Pueblo Archaeological Research Collection

$300,000 . . . . . NEH

05/01/2015 – 10/31/2018

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.

Jacobs, Margaret — History/Center for Digital Research in the Humanities

*Genoa Indian School Digital Reconciliation Project

$290,123 . . . . . Council on Library and Information Resources

06/01/2018 – 05/31/2020

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

With funding from the Council on Library and Information Resources, Margaret Jacobs, professor of history and director of the Women's and Gender Studies program, and Elizabeth Lorang, associate professor of University Libraries, have launched a project to compile, digitize and make accessible records and other materials from the Genoa Indian Industrial School in Nebraska, one of more than 150 boarding schools designed to assimilate indigenous American people into Euro-American culture near the end of the 19th century. They are working closely with Nancy Carlson and the Genoa U.S. Indian School Foundation in Genoa. The university's Center for Digital Research in the Humanities will host the Genoa Indian School Digital Reconciliation Project. In order to move the project forward with sensitivity and respect, Jacobs and Lorang are working with an advisory council that includes representatives from the Ponca, Pawnee, Omaha and Winnebago nations and UNITE, the university's Native American student group.

Jewell, Andrew — Center for Digital Research in the Humanities

Complete Letters of Willa Cather

$271,980 . . . . . NEH

10/01/2014 – 09/30/2018

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

$491,885 . . . . . Poetry Foundation

1/1/05 – 12/31/18

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.

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

Extending Image Analysis for Archival Discovery (Aida)
$462,317 ..... IMLS
12/01/2016 – 11/30/2019
Soh, Leen-Kiat ..... Computer Science and Engineering

The Image Analysis for Archival Discovery (Aida) research team investigates the use of image analysis to identify, describe and retrieve information from digital libraries and other digitized collections. Using machine learning, Elizabeth Lorang, associate professor of University Libraries, and colleagues in the Center for Digital Research in the Humanities are building an intelligent computational system that can recognize visual cues in digital images and identify similar content in new images. Digital images created by libraries, archives, museums and other groups represent a largely underutilized digitized cultural record – particularly digital images of textual materials. One goal of the project is to develop a new digital collection using the extracted content.

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 – 12/31/21

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
9/01/2007 – 08/31/2018
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
Pytlik 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, 2017–June 30, 2018

* Indicates new in 2017–2018

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

Cohen, Matt — **English/Center for Digital Research in the Humanities**

*Walt Whitman's Annotations

$125,961 ..... NEH

Bernardini, Caterina ..... English/Center for Digital Research in the Humanities

Gray, Nicole ..... English/Center for Digital Research in the Humanities

Dawes, Kwame — **English**

*African Poetry Digital Project

$150,000 ..... Ford Foundation

Dawes, Lorna ..... University Libraries

Edwards, Richard — **Center for Great Plains Studies**

*African American Homesteaders Historic Resource Study

$168,274 ..... DOI-NPS

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

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

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

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

Active awards, July 1, 2017–June 30, 2018

* Indicates new in 2017–2018

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**

*Seedfolks: Growing Our Community through Theater

$15,000 ..... NEA

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

Jewel, Andrew — **Center for Digital Research in the Humanities**

*My Ántonia at 100: The Ongoing Story

$6,930 ..... Humanities Nebraska

Rau, Emily ..... Center for Digital Research in the Humanities

Jones, Patrick — **History**

*The Classroom and the Future of the Historical Record: Humanities Education in a Changing Climate for Knowledge Production

$41,906 ..... Andrew W. Mellon Foundation through University of Illinois

Johnson, Aaron ..... Teaching, Learning and Teacher Education

Thomas, William ..... History

Nicholas, Claire — **Textiles, Merchandising and Fashion Design**

*Crafting Culture in the Middle of Everywhere: An Arts-Based Project on Intercultural Empathy Building and Entrepreneurship

$9,561 ..... Pearle Francis Finigan Foundation

Kim, Surin ..... Textiles, Merchandising and Fashion Design

Poor, Erin — **Lied Center for Performing Arts**

*Dance & Dialogue: Expanding Cultural Understanding through Hip Hop

$20,000 ..... NEA

Engen-Wedin, Nancy ..... Lied Center for Performing Arts

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

Fame and Infamy: Walt Whitman's Old-Age Correspondence

$29,233 ..... 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

Shank, Nancy — **Public Policy Center**

*Lincoln Reads Aloud: A Collective Impact Model

$15,666 ..... Institute of Museum and Library Services through Lincoln Community Foundation

Shear, Donna — **University of Nebraska Press**

Early American Regions

$30,100 ..... University of Georgia

Smith, Harris — **Johnny Carson School of Theatre and Film**

*Nebraska Repertory Season Support

$15,000 ..... Woods Charitable Fund

Nebraska Rep Relaunch

$7,500 ..... Cooper Foundation

Yang, Shuling — **Teaching, Learning and Teacher Education**

*Coaching Preschool Teachers to Ask Higher-Level Questions in Dialogic Reading

$5,000 ..... International Literacy Association

NUtech VENTURES®

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 2017-2018

Recognition for faculty and other university personnel who received patents for their inventions
July 1, 2017–June 30, 2018

Christian Binek, Kirill Belashchenko, Peter A. Dowben, Alex Wysocki, Sai Mu, Mike Street

Physics and Astronomy
Title: Magnetoelectric Chromia Having Increased Critical Temperature
Date: 8/1/2017
Number: 9718700
Country: United States

Chin Li "Barry" Cheung, Zane Gernhart

Chemistry
Title: Synthesis of Cerium Oxide Nanorods
Date: 8/22/2017
Number: 9738541
Country: United States

Mark Dean Christenson, Steven Douglas Comfort

College of Agricultural Sciences and Natural Resources
Title: Modular Oxidant Delivery System
Date: 3/27/2018
Number: 9925574
Country: United States

Carrick Detweiler, Sebastian Elbaum, David J. Anthony

Computer Science and Engineering
Title: Crop Height Estimation with Unmanned Aerial Vehicles
Date: 5/14/2018
Number: 9969492
Country: United States

Patrick H. Dussault, Rebecca Y. Lai, Thomas Fisher, Anita Zaitouna

Chemistry
Title: Self-Assembled Monolayers and Methods for Using the Same in Biosensing Applications
Date: 11/28/2017
Number: 9829487
Country: United States

Yuris Dzenis

Mechanical & Materials Engineering
Title: Method of Fabricating a Continuous Nanofiber
Date: 4/24/2018
Number: 9951444
Country: United States

Shane M. Farritor, Thomas Frederick, Joe Bartels

Mechanical & Materials Engineering
Title: Methods, Systems, and Devices Relating to Surgical End Effectors
Date: 7/14/2017
Number: 6174017
Country: Japan

Shane M. Farritor, Amy Catherine Lehman, Mark Rentschler

Mechanical & Materials Engineering
Title: Multifunctional Operational Component for Robotic Devices
Date: 2/6/2018
Number: 9883911
Country: United States

Shane M. Farritor, Thomas Frederick, Joe Bartels, Kearney Lackas, Jacob Greenburg
Mechanical & Materials Engineering
Title: Methods, Systems, and Devices Relating to Force Control Surgical Systems
Date: 2/13/2018
Number: 9888966
Country: United States

