



**RESEARCH**

Office of Research and Economic Development

# **RESEARCH AND CREATIVE ACTIVITY**

**July 1, 2018 – June 30, 2019**

**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 running July 1, 2018, to June 30, 2019.

It lists investigators, project titles and funding sources on major grants and sponsored 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.

2019 marks the university's 150th anniversary, an exciting time to celebrate our "Prairie University" past while defining the university we want to become in the 21st century. This booklet is a snapshot in time, representing Nebraska's impact, both now and in the future. Our researchers are tackling major societal challenges, from ensuring food security, to protecting valuable natural resources to curbing drug addiction in rural areas, among many others. Nebraska scholars are finding innovative ways to showcase historical figures and milestones through digital archives, expanding the ability to translate these important stories to new audiences.

While metrics cannot convey the full story of our work, they are tangible measures of impact. In FY 2018, Nebraska achieved a record \$308 million in total research expenditures, a 26% increase over the past decade. Total sponsored research awards in FY 2019 totaled \$165 million, a 14% increase from the previous fiscal year, and a 35% increase over the past decade. That growth trajectory is phenomenal, made possible by our hard work and desire to change the world.

Industry activity driven by the university is contributing to the state's economic growth and development. Investments in Nebraska Innovation Campus are paying off, with 1,430 jobs created statewide in FY 2018 and a total economic impact of \$238 million. Additionally, for the second time, the University of Nebraska system is ranked among the top 100 academic institutions receiving U.S. patents, a clear demonstration of our talent and national competitiveness.

As a university, we will continue making strategic investments in research and economic development, with the goal of positioning Nebraska as a leading 21st-century land-grant institution. The university's N150 vision document defines aggressive goals for research growth and integrating research into every aspect of the institution. Soon, Chancellor Ronnie Green will unveil N2025, a five-year strategic plan that includes strategies to achieve a research and creative activity enterprise that approaches \$450 million, plus a process for defining and addressing grand challenges that are important to Nebraska and the world.

In my second year as the vice chancellor for research and economic development, I continue to be inspired and impressed by our faculty's dedication. I am pleased to present this record of accomplishments. By pushing the boundaries of research, scholarship and creative activity, Nebraska's growth trajectory will continue to climb.

Bob Wilhelm

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2019 marks the university's 150th anniversary, an exciting time to celebrate our “Prairie University” past while defining the university we want to become in the 21st century.

## Awards of \$5 Million or More

Active awards, July 1, 2018–June 30, 2019

\* Indicates new in 2018–2019

### Bloom, Kenneth

### Physics and Astronomy

U.S. CMS Operations at the LHC

\$5,937,263 ..... NSF through Princeton University

1/1/12 – 12/31/21

Swanson, David ..... Computer Science and Engineering



Ken Bloom, professor of physics and astronomy, coordinates the U.S. team of the international research team conducting experiments using the Large Hadron Collider (LHC) at CERN, the European Organization for Nuclear Research in Switzerland. This grant from the National Science Foundation enables the UNL team to support the current High-Luminosity LHC

(HL-LHC) upgrade project.

### Brank, Eve

### Center on Children, Families and the Law

Training on Family and Policy Services

\$11,268,815 ..... DHHS-ACF through

Nebraska Department of Health and Human Services

1/1/18 – 12/31/22

Olson, Kathryn ..... Center on Children, Families and the Law



Eve Brank, professor of psychology and director of the Center on Children, Families and the Law (CCFL), and Kathryn Olson, research assistant professor and assistant director of CCFL, lead this effort to develop and deliver Child and Family Services training consistent with federal and state statutes and policy. With the support of the Nebraska Department of Health and

Human Services and the Administration for Children and Families in the U.S. Department of Health and Human Services, the program encompasses development and delivery of child protection and safety training for child protection and safety workers in Nebraska.

### 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 (CRR1)  
\$10,000,000 ..... NSF-EPSCoR  
6/15/16 – 5/31/21

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

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

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

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

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

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

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

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

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

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

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

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

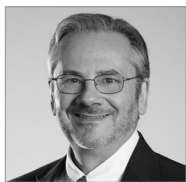
Walia, Harkamal	..... Agronomy and Horticulture/ Center for Biotechnology/ Center for Plant Science Innovation/ Nebraska Center for Redox Biology
Weber, Karrie	..... Biological Sciences/ Earth and Atmospheric Sciences/ Center for Biotechnology/ Center for Plant Science Innovation/ Nebraska Center for Redox Biology
Yu, Bin	..... Biological Sciences/Center for Biotechnology/ Center for Plant Science Innovation/ Nebraska Center for Redox Biology
Zhang, Chi	..... Biological Sciences/Center for Biotechnology/ Center for Plant Science Innovation/ Nebraska Center for Redox Biology



The University of Nebraska–Lincoln is leading a \$20 million, Nebraska-based research effort to improve crop productivity. Funded with a five-year award from the National Science Foundation’s 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 Rhizobium 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.

**Dombrowski, Kirk** **Sociology/  
Rural Drug Addiction Research Center**

\*Rural Drug Addiction Research Center  
\$11,854,178 .....NIH-NIGMS  
4/5/19 – 2/29/24  
Bevins, Rick ..... Sociology/ Rural Drug Addiction Research Center  
Khan, Bilal ..... Sociology/ Rural Drug Addiction Research Center  
Tyler, Kimberly .... Sociology/ Rural Drug Addiction Research Center

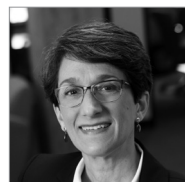


Under the leadership of Kirk Dombrowski, John Bruhn Professor of Sociology, a research center focused on understanding and addressing drug addiction in the rural Midwest has been established with an \$11.85 million, five-year grant from the National Institutes of Health. The Rural Drug Addiction Research Center will conduct cutting-edge

research into understanding the extent and nature of rural addiction, develop evidence-based treatment methods and support outreach and policy efforts to help reduce addiction and overdoses. The center’s research addresses a wide range of topics, including the neuroscience of polysubstance addiction, cognitive implications of long-term use and the social relationships between rural drug use and violence exposure. The center also seeks to identify effective intervention techniques attuned to the region’s specific conditions.