Shane M. Farritor, Amy Catherine Lehman, Mark Rentschler, Nathan Wood, Adam Bock, Reed Prior
Mechanical & Materials Engineering
Title: Methods, Systems, and Devices for Surgical Visualization and Device Manipulation
Date: 2/14/2018
Number: 3072640
Country: Italy, Ireland, United Kingdom, France, Europe, Switzerland

Number: 602007053938.19995
Country: Germany

Shane M. Farritor, Dmitry Oleynikov, Jason James Dumpert, Amy Catherine Lehman, Stephen R. Platt, Mark Rentschler
Mechanical & Materials Engineering; Surgery (UNMC)
Title: Magnetically Coupleable Robotic Devices and Related Methods
Date: 2/27/2018
Number: 2861159
Country: Canada

Shane M. Farritor, Thomas Frederick, Joe Bartels, Eric Markvicka, Jack Mondry
Mechanical & Materials Engineering
Title: Methods, Systems, and Devices Related to Robotic Surgical Devices, End Effectors, and Controllers
Date: 8/29/2017
Number: 9743987
Country: United States

Shane M. Farritor, Joe Bartels, Thomas Frederick
Mechanical & Materials Engineering
Title: Methods, Systems, and Devices Relating to Surgical End Effectors
Date: 9/12/2017
Number: 9757187
Country: United States

Shane M. Farritor, Yutaka Tsutano, Jason James Dumpert, Erik Mumm, Philip Chu, Nishant Kumar
Computer Science; Mechanical & Materials Engineering
Title: Robotic Surgical Devices, Systems, and Related Methods
Date: 9/26/2017
Number: 9770305
Country: United States

Shane M. Farritor, Thomas Frederick, Eric Markvicka, Jack Mondry, Joe Bartels
Mechanical & Materials Engineering
Title: Local Control Robotic Surgical Devices and Related Methods
Date: 10/20/2017
Number: 6228196
Country: Japan

Shane M. Farritor, Dmitry Oleynikov, Jason James Dumpert, Amy Catherine Lehman, Stephen R. Platt, Mark Rentschler, Nathan Wood
Mechanical & Materials Engineering; Surgery (UNMC)
Title: Magnetically Coupleable Robotic Devices and Related Methods
Date: 6/13/2018
Number: 2397101
Country: Europe, Ireland, France, Switzerland, United Kingdom, Germany

---

Ming Han, Weilin Hou, Guigen Liu
Mechanical & Materials Engineering; Electrical and Computer Engineering
Title: Fiber-Optic Temperature and Flow Sensor System and Methods
Date: 6/12/2018
Number: 9995628
Country: United States

Edward N. Harris, Jian Liu, Robert J. Linhardt, Yongmei Xu
Biochemistry
Title: Reversible Heparin Molecules and Methods of Making and Using the Same
Date: 4/24/2018
Number: 9951149
Country: United States

Jinsong Huang, Yongbo Yuan
Mechanical & Materials Engineering
Title: Floating-Gate Transistor Photodetector
Date: 10/10/2017
Number: 9786857
Country: United States

Jinsong Huang, Qingfeng Dong
Mechanical & Materials Engineering
Title: Systems and Methods for Fabricating Single Crystal Photovoltaic Perovskite Materials and Devices Incorporating the Same
Date: 11/7/2017
Number: 9812660
Country: United States

Jinsong Huang, Zhengguo Xiao
Mechanical & Materials Engineering
Title: Compositionally Graded Bulk Heterojunction Devices and Methods of Manufacturing the Same
Date: 5/29/2018
Number: 9985231
Country: United States

Haorong Li, Yanshun Yu, Daihong Yu
Durham School of Architectural Engineering and Construction
Title: Gas Generation
Date: 8/1/2017
Number: 9719062
Country: United States

Sally Mackenzie, Roberto de la Rosa Santamaria
Agronomy and Horticulture
Title: Plants With Useful Traits and Related Methods
Date: 7/18/2017
Number: 9708672
Country: United States

Date: 9/21/2017
Number: 2012250879
Country: Australia

Carl A. Nelson
Mechanical & Materials Engineering
Title: Shape-adaptive Mechanism for Robotic Grasping
Date: 8/8/2017
Number: 9724833
Country: United States

Stephen R. Platt, Shane M. Farritor, Amy Catherine Lehman, Mark Rentschler, Jeff Hawks
Mechanical & Materials Engineering
Title: Methods and Systems of Actuation in Robotic Devices
Date: 12/1/2017
Number: 6250496
Country: Japan

Stephen R. Platt, Shane M. Farritor, Amy Catherine Lehman, Mark Rentschler, Jeff Hawks
Mechanical & Materials Engineering
Title: Methods, Systems, and Devices for Surgical Access and Procedures
Date: 5/1/2018
Number: 9956043
Country: United States

Wei Qiao, Zhe Zhang, Liyan Qu
Electrical and Computer Engineering
Title: Direct Torque Control of AC Electric Machines
Date: 11/28/2017
Number: 9831812
Country: United States

Wei Qiao, Long Wu, Yue Zhao
Electrical and Computer Engineering
Title: Drive Systems Including Sliding Mode Observers and Methods of Controlling the Same
Date: 6/26/2018
Number: 10008966
Country: United States

Scott K. Rosenbaugh, Jennifer D. Schmidt, Robert W. Bielenberg, Ronald Faller, Karla A. Lechtenberg, John D. Reid, Jim Holloway
Midwest Roadside Safety Facility
Title: System Including Adjustable Continuity Joints and/or Rotation Mitigation Sliding Posts for Rail Elements
Date: 5/22/2018
Number: 9976266
Country: United States

Mathias Schubert, Tino Hofmann, Daniel Schmidt, Patrick H. Dussault, Rebecca Y. Lai, Andrea Holmes
Electrical and Computer Engineering; Chemistry
Title: Optical Sensing and Separation Method Based on Ordered 3-Dimensional Nanostructured Surfaces
Date: 8/22/2017
Number: 9739710
Country: United States

Blair Siegfried, Kenneth Narva, Kanika Arora, Sarah Worden, Chitvan Khajuria, Elane Fishilevich, Nicholas Storer, Meghan Frey, Ronda Hamm, Ana Velez
Entomology
Title: Parental rNAI Suppression of Hunchback Gene to Control Hemipteran Pests
Date: 6/12/2018
Number: 9994844
Country: United States

Mehmet C. Vuran, Xin Dong, David J. Anthony
Computer Science and Engineering
Title: Antenna for Wireless Underground Communication
Date: 12/5/2017
Number: ZL201380043937.0
Country: China

2017-2018 License Agreements

Recognition for faculty whose technologies formed the basis of licensing agreements with industry partners
July 1, 2017–June 30, 2018

David Andrews
Agronomy and Horticulture
Technology: Natural Purple Food Colorant

P. Stephen Baenziger, Mitchell Montgomery, Greg Dorn, Richard Little
Agronomy and Horticulture
Technology: Double Haploid Wheat
Technology: Wheat Variety

P. Stephen Baenziger, Mitchell Montgomery, Greg Dorn
Agronomy and Horticulture
Technology: Triticale Varieties

P. Stephen Baenziger, Mitchell Montgomery, Greg Dorn, Richard Little, Chris Hoagland
Agronomy and Horticulture
Technology: Triticale Varieties