**Graef, Michelle** **Center on Children, Families and the Law**  
Quality Improvement Center for Workforce Development  
\$15,000,000 .....DHHS-ACF  
9/30/16 – 9/29/21

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.

**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 - 12/31/19  
 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 - 8/14/20

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.

## Tsybal, Evgeny

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

Materials Research Science & Engineering Center:  
Polarization and Spin

\$9,629,898 ..... 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

R11 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 also collaborates 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.

**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/  
 Nebraska Center for the Prevention of  
 Obesity Diseases through Dietary Molecules**

COBRE: Nebraska Center for the Prevention of  
 Obesity Diseases through Dietary Molecules  
 \$11,306,520 ..... NIH-NIGMS  
 8/5/14 - 5/31/20  
 Natarajan, Sathish ..... Nutrition and Health Sciences  
 Sun, Xinghui ..... Biochemistry  
 Yates, Dustin ..... Animal Science  
 Yu, Jiujiu ..... 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, 2018–June 30, 2019

\* Indicates new in 2018–2019

## 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  
 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  
 \$1,350,000 ..... DOC-NIST

## 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  
 \$1,010,195 ..... NIH-NIGMS  
 Black, Paul ..... Biochemistry

## Bellows, Laurie Graduate Studies

TRIO – Ronald E. McNair Postbaccalaureate Achievement Program  
 \$1,171,196 ..... ED

## Benson, John Natural Resources

Assessment of Adult Female and Neonatal Mule Deer (*Odocoileus hemionus*) Survival, Movements and Habitat Use in Nebraska  
 \$1,358,070 ..... Nebraska Game and Parks Commission

## Bevins, Rick Psychology

Interceptive Conditioning with Nicotine: Changes in Abuse Liability  
 \$1,786,220 ..... NIH-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

SI2-SSI Data Intensive Analysis for High Energy Physics (DIANA/HEP)  
 \$1,001,324 ..... NSF

## Bobaru, Florin Mechanical & Materials Engineering

MURI Center for Material Failure Prediction through Peridynamics  
 \$1,003,134 ..... DoD-AFOSR through University of Arizona

## 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

## Centurion, Martin Physics and Astronomy

Ultrafast Electron Diffraction from Aligned Molecules  
 \$1,041,385 ..... DOE

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

\*RII Track-2 FEC: Functional Analysis of Nitrogen Responsive Networks in Sorghum  
 \$1,337,633 ..... NSF-EPSCoR through  
 HudsonAlpha Institute for Biotechnology  
 Ge, Yufeng ..... Biological Sciences/  
 Center for Plant Science Innovation  
 Schnable, James ..... Agronomy and Horticulture/  
 Center for Plant Science Innovation  
 Yang, Jinliang ..... 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  
 Pytlík Zillig, Lisa ..... Public Policy Center  
 Twidwell, Dirac Jr. .... Agronomy and Horticulture

**Dodds, Eric** ..... **Chemistry**  
 \*A Research Program on Advancing Biomedical Glycoproteomics  
 \$1,843,480 .....NIH-NIGMS

**Dohrt, Mitchell** ..... **Extension/  
 Nebraska Local Technical Assistance Program**  
 Nebraska Local Technical Assistance Program FY 2016  
 \$1,007,028 .....DOT-FHWA through  
 Nebraska Department of Transportation

**Dombrowski, Kirk** ..... **Sociology**  
 Measuring Social Behavior via Dynamic Network Interaction  
 \$1,224,423 .....NIH-NIGMS  
 Khan, Bilal ..... Sociology  
 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  
 \$1,972,906 ..... USDA-FS

**Faller, Ronald** ..... **Midwest Roadside Safety Facility/  
 Nebraska Transportation Center**  
 \*Midwest States Pooled Fund Roadside Safety Program Year 29  
 \$1,235,000 ..... DOT-FHWA through  
 Nebraska Department of Transportation  
 Bielenberg, Robert ..... Midwest Roadside Safety Facility/  
 Nebraska Transportation Center  
 Lechtenberg, Karla ..... Midwest Roadside Safety Facility/  
 Nebraska Transportation Center  
 Rasmussen, Jennifer ..... Midwest Roadside Safety Facility/  
 Nebraska Transportation Center  
 Rosenbaugh, Scott ..... Midwest Roadside Safety Facility/  
 Nebraska Transportation Center  
 Stolle, Cody ..... Midwest Roadside Safety Facility/  
 Nebraska Transportation Center

**Fischer, Jean** **Nutrition and Health Sciences**  
 Supplemental Nutrition Assistance Program (SNAP-ED)  
 \$1,771,292 .....USDA-FNS through  
 Nebraska Department of Health and Human Services  
 Behrends, Donna ..... 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  
 \$1,136,602 ..... 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

**Gervais, Sarah** **Psychology**  
 \*Integrating Alcohol Myopia and Objectification  
 to Understand Sexual Assault  
 \$1,097,073 ..... NIH-NIAAA  
 DiLillo, David ..... Psychology  
 Dodd, Michael ..... Psychology  
 Fritz, Matthew ..... Educational Psychology

**Grassini, Patricio** **Agronomy and Horticulture**  
 \*Developing Solutions for Closing the Yield Gap  
 in Smallholder Oil Palm Plantations in Indonesia  
 \$4,028,819 ..... Norwegian Ministry of Foreign Affairs

**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

**Hage, David** **Chemistry**  
 Chromatographic Studies of Functional Proteomics  
 \$1,075,264 ..... NIH-NIDDK

**Harris, Edward** **Biochemistry**  
 Liver-Mediated Clearance of Low Molecular Weight Heparins  
 \$1,486,339 ..... 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