Robert Bielenberg, Jim Hollowy, John D. Reid, Karla A. Lechtenberg, Ronald Faller, Scott K. Rosenbaugh, Jennfier D. Schmidt
Midwest Roadside Safety Facility; Mechanical & Materials Engineering
Technology: Concrete Beam Technologies (2 licenses)

Paul Blum, Benjamin Pavlik, Kevin Van Cott
Biological Sciences; Chemical and Biomolecular Engineering
Technology: Pain Medication Delivery System

Nic Colgrove, Leen-Kiat Soh, Jamie Loizzo, Lisa Pytlik Zillig, Tim Svoboda, Jamie Morrissey, Joan Curran
IANR Media; Computer Science and Engineering; Agricultural Leadership, Education and Communication; Psychology
Technology: Social Learning App

Carrick Detweiler, Sebastian Elbaum, John-Paul Ore, Baoliang Zhao, David J. Anthony, Craig Allen, Evan Beachly, James Higgins, Christian Laney, Dirac Twidwell
Computer Science and Engineering; Mechanical & Materials Engineering; Nutrition and Health Sciences; Agronomy and Horticulture
Technology: Drone Technology

Achim Dobermann, Daniel T. Walters, Haishun Yang, Patricio Grassini, Kenneth G. Cassman, Tri Setiyono, James Han, Dharmic Payyala
Agronomy and Horticulture
Technology: Software

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

George L. Graef
Agronomy and Horticulture
Technology: Soybean Variety (6 licenses)

Jinsong Huang, Qingfeng Dong, Yuchuan Shao
Mechanical & Materials Engineering
Technology: Solar Cell Technology (2 licenses)

David Jackson, Deepak Sahai
Food Science and Technology
Technology: Process for Nixtamalization of Cereal Grains

Matthew Jockers
English
Technology: Novel Classifier

William Kreuser
Agronomy and Horticulture
Technology: Greenkeeper App

Yuguo Lei, Hendrik Viljoen
Chemical and Biomolecular Engineering
Technology: Cell Culture Technology

Sally Mackenzie
Agronomy and Horticulture
Technology: Methods of Producing Hybrid-like Seed Lots

Carl Nelson
Mechanical & Materials Engineering
Technology: ICARE

Benjamin S. Terry, Pengbo Li, Wanchuan Xie, Alfred Tsubaki, Weston Lewis
Mechanical & Materials Engineering
Technology: Smart Pill Technology

Jens Walter, Robert Hutkins, Thomas E. Burkey
Food Science and Technology; Animal Science
Technology: Probiotic

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

Sherif Yehia, Bing Chen, Christopher Tuan, Lim Nguyen
Electrical and Computer Engineering; Civil Engineering
Technology: Conductive Concrete

Janos Zempleni
Nutrition and Health Sciences
Technology: Method of Using Exosomes for Targeted Delivery

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, 2017–June 30, 2018

Submitted by faculty, chairs/heads or deans

Byron Anway — **Art, Art History and Design**

Artist, painting. "Untitled 3 (spring)." Untitled 13, SooVAC's 13th Annual Juried Exhibition, Soo Visual Arts Center, Minneapolis, MN.

Artist, painting. Multiple works. Sexy/OFFENDER, Wartburg College, Waverly, IA.

Artist, painting. "Mob Scenes." Exhibition, Kishwaukee Community College, Malta, IL.

Artist, painting. Multiple works. Gatherings, Bunker Center for the Arts, Kansas City, MO.

Stacy Asher — **Art, Art History and Design**

Designer. "Walls Turned Sideways: Artists Confront the Justice System Exhibition." Commissioned publication design for art exhibition catalogue. Contemporary Arts Museum Houston, Houston, TX.

Artist. "Meat/Meet/Mete: A Reflection on Consumption." Art/video installation and reception. Department of Art, Art History & Visual Studies, Duke University, Durham, NC.

John R. Bailey — **Glenn Korff School of Music**

Conductor. International Flute Orchestra concert tour of Portugal. Teatro Thalia, Lisbon; Conservatório de Música do Porto, Porto; Teatro Académico Gil Vicente, Coimbra.

Karen A. Becker — **Glenn Korff School of Music**

Performer, cello. "Viennese String Trios (music of Richard von Perger and Julius Zellner)." CD release of the Concordia String Trio: Marcia Henry Liebenow, violin; Leslie Perna, viola; Karen Becker, cello (Centaur Records). Recorded in Kimball Recital Hall, Lincoln, NE.

Wesley Broulik — **Johnny Carson School of Theatre and Film**

Performer. "As You Like It by William Shakespeare." Saratoga Shakespeare Company in Historic Congress Park, Sarasota Springs, NY.

Jamie Bullins — **Johnny Carson School of Theatre and Film**

Director. "Everyone's Carol." Morgan Library and Museum, New York, NY.

Designer. "Ghastly Dreadfuls." Center for Puppetry Arts, Atlanta, GA.

Michael Burton — **Textiles, Merchandising and Fashion Design**

Director. "Anna." Animation/short film. New Media Film Festival, James Bridges Theater, UCLA, Los Angeles, CA.

Santiago Cal — **Art, Art History and Design**

Artist, sculpture and drawing. "Santiago Cal: Sculpture and Drawing." Solo exhibition. Nordstand Gallery, Wayne State University, Wayne, NE.

Artist, video. "Pockets for Mars." 3rd International Bodrum Biennial, Bodrum Kalesi, Bodrum, Turkey.

Wheeler Winston Dixon — **English/Film Studies**

Artist, video. "Liminal Ethereal Space," with Bill Domonkos and Gwendolyn Audrey Foster. Invited screening. Museum of Human Achievement, Austin, TX.

Artist, video. "New Video Works," with Gwendolyn Audrey Foster. Invited artist residency. University of Nevada, Las Vegas, NV.

Artist, video. "Artistic Couples," with Irena Izabela Imanska, Witold Stypa and Gwendolyn Audrey Foster. Invited screening and lecture. Jerzy Harald Concert Studio, Polski Radio, Katowice, Poland.

Artist, video. "Gwendolyn Audrey Foster/Wheeler Winston Dixon: New Video Works." Invited gallery show. BWA Contemporary Art Gallery, Katowice, Poland.

Gwendolyn Audrey Foster — **English/Film Studies**

Director. Invited screening of various films. Atrabilious Film Festival, Filmhuis Cavia, Amsterdam, The Netherlands.

Director. "Gwendolyn Audrey Foster: New Video Works." Complete film retrospective, BWA Contemporary Art Gallery, Katowice, Poland.

Director. "The Experimental Films of Gwendolyn Audrey Foster." Complete retrospective. Museum of the Future, Berlin, Germany.

Director. "Short Films of Gwendolyn Audrey Foster." Invited and featured video artist. Festival X-12, Gainsborough, United Kingdom.

Director. "Sleeping With the Fishes." International Studio 44 Film Festival, Studio 44 Gallery, Stockholm, Sweden.

Director. "cul-de-sac." Video Library P'Silo, Videodrome Art & Essay Video Library, Marseilles, France.

Director. "Films of Gwendolyn Audrey Foster." Virtual one-woman show. Lys d'Or International Art Gallery, Rome, Italy.