**Hebert, Michael** **Special Education and Communication Disorders/  
 Nebraska Center for Research on  
 Children, Youth, Families and Schools**  
 \*Project VIEW: Visual Impairments Education in Writing  
 \$1,399,158 ..... ED-IES  
 Bovaird, James ..... Educational Psychology/  
 Nebraska Center for Research on  
 Children, Youth, Families and Schools  
 Koziol, Natalie ..... Nebraska Center for Research on  
 Children, Youth, Families and Schools  
 Savaiano, Mackenzie ..... Special Education and  
 Communication Disorders/  
 Nebraska Center for Research on  
 Children, Youth, Families and Schools

**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  
 Bradshaw, Jeffrey ..... Panhandle Research and Extension Center  
 Golick, Douglas ..... Entomology  
 Wegulo, Stephen ..... Plant Pathology  
 Zygjelbaum, Arthur ..... Natural Resources

**Helikar, Tomas** **Biochemistry**  
 \*Innovating Life Sciences Education  
 through Computational Modeling and Simulations  
 \$1,896,570 .....NSF  
 Dauer, Joseph ..... Natural Resources  
 Smith, Wendy .....Center for Science, Mathematics  
 and Computer Education

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

**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

**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

**Jacobson, Beth** **Student Affairs**  
 UNL Educational Talent Search  
 \$2,322,665 .....ED

**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  
 \$4,204,159 ..... Mintaka Foundation for Medical Research  
 Buchholz, Wallace ..... Biological Process Development Facility

**Khalimonchuk, Oleh** **Biochemistry/  
 Nebraska Center for Redox Biology**  
 \*Mitochondrial Fidelity and Homeostasis  
 \$1,739,418 .....NIH-NIGMS  
 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

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

\*NYS DOT-MASH-1: MASH 2016 Safety Facility  
Hardware Evaluations - Phase I System C1 and C3  
\$3,228,715 ..... DOT-NYDOT through  
Nebraska Department of Transportation  
Faller, Ronald ..... Midwest Roadside Safety Facility  
Holloway, Jim ..... Midwest Roadside Safety Facility  
Rasmussen, Jennifer ..... Midwest Roadside Safety Facility  
Song, Chung ..... Civil Engineering  
Steelman, Joshua ..... Civil Engineering  
Stolle, Cody ..... Midwest Roadside Safety Facility

**Lei, Yuguo** **Chemical and Biomolecular Engineering**

\*A Single Conical Tube Device  
for Precision CAR-T Cells Manufacturing  
\$1,060,857 ..... NIH-NCI  
Viljoen, Hendrik ..... Chemical and Biomolecular Engineering  
Xu, Zheng ..... Statistics  
Zhang, Chi ..... Biological Sciences

**Li, Ming** **Psychology**

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

**Li, Qingsheng** **Biological Sciences/  
Nebraska Center for Virology**

\*Next Generation Broadly Neutralizing Antibodies  
to Clear HIV-1 Reservoir  
\$1,526,720 ..... NIH-NIAID through University of Maryland

**Li, Xu** **Civil Engineering**

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

**Lodi, Kathleen** **Extension**

Child Care and Youth Training and Technical Assistance Project  
\$3,390,000 ..... USDA-NIFA

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

\*3D-Printing of Diamond-Composite Structures  
using Selective Laser Semi-Melting  
\$1,187,483 ..... DoD-MDA  
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  
\$1,082,736 ..... 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

**Mahmood, Rezaul** **Natural Resources**

High Plains Regional Climate Center  
\$2,804,989 ..... DOC-NOAA  
Sorensen, William ..... Natural Resources  
Stiles, Crystal ..... 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 ..... NIH-NIGMS

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

Lincoln Upward Bound  
\$1,511,785 ..... ED  
Upward Bound Math/Science Program  
\$1,511,785 ..... 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

**Nelson, Timothy** **Psychology/  
 Center for Brain, Biology and Behavior**  
 \*Executive Control and Adolescent Weight Trajectories  
 \$2,443,777 ..... NIH-NIDDK  
 Brock, Becca ..... Psychology/Center for Brain, Biology and Behavior  
 Nelson, Jennifer ..... Research and Economic Development/  
 Center for Brain, Biology and Behavior

Role of Executive Control in Adolescent Substance Use  
 and Co-occurring Problems  
 \$1,009,204 ..... 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

**Neta, Maital** **Psychology/  
 Center for Brain, Biology and Behavior**  
 Functional Brain Networks Mediating  
 Individual Differences in Valence Bias  
 \$1,781,034 ..... NIH-NIMH

**Nugent, Gwen** **Nebraska Center for Research on  
 Children, Youth, Families and Schools**  
 \*Testing the Efficacy of INSIGHTS for Promoting Positive  
 Learning Environments and Academic Achievement in Nebraska:  
 A Replication Study

\$3,299,957 ..... ED-IES  
 Bovaird, James ..... Educational Psychology/  
 Nebraska Center for Research on  
 Children, Youth, Families and Schools  
 Crockett, Lisa ..... Psychology/Nebraska Center for Research  
 on Children, Youth, Families and Schools  
 Sheridan, Susan ..... Educational Psychology/Nebraska Center for  
 Research on Children, Youth, Families and Schools  
 Wheeler, Lorey ..... Nebraska Center for Research on  
 Children, Youth, Families and Schools

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

**Pannier, Angela** **Biological Systems Engineering**  
 Using Cell Priming and Telecommunications Modeling to  
 Enhance Gene Delivery for Stem Cell Therapies (DP2)  
 \$2,197,500 ..... NIH-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



**Pope, Kevin** **Natural Resources**

\*Human Dimensions of Nebraska's Fisheries  
\$1,747,225 .....DOI-FS through  
Nebraska Game and Parks Commission  
Chizinski, Christopher ..... 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 .....NIH-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

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

Traffic Calming Elements for Entry Control  
Facility Threat Delay and Containment  
\$3,706,933 ..... DoD-Offutt Air Force Base-STRATCOM through  
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

**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

**Scott, Stephen** **Computer Science and Engineering**

\*Operationalizing Cyber Situational Awareness Research:  
Capability Exploration  
\$1,525,215 ..... DoD-Offutt Air Force Base-STRATCOM through  
National Strategic Research Institute  
Haugerud, Rick ..... Information Services  
Magilton, Elsbeth ..... Law  
Variyam, Vinod ..... Computer Science and Engineering

**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  
\$1,768,002 ..... 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  
\$4,599,878 ..... 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

Early Learning Network Lead

\$1,999,987 ..... ED  
Knoche, Lisa ..... Nebraska Center for Research on  
Children, Youth, Families and Schools

**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

**Soh, Leen-Kiat**

**Center for Science, Mathematics  
and Computer Education/  
Computer Science and Engineering**

\*Adapt, Implement and Research at Nebraska:

A Statewide Implementation Study of a Researcher-Practitioner  
Partnership for K-8 Computer Science Education

\$2,000,000 ..... NSF  
Nugent, Gwen ..... Nebraska Center for Research on  
Children, Youth, Families and Schools

Smith, Wendy ..... Center for Science, Mathematics  
and Computer Education  
Trainin, Guy ..... Teaching, Learning and Teacher Education

**Speck, Kate**

**Public Policy Center**

\*Nebraska Youth Suicide Prevention 2019-2024

\$3,610,121 ..... DHHS-SAMHSA  
Bulling, Denise ..... Public Policy Center  
DeKraai, Mark ..... Public Policy Center

**Stains, Clifford**

**Chemistry**

Chemical Approaches for Interrogating  
Fundamental Biomedical Processes

\$1,735,143 ..... 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  
 \$1,437,536 ..... NIH-NHLBI

**Sutter, Peter** ..... **Electrical and Computer Engineering**  
 Exploring and Embracing Heterogeneity  
 in Atomically Thin Energy Materials  
 \$1,238,000 ..... DOE  
 Sutter, Eli ..... Mechanical & Materials Engineering

**Svoboda, Mark** ..... **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  
 Tadesse, Tsegaye ..... Natural Resources

Development of the MENA Regional  
 Drought Management System  
 \$1,504,240 ..... USAID through  
 International Center for Biosaline Agriculture  
 Bathke, Deborah ..... Natural Resources  
 Hayes, Michael ..... Natural Resources  
 Knutson, Cody ..... Natural Resources  
 Tadesse, Tsegaye ..... Natural Resources

**Swanson, David** ..... **Computer Science and Engineering**  
 Open Science Grid Consortium  
 \$1,989,038 ..... NSF through University of Wisconsin-Madison

**Takacs, James** ..... **Chemistry**  
 Catalytic Asymmetric Hydroboration:  
 Uncapping the Potential with Two-point Binding Substrates  
 \$1,232,002 ..... NIH-NIGMS

**Terry, Benjamin** ..... **Mechanical & Materials Engineering**  
 En-route Care for Acute Respiratory  
 Distress Syndrome (ARDS) Maturation  
 \$1,259,336 ..... 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

**Umstadter, Donald** **Physics and Astronomy**

\*LaserNetUS

\$1,000,000 ..... DOE

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 Eften, James** **Plant Pathology/  
Nebraska Center for Virology**

R11 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

**Walters, Cory** **Agricultural Economics**

Northern Plains Regional Farm Business Management  
and Benchmarking Partnership

\$1,322,060 ..... USDA-NIFA  
Banerjee, Simanti ..... Agricultural Economics

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

KSHV, HIV and the Kaposi's Sarcoma Tumor Niche

\$2,876,355 ..... NIH-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**

\*Biomarkers for Dysbiosis-Related HIV-Associated Cognitive Disorders among Persons Who Inject Drugs in Puerto Rico  
\$3,029,162 ..... NIH-NIDA  
Chiou, Kathy ..... Psychology/Nebraska Center for Virology  
Dombrowski, Kirk ..... Sociology/Nebraska Center for Virology  
Fernando, Samodha ... Animal Science/Nebraska Center for Virology  
Khan, Bilal ..... Sociology/Nebraska Center for Virology  
West, John ..... Biochemistry/Nebraska Center for Virology

\*Models of KHSV Transmission and Its Inhibition  
\$2,192,835 ..... NIH-NCI  
West, John ..... Biochemistry/Nebraska Center for Virology

Zambia AIDS Malignancies Diagnosis and Pathogenesis Program  
\$3,842,954 ..... NIH-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  
\$3,745,393 ..... NIH-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)  
\$3,973,528 ..... NIH-NCI  
Angeletti, Peter ..... Biological Sciences  
Minhas, Veenu ..... Nebraska Center for Virology  
West, John ..... Nebraska Center for Virology

Programs in HIV & AIDS Assoc Diseases/Malignancies  
\$2,713,284 ..... NIH-FIC

**Yamamoto, Catherine****Student Affairs**

Student Support Services Program  
\$2,647,468 ..... ED

**Yu, Bin****Biological Sciences/  
Center for Plant Science Innovation**

\*Understand the Function of the MOS4-Associated Complex  
in MicroRNA Biogenesis  
\$1,570,405 ..... NIH-NIGMS

**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

**Zeng, Xiao****Chemistry**

R11 Track-2 FEC: Low-Cost, Efficient Next-Generation Solar Cells  
for the Coming Clean Energy Revolution  
\$1,288,002 ..... NSF through Brown University  
Hong, Xia ..... Physics and Astronomy

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

Active awards, July 1, 2018–June 30, 2019

\* Indicates new in 2018–2019

### Abadie, Roberto

### Sociology

\*Assessing the Effects of Hurricane Maria on Opioid Agonist Treatment Access among PWID in Rural Puerto Rico

\$412,763 ..... NIH-NIDA  
Dombrowski, Kirk ..... Sociology  
Habecker, Patrick ..... Sociology