Director. Two short films. Virtual gallery presentation. Global Warming & Water Wars: Visions of the Future, Lys d'Or International Art Gallery, Rome, Italy.

Director. "A Film for Chantal Akerman." Virtual online screening. The Pythians: Art, Photography and Video, New York, NY.

Director. Three films selected for exhibition and screening. Kingdom of the Rose: Homage to the Female Figure, Lys d'Or Art Gallery, Rome, Italy.

Director. "Liminal Ethereal Space: Foster/Dixon/Domonkos: Experimental Films." The Museum of Human Achievement (MoHA), Austin, TX.

Artist, video. "Artistic Couples," with Irena Izabela Imanska, Witold Stypa and Wheeler Winston Dixon. Invited film screening and lecture. Jerzy Harald Concert Studio, Polski Radio/TV, Katowice, Poland.

Dana Fritz — Art, Art History and Design

Artist, photography. Selections from "Terraria Gigantica." IN VIVO: The Nature of Nature Museum, Belvedere, Heerenveen, The Netherlands.

Artist, photography. Selections from "Terraria Gigantica" and "Views Removed." Nature, So-Called, Bryn Mawr College, Bryn Mawr, PA.

Artist, photography. Selections from "Terraria Gigantica." Terraria Gigantica: The World under Glass, Duluth Art Institute, Duluth, MN.

Hye-Won Hwang — Glenn Korff School of Music

Performer, dance. "Time Warp: An Intercontinental Dialogue (Sambalpuri-Bach collaboration)." University of Vermont, Burlington, VT.

Michael F. James — Textiles, Merchandising and Fashion Design

Artist, mixed media textile constructions. "India Through Beginner's Eyes: New Textiles by Michael James." Modern Arts Midtown, Omaha, NE.

Karen Kunc — Art, Art History and Design

Artist, prints and artists books. "Invisible Cities Project" and solo exhibition. Palazzo Ca' Zenobio, Venice, Italy.

Artist, prints and artists books. "Fragment Encounters." IMPACT 10 International Print Conference, Museum of Prehistory and Anthropology of Cantabria, Santander, Spain.

Artist, prints. "6 Print Works." When Continents Meet 2, La Capital Galerie, Paris, France.

Tom Larson — Glenn Korff School of Music

Composer. "Healing of Harman." Film produced by Johnny Carson School of Theater and Film, University of Nebraska–Lincoln, Lincoln, NE.

Composer. "Follow the Water." Documentary produced by NET, Lincoln, NE.

Tom Lynch — English

Writer. "Loren Eiseley's Nebraska." Digital story map, hosted by Center for Digital Research in the Humanities: https://cdrhsites.unl.edu/eiseley/, University of Nebraska–Lincoln, Lincoln, NE.

JD Madsen — Johnny Carson School of Theatre and Film

Scenic designer. "Abigail/1702." The Nebraska Repertory Theater, Lincoln, NE.

Bernard R. McCoy — Broadcasting

Producer and director. "Black Jack Pershing: Love and War." Documentary screenings: Mary Riepma Ross Media Arts Center, University of Nebraska–Lincoln, Lincoln, NE; Metropolitan Club, Washington, D.C.; NET, Nebraska Public Media, Lincoln, NE; National World War I Museum and Memorial, Kansas City, MO; National Archives and Records Administration, Washington, D.C.; York College, York, NE; General Pershing Boyhood Home State Park, Laclede, MO.

Website designer. "PBS Learning Media – Black Jack Pershing: Love and War." NET, Lincoln, NE.

William W. McMullen — Glenn Korff School of Music

Performer, oboe. "A Program of French Oboe Music." Glidden Recital Hall, Ohio University School of Music, Athens, OH.

Performer, oboe. "An Evening of French Oboe Music." Voxman Music Building, Recital Hall, University of Iowa, School of Music, Iowa City, IA.

J. Ron Nelson — Special Education and Communication Disorders

App developer. "First Steps to Reading Fluency." Produced by the University of Nebraska–Lincoln, Lincoln, NE.

Andrew S. Park — Johnny Carson School of Theatre and Film

Director. "Aquatic Show." John G. Shedd Aquarium, Chicago, IL.

Director. "Shakespeare's Cymbeline." Illinois Shakespeare Festival, Bloomington, IL.

Guy J. Reynolds — English/Cather Project

Producer, with Beth Burke. "Prairie Songs: Remembering Ántonia." Group performance featuring piano, voice, violin. Society for the Study of American Women Writers Academic Conference, Bordeaux, France.

Laurel Shoemaker — Johnny Carson School of Theatre and Film

Lighting designer. "Abigail/1702." Carson Theatre, Lied Center, Lincoln, NE.

Lighting designer. "Avenue Q." Carson Theatre, Lied Center, Lincoln, NE.

Lighting designer. "Dance Gala, 2017." School of Dance, University of Iowa, Hancher Auditorium, Iowa City, IA.

Francisco Souto — Art, Art History and Design

Artist, prints. "Memory Surface." Imprint Two 2018, National Biennial Print Invitational, The Vam Gallery, Austin, TX.

Artist, drawings. "'Poetics # 2' from the series Poetics of Recognition." Monarchs: Brown and Native Contemporary Artists in the Path of the Butterfly, Museum of Contemporary Art North Miami, Miami, FL.

Artist, drawings. "Memory in Peril." Omar Alonso Gallery, Puerto Vallarta, Mexico.

Artist, drawings. "GraphitGrau." Prints and Drawing Room: Francisco Souto, Till Richter Museum of Contemporary Art, Buggenhagen, Germany.

Colleen Syron — Art, Art History and Design

Designer. "Sober Skipper." National public service campaign. All media, all cities, all states.

David von Kampen — Glenn Korff School of Music

Composer. "Flood the Gold Earth" for SATB chorus and piano. Chicago, IL: Walton Music.

Composer. "The Kansas-Nebraska Act: Music for Small Jazz Ensemble." Digital album.

Sandra Williams — Art, Art History and Design

Artist, mixed media. "Ukuku, and Subterranean Fires." Solo exhibition. Wild Things: Nature and the Social Imagination, Clayton Staples Gallery, Wichita, KS; E.B. White Gallery, El Dorado, KS; The Lux Center for the Arts, Lincoln, NE.

Artist, mixed media. "Manufactured Animals." So Long, Farewell, Washington Pavillion Center for the Arts, Sioux Falls, SD.

Artist, painting. "City Studio: Artist in Public Life in El Cerro, Naranjito, San Juan, Puerto Rico." Mural Corridor, El Cerro, San Juan, Puerto Rico.

Adrian S. Wisnicki — English

Director. "Livingstone's Final Manuscripts (1865-1873): Diaries, Journals, Notebooks, and Maps: A Critical Edition." Digital museum and library, http://www.livingstoneonline.org.

Books

Faculty who wrote or edited books published July 1, 2017–June 30, 2018
Submitted by faculty, chairs/heads or deans

Marco Abel — **English**
Editor, with Jaimey Fisher. *The Berlin School and Its Global Contexts: A Transnational Art Cinema.* Detroit, MI: Wayne State University Press.

Grace Bauer — **English/Women's and Gender Studies**
Editor, with Julie Kane. *Nasty Women Poets: An Unapologetic Anthology of Subversive Verse*. Sandpoint, ID: Lost Horse Press.

Brian H. Bornstein — **Psychology/Law**
Author. *Popular Myths about Memory: Media Representations versus Scientific Evidence*. Lanham, MD: Lexington Books.

Author, with Edie Greene. *The Jury under Fire: Myth, Controversy, and Reform.* New York, NY: Oxford University Press.

Dawn O. Braithwaite — **Communication Studies**
Editor, with Elizabeth A. Suter, Kory Floyd. *Engaging Theories in Family Communication: Multiple Perspectives (2nd ed.).* New York, NY: Routledge.

Elaine Chan — **Teaching, Learning and Teacher Education**
Editor, with Vicki Ross, Dixie Keyes. *Crossroads of the Classroom: Narrative Intersections of Teacher Knowledge and Subject Matter.* Bingley, UK: Emerald Publishing Group Ltd.

Bertrand S. Clarke — **Statistics**
Author, with Jennifer L. Clarke. *Predictive Statistics: Analysis and Inference Beyond Models.* Cambridge, UK: Cambridge University Press.

Jennifer L. Clarke — **Food Science and Technology/Statistics**
Author, with Bertrand S. Clarke. *Predictive Statistics: Analysis and Inference beyond Models.* Cambridge, UK: Cambridge University Press.

John Cook — **Athletics**
Author, with Brandon Vogel. *Dream Like a Champion.* Lincoln, NE: University of Nebraska Press.

Maria Rosario T. de Guzman — **Child, Youth and Family Studies**
Editor, with Jill Brown, Carolyn Pope Edwards. *Parenting From Afar and the Reconfiguration of Family Across Distance.* New York, NY: Oxford University Press.

Wheeler Winston Dixon — **English/Film Studies**
Author. *The Films of Terence Fisher: Hammer Horror and Beyond.* London, England: Auteur/Columbia University Press.

Author, with Gwendolyn Audrey Foster. *A Short History of Film (3rd ed.)* New Brunswick, NJ: Rutgers University Press.

Carolyn Ducey — **International Quilt Study Center and Museum/Textiles, Merchandising and Fashion Design**
Editor, with Patricia Crews. *American Quilts in the Industrial Age, 1760-1870.* Lincoln, NE: University of Nebraska Press.

Richard Edwards — **Center for Great Plains Studies**
Author, with J. Clark Archer, Leslie Howard, Fred Shelley, David Wishart, Donald Wilhite. *Atlas of Nebraska.* Lincoln, NE: University of Nebraska Press.

Gwendolyn Audrey Foster — **English/Film Studies**
Author, with Wheeler Winston Dixon. *A Short History of Film (3rd ed.).* New Brunswick, NJ: Rutgers University Press.

Series editor, with Wheeler Winston Dixon. *Quick Takes: Movies and Popular Culture.* New Brunswick, NJ: Rutgers University Press.

Lisa Franzen-Castle — **Nutrition and Health Sciences/4-H Youth Development**
Author, with Michelle Krehbiel, Cindy Brison, Jessye Goertz, Ann Fenton, Samantha Rivera, Angie Plaggemeyer, Asley Miller, Kyla Richardson, Catherine Eich, Trina Aguirre, Mary Ann Shockley, Anita Tovar, Angela Reed. *iCook (Cooking, Eating, & Playing Together).* Lincoln, NE: UNL Print Services.

Julia L. Frengs — **Modern Languages and Literatures**
Author. *Corporeal Archipelagos: Writing the Body in Francophone Oceanian Womens Literature.* Lanham, MD: Lexington Books.

Dana Fritz — **Art, Art History and Design**
Author, with William L. Fox, Carrie Robbins, Rebecca Reider. *Terraria Gigantica: The World under Glass.* Albuquerque, NM: University of New Mexico Press.

Mary Garbacz — **Agricultural Leadership, Education and Communication**

Editor, with Shelby Cammack, Alexandria Lundvall, Katherine Mundorf, Riley Nichols, Andrea Wach Tenney, Emily Frenzen, Abby Steffen. *Strategic Discussions for Nebraska - Science Literacy: Using Research-Based Facts to Make Real-World Decisions.* Lincoln, NE: University of Nebraska–Lincoln.

Mark A. Hinchman — **Interior Design**

Author, with Elyssa Yoneda. *Interior Design Masters.* London, UK: Routledge.

Kristen Hoerl — **Communication Studies**

Author. *The Bad Sixties: Hollywood Memories of the Counterculture, Antiwar, and Black Power Movements.* Jackson, MS: University Press of Mississippi.

Karla Jenkins — **Animal Science/ Panhandle Research and Extension Center**

Author. *2017 Beef Cattle Report.* Lincoln, NE: UNL Print Services.

Wendy J. Katz — **Art, Art History and Design**

Editor. *The Trans-Mississippi and International Expositions of 1898-1899.* Lincoln, NE: University of Nebraska Press.

Stevan Knezevic — **Agronomy and Horticulture/ Haskell Agricultural Laboratory**

Author, with Cody Creech, Amit Jhala, Robert Klein, Greg Kruger, Chris Proctor, Patrick Shea, Clyde Ogg, Cole Thompson, Nevin Lawrence, Rodrigo Werle. *2017 Guide for Weed, Disease, and Insect Management in Nebraska.* Lincoln, NE: UNL Print Services.

Ted Kooser — **English**

Author. *Kindest Regards: New and Selected Poems.* Port Townsend, WA: Copper Canyon Press.

Tom Larson — **Glenn Korff School of Music**

Author. *The History and Tradition of Jazz (6th ed.).* Dubuque, IA: Kendall/Hunt Publishing.

John P. Lenich — **Law**

Author. *Nebraska Civil Procedure.* Eagan, MN: Thomson Reuters.

Carole Levin — **History/ Medieval and Renaissance Studies**

Editor, with Anna Riehl Bertolet. *Creating the Premodern in the Postmodern Classroom: Creativity in Early English Literature and History Courses.* Tempe, AZ: Arizona Center for Medieval and Renaissance Studies.

Kay E. Logan-Peters — **Research and Instructional Services**

Author. *The University of Nebraska–Lincoln.* Charleston, SC: Arcadia Publishing.

Matthew Loar — **Classics and Religious Studies**

Editor, with Carolyn MacDonald, Dan-el Padilla Peralta. *Rome, Empire of Plunder: The Dynamics of Cultural Appropriation.* Cambridge, UK: Cambridge University Press.

Suping Lu — **University Libraries**

Editor. 历史上的黑暗一页 *(A Dark Page in History).* Nanjing, China: Jiangsu People's Publishing House.

Tom Lynch — **English**

Editor, with Susan Naramore Maher, Drucilla Wall, O. Alan Weltzien. *Thinking Continental: Writing the Planet One Place at a Time.* Lincoln, NE: University of Nebraska Press.

Derrel Martin — **Biological Systems Engineering**

Author, with William Kranz, Tyler Smith, Suat Irmak, Charles Burr, Ron Yoder. *Center Pivot Irrigation Handbook.* Lincoln, NE: UNL Print Services.

Jennifer McKitrick — **Philosophy**

Author. *Dispositional Pluralism.* Oxford, UK: Oxford University Press.

Patrice C. McMahon — **Political Science/Honors Program**

Author. *The NGO Game: Post-conflict Peacebuilding in the Balkans and Beyond.* Ithaca, NY: Cornell University Press.