### 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

### Alfano, James

### Plant Pathology/ Center for Plant Science Innovation

EAGER: The Involvement of Blue Light in Plant Immunity

\$264,899 ..... NSF

### 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

### Auchtung, Jennifer

### Food Science and Technology

\*Using Complimentary in Vitro and in Vivo Models of the Human Microbiome to Study Antibiotic-Mediated Disruption

\$387,955 ..... DHHS-CDC

### Avalos, George

### Mathematics

Analysis and Control Theory for Moving Boundary and Nonlinear Phenomena in Interactive Partial Differential Equations

\$328,901 ..... NSF  
Guvén Geredeli, Pelin ..... 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

\$300,000 ..... 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-Power Signal-Processing Electronics for Unattended Radiation Monitoring Sensors

\$557,135 ..... DoD-DTRA  
Bauer, Mark ..... Electrical and Computer Engineering  
Hoffman, Michael ..... 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)  
\$358,835.....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**

\*Influence of Agrochemical Mixtures on Treatment Wetland Ecosystems Services  
\$499,999 ..... USDA-NIFA  
Messer, Tiffany ..... Biological Systems Engineering  
Snow, Daniel ..... Nebraska Water Center

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

**Batelaan, Herman** **Physics and Astronomy**

Coherent Electron Control  
\$475,161 .....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  
\$556,436 . . . . . 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  
\$280,740 . . . . . Nebraska Game and Parks Commission

**Berkowitz, David** **Chemistry**  
\*Medical Countermeasure Drug Discovery and Development  
\$321,028 . . . . . DoD-Offutt Air Force Base-STRATCOM through  
National Strategic Research Institute  
Dussault, Patrick . . . . . Chemistry  
Helikar, Tomas . . . . . Biochemistry  
Powers, Robert . . . . . Chemistry

Medical Countermeasure Drug Discovery and Development  
\$904,977 . . . . . DoD-Offutt Air Force Base-STRATCOM through  
National Strategic Research Institute  
Helikar, Tomas . . . . . Biochemistry  
Powers, Robert . . . . . Chemistry

New Approaches to Catalyst Screening and Development  
\$470,000 . . . . . NSF

**Bianchini Huebner, Andrea** **Food Science and Technology**  
Alliance for Food Security through Reduction of  
Postharvest Loss and Food Waste  
\$930,007 . . . . . USAID through Kansas State University

**Bielenberg, Robert** **Midwest Roadside Safety Facility**  
\*Development of an Optimized MASH TL-4 Kansas Corral Rail  
(Kansas, Iowa, South Dakota and Virginia)  
\$401,400 . . . . . DOT-KS DOT through  
Nebraska Department of Transportation  
Faller, Ronald . . . . . Midwest Roadside Safety Facility  
Holloway, James . . . . . Midwest Roadside Safety Facility  
Lechtenberg, Karla . . . . . Midwest Roadside Safety Facility  
Rosenbaugh, Scott . . . . . Midwest Roadside Safety Facility

**Billesbach, David** **Biological Systems Engineering**  
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

**Bararu, 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

\$475,408 .....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-Brandl, Tami** **Biological Systems Engineering**

\*Assessing the Effects of Farrowing Crate Design and  
Mothering Phenotype on Pre-Weaning Piglet Survival

\$439,110 ..... National Pork Board  
Keshwani, Deepak ..... Biological Systems Engineering  
Shi, Yeyin ..... Biological Systems Engineering  
Stowell, Rick ..... Biological Systems Engineering

**Buchholz, Wallace** **Biological Process Development Facility**

Manufacture of Recombinant Vaccine  
for Phase Clinical Trial and Toxicity Testing

\$894,832 ..... National Strategic Research Institute  
Johnson, Scott ..... Biological Process Development Facility

**Bulling, Denise** **Public Policy Center**

Drought Planning Using Community Threat  
and Hazard Identification and Risk Assessment

\$284,588 ..... DOC-NOAA  
Abdel-Monem, Tarik ..... Public Policy Center  
Bathke, Deborah ..... Natural Resources  
Bernadt, Tonya ..... Natural Resources  
Fuchs, Brian ..... Natural Resources  
Pytlík 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  
\$250,000 ..... 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**

\*Dissecting the Sphingolipid Metabolic and Regulatory Network

\$750,000 ..... NSF  
Markham, Jonathan ..... Biochemistry/  
Center for Plant Science Innovation  
Saha, Rajib ..... Chemical and Biomolecular Engineering/  
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

\$375,170 ..... NSF



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

Developing Genetic and Genomics Tools for *Tetraselmis* sp.  
\$689,033 ..... 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 (Barry)** **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  
\$486,000 ..... 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

**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/  
Nebraska Center for Virology**Mapping Change in Higher Education Social Networks  
and STEM Reforms

\$524,243 .....NSF

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 SciencesImpact of the Summer Institution on Faculty Teaching  
and Student Achievement

\$393,068 .....NSF through University of Colorado

Nebraska Research Network in Functional Genomics

\$548,821 .....NIH-NIGMS through UNMC  
Wood, Charles .....Biological Sciences/Biochemistry/  
Nebraska Center for Virology**Cress Nipper, Cynthia****Special Education and  
Communication Disorders**

STTR: Infant Screening of Communication Risk: The CISS

\$531,270 .....NIH-NIDCD through Brookes Publishing Co., Inc.

**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 EngineeringMechanisms 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**Dauer, Jenny****Natural Resources**Making Decisions about Socioscientific Issues in  
Multidisciplinary Postsecondary Learning Environments

\$303,419 .....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**

\*Fixed Wing VTOL Sensor Emplacement

\$740,798 ..... DoD-Offutt Air Force Base-STRATCOM through  
National Strategic Research Institute  
Bradley, Justin ..... Computer Science and Engineering  
Duncan, Brittany ..... Computer Science and Engineering

COTS Autonomous Tracking and Indicating Prototype

\$666,497 ..... 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

\$949,716 ..... USDA-NIFA  
Bradley, Justin ..... Computer Science and Engineering**DiLillo, David****Psychology**

Intervention to Promote Pro-social Bystander Behaviors

\$402,117 .....NIH-NICHHD  
Brock, Becca ..... Psychology  
Gervais, Sarah ..... Psychology**Dodds, Eric****Chemistry**

Gas-Phase Structural Analysis of Metal Cationized Carbohydrates

\$360,000 .....NSF

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

Controlling Structural, Electronic, and Energy Flow Dynamics  
of Catalytic Processes through Tailored Nanostructures  
\$340,001.....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 through University of North Texas

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

REU Site: Undergraduate Research Opportunities in  
Unmanned Systems Foundations and Applications  
\$360,649.....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/  
Academy on Child and Family Wellbeing**

\*Parental Involvement in Education: Comparing Academic  
Outcomes for High School Students in the General Population  
and those at Risk of Emotional and Behavioral Issues  
\$599,680 ..... ED-IES  
Huscroft-D'Angelo, Jacqueline.....Special Education and

Communication Disorders/  
Academy on Child and Family Wellbeing  
Lambert, Matthew.....Special Education and

Communication Disorders/  
Academy on Child and Family Wellbeing  
Torkelson-Trout, Alexandra.....Special Education and

Communication Disorders/  
Academy on Child and Family Wellbeing

Randomized Clinical Trial of the Boys Town In-Home Program  
\$803,256 ..... Father Flanagan's Boys' Home

**Dussault, Patrick** **Chemistry**

A New Paradigm for Ether Synthesis  
\$390,000 .....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, Dmitry.....Mechanical & Materials 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

**Fabrikant, Ilya** **Physics and Astronomy**

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

**Faller, Ronald** **Midwest Roadside Safety Facility**

\*Crash Testing of Various Bridge Guardrails and Transitions  
\$799,563 ..... DOT-FHWA through  
Hawaii Department of Transportation  
Bielenberg, Robert ..... Midwest Roadside Safety Facility  
Holloway, James ..... Midwest Roadside Safety Facility  
Lechtenberg, Karla ..... Midwest Roadside Safety Facility  
Ranjha, Sagheer ..... Midwest Roadside Safety Facility  
Rasmussen, Jennifer ..... Midwest Roadside Safety Facility  
Reid, John ..... Mechanical & Materials Engineering  
Rosenbaugh, Scott ..... Midwest Roadside Safety Facility  
Song, Chung ..... Civil Engineering  
Steelman, Joshua ..... Civil Engineering  
Stolle, Cody ..... Midwest Roadside Safety Facility

**\*MnDOT Barriers 157 and 158 MASH 2016 Testing,  
Level 3 and Level 4 Evaluations**

\$560,286 ..... DOT-MN DOT through  
Nebraska Department of Transportation  
Bielenberg, Robert ..... Midwest Roadside Safety Facility  
Holloway, James ..... Midwest Roadside Safety Facility  
Rasmussen, Jennifer ..... Midwest Roadside Safety Facility  
Rosenbaugh, Scott ..... Midwest Roadside Safety Facility  
Steelman, Joshua ..... Civil Engineering

**\*Crash Testing of a Precast Concrete Barrier**

\$414,128 ..... Iowa Department of Transportation  
Bielenberg, Robert ..... Midwest Roadside Safety Facility  
Rasmussen, Jennifer ..... Midwest Roadside Safety Facility  
Rosenbaugh, Scott ..... 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  
Rasmussen, Jennifer ..... Midwest Roadside Safety Facility  
Rosenbaugh, Scott ..... 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  
Rasmussen, Jennifer ..... Midwest Roadside Safety Facility  
Rosenbaugh, Scott ..... 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  
Rasmussen, Jennifer ..... Midwest Roadside Safety Facility  
Reid, John ..... Mechanical & Materials Engineering

**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

**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

**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  
\$925,889 ..... 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**

\*CPS: 3D Dynamic Soil Information System Enabled  
by UAV and Proximal Depth Sensing

\$717,698 ..... USDA-NIFA

Shi, Yeyin ..... Biological Systems Engineering

Yu, Hongfeng ..... Computer Science and Engineering

Zhou, Yuzhen ..... Statistics

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

**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

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

Ndao, Sidy ..... Mechanical & Materials Engineering

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

**Golick, Douglas** **Entomology**

\*Building Undergraduate Research and Science  
Communication Skills through Beneficial Insects Protection  
Research and Extension Experiences (FACT)  
\$344,767 ..... USDA-NIFA  
Anderson, Troy ..... Entomology  
Brewer, Gary ..... Entomology  
Dauer, Jenny ..... Natural Resources  
Louis, Joe ..... Entomology  
McMechan, Justin ..... Eastern Nebraska Research  
and Extension Center  
Peterson, Julie ..... West Central Research and Extension Center  
Velez Arango, Ana Maria ..... Entomology  
Weissling, Tom ..... Entomology  
Wu-Smart, Judy ..... 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  
\$524,867 ..... United Soybean Board/Smith/Bucklin  
Hyten, David Jr. .... Agronomy and Horticulture

Increasing the Rate of Genetic Gain for  
Yield in Soybean Breeding Programs  
\$282,668 ..... North Central Soybean Research Program through  
Ohio State University  
Ge, Yufeng ..... Biological Systems Engineering  
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

**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  
\$332,346 ..... NSF through Montana State University  
McManis, James ..... Engineering/Antarctic Drilling Program

**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

**Hebets, Eileen** **Biological Sciences**  
A Comparative Systems Approach to Complex Animal Signaling  
\$657,502 ..... 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

**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**  
\*Targeted Observation by Radars  
and UAS of Supercells (TORUS)  
\$725,926 ..... NSF  
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

**Hughes, Michelle** **Special Education and Communication Disorders**  
\*Telepractice for Cochlear Implants  
\$319,682 ..... NIH-NIDCD  
Wheeler, Lorey ..... Nebraska Center for Research on  
Children, Youth, Families and Schools  
\*Physiology as a Potential Predictor  
of Perception in Cochlear Implants  
\$291,566 ..... NIH-NIDCD  
Wheeler, Lorey ..... Nebraska Center for Research on  
Children, Youth, Families and Schools