Gary E. Moulton — **History**

Author. *The Lewis and Clark Expedition Day by Day.* Lincoln, NE: University of Nebraska Press.

David L. Olson — **Supply Chain Management and Analytics**

Author, with Jack G. Nestell. *Successful ERP Systems: A Guide for Businesses and Executives.* New York, NY: Business Expert Press.

Author, with Desheng Dash Wu. *Enterprise Risk Management Models.* Berlin Heidelberg, Germany: Springer-Verlag.

Author. *Descriptive Data Mining.* Singapore: Springer.

Author, with D.D. Wu. *Predictive Data Mining Models.* Singapore: Springer.

Author, with S. Kesharwani. *Digitising Enterprise in an Information Age.* New Delhi, India: Manakin Press Pvt.

Linda Ray Pratt — **English**

Author. *Great Plains Literature.* Lincoln, NE: University of Nebraska Press.

Yi Qian — **Electrical and Computer Engineering**

Author, with Lei Xu, Chunxiao Jiang, Yong Ren. *Data Privacy Games.* Cham, Switzerland: Berlin Heidelberg, Germany: Springer-Verlag.

Author, with Linling Kuang, Chunxiao Jiang, Jianhua Lu. *Terrestrial-Satellite Communication Networks: Transceivers Design and Resource Allocation.* Cham, Switzerland: Springer.

Author, with Feng Ye, Rose Qingyang Hu. *Smart Grid Communication Infrastructures: Big Data, Cloud Computing, and Security.* Hoboken, NJ: Wiley/IEEE Press.

Brett C. Ratcliffe — **Entomology/ University of Nebraska State Museum**

Author, with Ronald D. Cave. *The Dynastine Scarab Beetles of the United States and Canada (Coleoptera: Scarabaeidae: Dynastinae).* Lincoln, NE: University of Nebraska State Museum.

Khalid Sayood — **Electrical and Computer Engineering**

Author. *Introduction to Data Compression.* San Francisco, CA: Morgan Kaufmann.

John West and Judy Diamond — **Nebraska Center for Virology University of Nebraska State Museum**

Authors, with Bob Hall. *Carnival of Contagion.* Illustrated by Bob Hall; colors by Nathaniel Hamel, John Kimmel, and Bob Hall; lettering by Marie Kisling; essay by Carl Zimmer; production design by Aaron Sutherlen. Lincoln, NE: University of Nebraska Press.

Brenda G. Wristen — **Glenn Korff School of Music**

Author, with Lora Deahl. *Adaptive Strategies for Small-Handed Pianists.* New York, NY: Oxford University Press.

Yiqi Yang — **Textiles, Merchandising and Fashion Design**

Editor, with Jianyong Yu, Helan Xu, Baozhong Sun. *Porous Lightweight Composites Reinforced with Fibrous Structures*. Berlin Heidelberg, Germany: Springer-Verlag.

Tian Zhang — **Civil Engineering**

Author, with Rao Surampalli, Satinder Kaur Brar, Krishnamoorthy Hegde, Rama Pulicharla, Mausam Verma. *Handbook of Environmental Engineering.* New York, NY: McGraw-Hill Education.

Recognitions and Honors

Faculty who have been elected to honor academies or who have received national or international honors or awards

July 1, 2017–June 30, 2018

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

Elvira Abrica — **Educational Administration**

Faculty Fellow, American Association of Hispanics in Higher Education

Jonis Agee — **English**

2017 Book Award: High Plains Book Awards

2017 Omaha Reads Selection, Omaha Public Library

Lindsey Bahe — **Interior Design**

First Place Award for Excellence, Council for Interior Design Accreditation

Mark Balschweid — **Agricultural Leadership, Education and Communication**

Senior Fellow, American Association for Agricultural Education

Grace Bauer — **English**

Individual Artist Fellowship in Poetry, Nebraska Arts Council

Andreia Bianchini — **Food Science and Technology**

Young Scientist Research Award, American Association of Cereal Chemists International

Christopher Bilder — **Statistics**

Outstanding Statistical Application Award, American Statistical Association

Best Paper in Biometrics, The International Biometric Society

Brian Bockleman — **Computer Science and Engineering**

First Best Paper, Institute of Electrical and Electronic Engineers Conference for Advanced Networks and Telecommunication Systems

Dawn O. Braithwaite — **Communication Studies**

Samuel L. Becker Distinguished Service Award, National Communication Association

Gerald R. Miller Book Award, National Communication Association

Eve Brank — **Center on Children, Families, and the Law**

President, American Psychology-Law Society

Roger Bruning — **Educational Psychology**

Fellow, American Association for the Advancement of Science

Kelsy Burke — **Sociology**

Distinguished Book Award, American Sociology Association Section on Religion

Michael Burton — **Textiles, Merchandising and Fashion Design**

Best Animation, New Media Film Festival

Heng Chen — **Supply Chain Management and Analytics**

Best Dissertation Prize, Aviation Applications Section, Institute for Operations Research and Management Science

Sidnie White Crawford — **Classics and Religious Studies**

Honorary Doctorate in Theology, Uppsala University in Sweden

Kwame Dawes — **English**

Gwendolyn Brooks Award, National Black Writers Conference

Honorary Fellow, Royal Society of Literature

Jeffrey S. Day — **Architecture**

Award of Excellence, Best in Category: Design as Idea, Interior Design Educators Council

Award of Excellence, Best in Category: Design as Interior, Interior Design Educators Council

Catherine De Almeida — **Landscape Architecture**
Case Study Investigation Research Fellow, Landscape Architecture Foundation

Teaching Fellow, Landscape Architecture Foundation

Kiyomi Deards — **University Libraries**
Up and Comer Award, Against the Grain Media

Dipti Dev — **Child,Youth, and Family Studies/ Nutrition and Health Sciences**
National Family Life and Human Development State Extension Specialist Early Achievement Award, U.S. Department of Agriculture

Ken Dewey — **Geography and Natural Resources**
Public Education Award, National Weather Association

W. Wayne Drummond — **Architecture**
Distinguished Service Award, Association of Collegiate Schools of Architecture

Matthew Dwyer — **Computer Science and Engineering**
Most Influential Scholars List for the Field of Software Engineering, AMiner

Sebastian Elbaum — **Computer Science and Engineering**
Most Influential Scholars List for the Field of Software Engineering, AMiner

Jongwan Eun — **Civil Engineering**
ExCEED Fellow, American Society of Civil Engineers

Ronald Faller — **Civil Engineering**
John Melvin Motorsports Safety Award, SAE International

Michael Forsberg — **Agricultural Leadership, Education and Communication**
2017 Ansel Adams Award for Conservation Photography, Sierra Club

Cory Forbes — **Natural Resources**
Fulbright Scholar, Council for International Exchange of Scholars

Charles "Chuck" Francis — **Agronomy and Horticulture**
Hero Recognition Award, North Central Region's Sustainable Agriculture Research and Education Program

Sheri Fritz — **Earth and Atmospheric Sciences**
Lifetime Achievement Award, International Paleolimnology Association

Sue Gardner — **University Libraries**
Gerald Hodges Intellectual Freedom Award, American Library Association