**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  
\$295,749 ..... 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

**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

**Johnson, Phillip** **Food Science and Technology**  
 \*Robust Methods for Food Allergen Detection  
 and Quantitative Risk Assessment  
 \$424,742 ..... USDA-NIFA  
 Baumert, Joseph ..... Food Science and Technology  
 Downs, Melanie ..... Food Science and Technology  
 Marsh, Justin ..... Food Science and Technology

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

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

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

**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

**Knoche, Lisa** **Nebraska Center for Research on  
 Children, Youth, Families and Schools**  
 \*Getting Ready Preschool Development Grant PDG  
 \$318,116 ..... DHHS-ACF-Nebraska Department of  
 Health and Human Services through  
 Nebraska Children and Families Foundation

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

**Kovalev, Alexey** **Physics and Astronomy**  
 Statistical Mechanics of Non-Local Disordered Models with  
 Associated Quantum LDPC Codes  
 \$255,000 ..... NSF

**Krehbiel, Michelle** **Extension**  
 Nebraska CYFAR Sustainable Community Project  
 \$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  
 \$654,700 ..... Lower Elkhorn NRD

**Lawrence, Nevin** **Panhandle Research and Extension Center**  
 \*BARRAL - Bioenergy, Advanced Biofuel  
 and Rubber Research Agricultural Linkages  
 \$500,001 ..... USDA-NIFA through Ohio State University  
 Maharjan, Bijesh ..... Panhandle Research and Extension Center  
 Qiao, Xin ..... Panhandle Research and Extension Center

**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  
 Rasmussen, 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  
 \$438,219 ..... NIH-NIAID through University of Wyoming  
 Long-acting Antiretroviral Nanoparticles for HIV Prophylaxis  
 \$259,125 ..... NIH-NIAID through Creighton University

**Li, Xu** **Civil Engineering**  
 \*Antibiotic Resistance Genes in the Soil-Plant Ecosystem  
 \$330,000 .....NSF  
 Snow, Daniel ..... Nebraska Water Center  
 Walia, Harkamal ..... Agronomy and Horticulture

**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

**Lodi, Kathleen** **Extension**  
 \*EAGER: Empowering Out-of-School-Time Educators  
 and Students through 4-H and the Land-Grant System  
 \$299,950 .....NSF  
 Frerichs, Sandra ..... Extension  
 Guru, Ashu ..... Extension  
 Hawley, Leslie ..... Nebraska Center for Research on  
 Children, Youth, Families and Schools  
 Wheeler, Lorey ..... Nebraska Center for Research on  
 Children, Youth, Families and Schools

**Lu, Yongfeng** **Electrical and Computer Engineering**  
 \*Fabrication and Verification of Fuel Targets  
 for Laser Fusion Research  
 \$296,637 ..... DOE through University of Rochester  
 Radar 2021  
 \$740,025 ..... 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  
 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  
\$384,753 ..... 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  
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

**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

**Montooth, Kristi** **Biological Sciences**  
\*RoL: FELLS: EAGER: A Predictive Framework of Metabolism  
as an Engine of Functional Environmental Responses  
across Levels of Biological Organization  
\$299,999 ..... NSF  
DeLong, John ..... Biological Sciences

**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

**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** **Chemical and Biomolecular Engineering/  
Nebraska Center for Energy Sciences Research**  
\*Engineering Carboxylic Acid Reductase  
for the Biosyntheses of Industrial Chemicals  
\$335,516 ..... NSF  
Guo, Jiantao ..... Chemistry/Nebraska Center for  
Energy Sciences Research  
Wilson, Mark ..... Biochemistry/Nebraska Center for  
Energy Sciences Research

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

**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

**Petersen, Jessica** **Animal Science**  
\*Annotation of Functional Regulatory Regions in the Horse  
\$500,000 ..... USDA-NIFA

**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  
\$515,528 ..... 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



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

\*Prevention of Viral Cardiomyopathy and Insulinitis by Vaccination  
 \$300,000 ..... American Heart Association  
 Kidambi, Srivatsan ..... Chemical and Biomolecular Engineering  
 Steffen, David ..... Veterinary Medicine and Biomedical Sciences

**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

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

\*Research and Equipment Enhancement  
 \$336,544 ..... DOT-FHWA through  
 Nebraska Department of Transportation  
 Faller, Ronald ..... Midwest Roadside Safety Facility/  
 Nebraska Transportation 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

**Schmidt, Tyler****Animal Science**

\*Utilization of an Advanced Computer Vision Platform  
 to Identify Changes in the Physiological and Behavioral Changes  
 Associated with Illness and Aggressive/Damaging Behavior  
 during the Nursery and Finisher Phase  
 \$301,793 ..... Foundation for Food and Agriculture Research through  
 National Pork Board  
 Mote, Benny ..... Animal Science  
 Pérez, Lance ..... Electrical and Computer Engineering  
 Psota, Eric ..... Electrical and Computer Engineering

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

\*RoL: FELS: EAGER: Genetic Constraints on the Increase  
 of Organismal Complexity Over Time  
 \$299,801 ..... NSF

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, 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**

\*MRI: Acquisition of a Low-temperature High-magnetic-field  
Multifunctional Scanning Probe Microscopy System

\$330,530 .....NSF  
Xu, Xiaoshan ..... Physics and Astronomy/  
Nebraska Center for Materials and Nanoscience

DMREF: Design and Synthesis of Novel Magnetic Materials

\$511,155 .....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

**Shen, Zhigang** **Durham School of Architectural  
Engineering and Construction**

\*A Fast and Low-cost Method to Automate Detecting,  
Locating and Mapping Internal Gas Pipeline Corrosion  
using Pig-mounted Thermal and Stereo Cameras