Yufeng Ge — **Biological Systems Engineering**
New Holland Young Researcher Award, American Society of Agricultural and Biological Engineers

Matthew Gormley — **Educational Psychology**
Young Scientist Research Award, National Resource Center on ADHD

Dale Grotelueschen — **Veterinary Medicine and Biomedical Sciences/ Great Plains Veterinary Educational Center**
Veterinarian of the Year, Nebraska Veterinary Medical Association

Christopher Gustafson — **Agricultural Economics**
Best Article of the Year, *Journal of the International Association of Agricultural Economists*

David Hage — **Chemistry**
Fellow, American Association for the Advancement of Science

Pierce Award in Affinity Technology, International Society for Molecular Recognition

Ted Hamann — **Teaching, Learning and Teacher Education**
Henry T. Trueba Award, American Educational Research Association (with Víctor Zúñiga and Juan Sánchez García)

Michelle Hassler — **Journalism and Mass Communications**
Great Ideas for Teachers Award, Association for Education in Journalism

Deryl Hatch-Tocaimaza — **Educational Administration**
Barbara K. Townsend Emerging Scholar Award, Council for the Study of Community Colleges

Derek Heeren — **Biological Systems Engineering**
A.W. Farrall Young Educator Award, American Society of Agricultural and Biological Engineers

Tiffany Heng-Moss — **Entomology**
Agricultural Sciences and Natural Resources Award of Excellence, International Integrated Pest Management

Leon Higley — **Natural Resources/Forensic Science**
Award of Excellence, International Integrated Pest Management

Melissa Homestead — **English**
Fellow, National Endowment for the Humanities

Miyoung Hong — **Interior Design**
Michael Brill Award in Urban Communication and Design Behavior, Environmental Design Research Association

Jerry Hudgins — **Electrical and Computer Engineering**
Distinguished Service Award, IEEE Industrial Applications Society

Tom Hunt — **Entomology/Nebraska Extension**
Award of Excellence, International Integrated Pest Management

Roz Hussin — **Online and Distance Education**
Whitney M. Young Jr. Service Award, Boy Scouts of America

Suat Irmak — **Biological Systems Engineering**
National Water and Energy Conservation Award (team award), USDA National Institute for Food and Agriculture

Margaret Jacobs — **History/Women's and Gender Studies**
Andrew Carnegie Fellow, Carnegie Corporation of New York

Katrina Jagodinsky — **History**
Jensen-Miller Award, Western History Association

Armitage-Jameson Prize, Coalition for Western Women's History

Amit Jhala — **Agronomy and Horticulture**
Outstanding Reviewer Award, Weed Science Society of America

Valerie Jones — **Journalism and Mass Communications**
Fellow, Lillian Lodge Kopenhaver Center for the Advancement of Women in Communication

Neeta Kantamneni — **Educational Psychology**
Fritz and Linn Kuder Early Career Award, Society of Counseling Psychology of the American Psychological Association

Jenny Keshwani — **Biological Systems Engineering**
Early Career Education Achievement Award, Biology and Ag Engineers Division, American Society of Engineering Education

Yong-Rak Kim — **Civil Engineering**
Best Paper Award, International Society for Maintenance and Rehabilitation of Transport Infrastructures

Lydiah Kananu Kiramba — **Teaching, Learning and Teacher Education**
Reading Hall of Fame for Young Scholars Award, National Council of Teachers of English Research Foundation

Matthew Lambert — **Special Education and Communication Disorders**
Docent, University of Eastern Finland

Jim Lewis — **Mathematics/Center for Science, Mathematics and Computer Education**
Fellow, American Association for the Advancement of Science

Jamie Loizzo — **Agricultural Leadership, Education and Communication**
Burmeister Award, Division of Distance Learning, Association for Educational Communications and Technology

Sara Kathleen Lyons — **School of Biological Sciences**
Science Achievement Award, National Museum of Natural History

Bernard R. McCoy — **Broadcasting**
Award of Excellence, Documentary, Broadcast Education Association

Award of Excellence, Documentary, Impact DOCS International Film Competition

Sigma Delta Chi Award, Society of Professional Journalists

Eric Sevareid Award, Documentary, Midwest Broadcast Journalists Association

Nathan Meier — **Research and Economic Development**
2018 Rising Star, National Organization of Research Development Professionals

Amanda R. Morales — **Teaching, Learning and Teacher Education**
Research on Teacher Diversification Award, American Association of Colleges of Teacher Education

Rodney Moxley — **Veterinary Medicine and Biomedical Sciences**
Partnership Award, National Institute of Food and Agriculture

Yunwoo Nam — **Community and Regional Planning**
Best Poster Paper Award, International Society of Travel and Tourism Education

Katherine Nashleanas — **Geography**
Higher Education Distinguished Teaching Award, National Council for Geographic Education

Nebraska Innovation Campus
Emerging Research Park Award, Association of University Research Parks

Lim Nguyen — **Electrical and Computer Engineering**
Fulbright Scholar, Council for International Exchange of Scholars

Stanislava Nikolova — **Finance**
Best Paper Award, Inquire Europe/UK

Kristen Olson — **Sociology**
Fellow, American Statistical Association

Angela Pannier — **Biological Systems Engineering**
Director's New Innovator Award, National Institutes of Health

Lance Pérez — **Electrical and Computer Engineering**
Fellow, American Society for Engineering Education

Jenna Pieper — **Management**
Scholarly Achievement Award, HR Division, Academy of Management

Massimiliano Pieroban — **Computer Science and Engineering**
Best Paper, Institute of Electrical and Electronic Engineers Global Communications

Kenneth Price — **English**
Boydston Essay Prize, Association for Documentary Editing

Jay Puckett — **Durham School of Architectural Engineering and Construction**
Wyoming Eminent Engineer for 2018, Tau Beta Pi, National Engineering Honor Society

John Raible — **Teaching, Learning and Teacher Education**
G. Pritchy Smith Multicultural Educator Award, National Association for Multicultural Education

Helen Raikes — **Child, Youth and Family Studies**
Grace Abbott Award, Nebraska Children and Families Foundation

Saravanan Raju — **Computer Science and Engineering**
Jane N. Ryland Fellowship, EDUCAUSE

Kamlakar Rajurkar — **Mechanical & Materials Engineering**
M. Eugene Merchant Manufacturing Medal, American Society of Mechanical Engineers/Society of Manufacturing Engineers

Byrav Ramamurthy — **Computer Science and Engineering**
First Best Paper, Institute of Electrical and Electronic Engineers Conference for Advanced Networks and Telecommunication Systems

Lauren Ronsse — **Durham School of Architectural Engineering and Construction**
Science Writing Award, Acoustical Society of America

Gregg Rothermel — **Computer Science and Engineering**
Most Influential Scholars List for the Field of Software Engineering, AMiner

Blake A. Runnalls — **Marketing**
Young Scholar Research Competition Winner, Organizational Frontlines Research

Erica Ryherd — **Durham School of Architectural Engineering and Construction**
Science Writing Award, Acoustical Society of America

Leah Sandall — **Agronomy and Horticulture**
Extension Educational Materials Program Certificate of Excellence, American Society of Agronomy

Philip Sapirstein — **Art, Art History and Design/Center for Digital Research in the Humanities**
Mellon Fellowship for Digital Publication, National Endowment for the Humanities

James Schnable — **Agronomy and Horticulture**
Marcus Rhoades Early Career Award, Maize Genetics

Jessica Shoemaker — **Law**
Fulbright Scholar, Council for International Exchange of Scholars

Chungwook Sim — **Civil Engineering**
ExCEED Fellow, American Society of Civil Engineers

Troy Smith — **Management**
Rosabeth Moss Kanter International Award for Research Excellence in Work and Family, Center for Families at Purdue University and Boston College Center for Work & Family

John Stansbury — **Civil Engineering**
Engineering Faculty Excellence Award, Olsson Associates

Gerald J. Steinacher — **History/Harris Center for Judaic Studies**
Distinguished Fellow, Institute for Contemporary History, Munich

Honorary Senior Fellow, Historisches Kolleg (Institute for Advanced Study), Munich

Mitchell Stephenson — **Agronomy and Horticulture/ Nebraska Extension**
Outstanding Young Range Professional Award, Society for Range Management

Alison Stewart — **Art, Art History and Design**
Senior Fellowship, Herzog August Bibliothek, Wolfenbüttel, Germany

Jay Storz — **Biological Sciences**
Fellow, American Association for the Advancement of Science

Fulbright Scholar, Council for International Exchange of Scholars

Richard Sutton — **Agronomy and Horticulture**
Excellence in Research and Creative Work Award, Council of Educators in Landscape Architecture

David Swanson — **Computer Science and Engienering**
First Best Paper, Institute of Electrical and Electronic Engineers Conference for Advanced Networks and Telecommunication Systems

Pat Tetreault — **LGBTQA+ Resource Center**
Research Recognition Award, American College Personnel Association's Coalition for Sexual and Gender Identities

Jennifer Thoegersen — **University Libraries**
Up and Comer Award, Against the Grain Media

William Thomas III — **History**
Best Animation, New Media Film Festival

Christopher Tuan — **Civil Engineering**
Defense Innovation Award, TechConnect

Hamid Vakilzadian — **Electrical and Computer Engineering**
George McClure Citation of Honor, Institute of Electrical and Electronics Engineers

David von Kampen — **Glenn Korff School of Music**
Winner, 19th Annual International Choral Composition Competition, Cambridge Chamber Singers

Hope Wabuke — **English**
Emerging Critics Fellowship, National Book Critics Circle

Matthew Waite — **Journalism and Mass Communications**
J. Winton Lemen Fellowship Award, National Press Photographers Association

Curtis Weller — **Food Science and Technology/ Biological Systems Engineering**
PEI Professional Engineer of the Year, American Society of Agricultural and Biological Engineers

Tyler White — **Political Science**
Instructor of the Year, International Association for Intelligence Education

Charles Wortmann — **Agronomy and Horticulture**
International Agronomy Award, American Society of Agronomy

Robert Wright — **Entomology/Nebraska Extension**
Award of Excellence, International Integrated Pest Management

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

Felix Berardo Scholarship Award for Mentoring, National Council on Family Relations

Distinguished Fulbright Chair in the Social Sciences, Council for International Exchange of Scholars

Anthony J. Zera — **Biological Sciences**

Fulbright Scholar, Council for International Exchange of Scholars

Tian Zhang — **Civil Engineering**

Outstanding Reviewer, *Journal of Hazardous, Toxic and Radioactive Waste*, American Society of Civil Engineers

Andrew Zimbroff — **Textiles, Merchandising and Fashion Design**

Fulbright Scholar, Council for International Exchange of Scholars

Glossary of Federal Agency Abbreviations

- DHS — Department of Homeland Security
- DHHS — Department of Health and Human Services
  - ACF — Administration for Children and Families
  - CDC — Centers for Disease Control
  - NIOSH — National Institute for Occupational Safety and Health
  - SAMHSA — Substance Abuse and Mental Health Services Administration
- DOC — Department of Commerce
  - NIST — National Institute of Standards and Technology
  - NOAA — National Oceanic & Atmospheric Administration
- DoD — Department of Defense
  - AFOSR — Air Force Office of Scientific Research
  - ARO — Army Research Office
  - ARPA-E — Advanced Research Projects Agency-Energy
  - DTRA — Defense Threat Reduction Agency
  - DURIP — Defense University Research Instrumentation Program
  - MDA — Missile Defense Agency
  - ONR — Office of Naval Research
  - SERDP — Strategic Environmental Research and Development Program
  - STRATCOM — U.S. Strategic Command
  - TATRC — Telemedicine and Advanced Technology Research Center
- DOE — Department of Energy
  - ARPA-E — Advanced Research Projects Agency-Energy
  - NETL — National Energy Technology Laboratory
- DOI — Department of Interior
  - FWS — Fish and Wildlife Service
  - GS — Geological Survey
  - NPS — National Park Service
- DOJ — Department of Justice
  - NIJ — National Institute of Justice
- DOT — Department of Transportation
  - FHWA — Federal Highway Administration
  - FRA — Federal Railroad Administration
- ED — Department of Education
  - IES — Institute of Education Sciences
- EPA — Environmental Protection Agency
- EPSCoR — Established Program to Stimulate Competitive Research
- IMLS — Institute of Museum and Library Services
- NASA — National Aeronautics and Space Administration
- NCHRP — National Cooperative Highway Research Program
- NEA — National Endowment for the Arts
- NEH — National Endowment for the Humanities
- NIH — National Institutes of Health
  - FIC — Fogarty International Center
  - NCI — National Cancer Institute
  - NCRR — National Center for Research Resources
  - NEI — National Eye Institute
  - NHLBI — National Heart, Lung and Blood Institute
  - NIAID — National Institute on Allergy & Infectious Diseases
  - NIBIB — National Institute of Biomedical Imaging and Bioengineering
  - NICHD — National Institute of Child Health and Human Development
  - NIDA — National Institute on Drug Abuse
  - NIDCD — National Institute on Deafness & Communication Disorders
  - NIDDK — National Institute of Diabetes, Digestive & Kidney Disease
  - NIEHS — National Institute of Environmental Health Sciences
  - NIGMS — National Institute on General Medical Sciences
  - NIMH — National Institute of Mental Health
  - NINDS — National Institute of Neurological Disorders & Stroke
- NSF — National Science Foundation
- USAID — United States Agency for International Development
- USDA — United States Department of Agriculture
  - AFRI — Agriculture and Food Research Initiative
  - ARS — Agricultural Research Service
  - FNS — Food and Nutrition Service
  - FS — Forestry Service
  - NASS — National Agricultural Statistics Service
  - NIFA — National Institute for Food and Agriculture
  - OCE — Office of the Chief Economist

Published November 2018 by the University of Nebraska–Lincoln Office of Research and Economic Development

Graphic Designer: Stephanie Severin
Editor: Elizabeth Banset
Contributing Editors: Mardi Bonner, Megan McMasters, Ashley Washburn, Tiffany Lee
Printing: University of Nebraska–Lincoln Print Services

Every effort has been made to verify the accuracy and completeness of submissions. Faculty, department chairs and heads and the deans were invited to submit entries online regarding published books, national and international recognitions and creative works in the fine and performing arts and architecture. Information on major sponsored program awards was gathered by the Office of Sponsored Programs. Reports on license agreements were produced by NUtech Ventures.