\$299,980 ..... DOT-PHMSA

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

\*Faculty Development Program in Nuclear Engineering  
at University of Nebraska-Lincoln

\$450,000 .....U. S. Nuclear Regulatory Commission  
Cui, Bai ..... Mechanical & Materials Engineering  
Nastasi, Michael ..... Mechanical & Materials Engineering/  
Nebraska Center for Energy Sciences Research

Grain and Interface Engineering for  
High-efficiency Hybrid Perovskite Solar Cells

\$450,000 .....DoD-AFOSR

**Sinitskii, Alexander** **Chemistry**

Extended Atomically Precise Graphene Nanoribbons and  
Nanostructures with Improved Electrical Conductivity

\$768,496 ..... DoD-ONR

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

\*Persistence, Effectiveness and Retention Studies in STEM Teaching

\$392,264 .....NSF  
Augustyn, Lindsay ..... Center for Science, Mathematics  
and Computer Education

Funk, Rachel ..... 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

**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

**Spangler, Matthew**

**Animal Science**

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

**Starace, Anthony**

**Physics and Astronomy**

Strong Field & Ultrafast Atomic and Molecular Processes  
\$457,000 ..... NSF

**Stephenson, Mitchell**

**Panhandle Research and Extension Center**

\*Grazing Land Monitoring Cooperative for Adaptive Management  
\$250,000 ..... USDA-NRCS  
Volesky, Jerry ..... West Central 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

**Stowell, Rick**

**Biological Systems Engineering**

\*Water and Nutrient Recycling:  
A Decision Tool and Synergistic Innovative Technology  
\$496,646 ..... USDA-NIFA through University of Arkansas  
Heemstra, Jill ..... Northeast Research and Extension District  
Schmidt, Amy ..... Biological Systems Engineering

**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

**Svoboda, Mark**

**Natural Resources**

\*MENAdrought Empowering and Enhancing Drought Management  
Systems in the Middle East-North Africa (MENA) Region  
\$362,226 ..... USAID through  
International Water Management Institute  
Bathke, Deborah ..... Natural Resources  
Brozovic, Nicholas ..... Robert B. Daugherty Water for Food Institute  
Hayes, Michael ..... Natural Resources  
Jedd, Theresa ..... Natural Resources  
Knutson, Cody ..... Natural Resources  
Neale, Christopher ..... Robert B. Daugherty Water for Food Institute

**Terry, Benjamin**

**Mechanical & Materials Engineering**

Development of a Gastrointestinal Tissue Attachment Mechanism  
\$619,776 ..... Progenity, Inc.  
En Route Care Patient Viability Technology Development  
\$308,015 ..... DoD-Offutt Air Force Base-STRATCOM through  
National Strategic Research Institute



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

\*Partnership for Research and Education in Multiferoic Polymer Nanocomposites between Tuskegee University and University of Nebraska–Lincoln  
 \$627,217 .....NSF through Tuskegee University  
 Dowben, Peter ..... Physics and Astronomy/  
 Nebraska Center for Materials and Nanoscience  
 Ducharme, Stephen ..... Physics and Astronomy/  
 Nebraska Center for Materials and Nanoscience  
 Shield, Jeffrey .....Mechanical & Materials Engineering/  
 Nebraska Center for Materials and Nanoscience

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

**Turner, Joseph** **Mechanical & Materials Engineering**  
 \*PCC-3: Non-Destructive Testing (NDT) Microstructural Response Characterization and Impact  
 \$500,000 ..... DoD-Air Force Research Lab through  
 Rolls Royce Corporation

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 Emission 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, Can** **Computer Science and Engineering**

\*NeTS: Small: Connected Barriers: Vehicle-to-barrier Communication and Networking for Single-vehicle Crash Safety Facility  
\$319,513 .....NSF  
Faller, Ronald .....Midwest Roadside Safety Facility  
Stolle, Cody .....Midwest Roadside Safety Facility

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, Ziguang ..... Computer Science and Engineering

**Wagner, William** **Biological Sciences**

The Consistency of Behavioral Plasticity Across Different Selective Contexts  
\$512,998 .....NSF

**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

**Walker, Mark** **Mathematics**

\*Free Resolutions, K-Theory and dg-Categories  
\$257,571 .....NSF

**Wang, Jian** **Mechanical & Materials Engineering**

\*Bridging Microscale to Macroscale Mechanical Property Measurements and Predication of Performance Limitation for FeCrAl Alloys under Extreme Reactor Applications  
\$799,270 ..... DOE  
Nastasi, Michael .... Nebraska Center for Energy Sciences Research

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

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

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

**Weller, Curtis** **Food Science and Technology**

Enhancing Low-moisture Food Safety by Improving Development and Implementation of Pasteurization Technologies  
\$943,617 ..... USDA-NIFA through Michigan State University

**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, Richard** **Plant Pathology**  
 \*Molecular Mechanisms Integrating Fungal Growth  
 with Plant Innate Immunity Suppression  
 \$599,999 ..... NSF

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

**Witte, Amanda** **Nebraska Center for Research on  
 Children, Youth, Families and Schools**  
 Nebraska Multi-Tiered System of  
 Support Implementation Support Team  
 \$724,286 ..... ED through Nebraska Department of Education

**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

2018-2019 Student Health  
 and Risk Prevention Surveillance System  
 \$281,322 ..... DHHS-CDC through  
 Nebraska Department of Health and Human Services

**Wood, Charles** **Biological Sciences/Biochemistry/  
 Nebraska Center for Virology**  
 Comparative Virology Research Training Program  
 \$841,402 ..... NIH-NIAID  
 Van Etten, James ..... Plant Pathology

**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

**Wu-Smart, Judy** **Entomology**  
 \*Great Plains Regional Training for Beginning Beekeeping Farmers  
 \$393,332 ..... USDA-NIFA

**Xiang, Shi-Hua** **Veterinary Medicine and Biomedical Sciences/  
 Nebraska Center for Virology**  
 Mucosal Delivery and Retention of  
 Ebola Inhibitor Scytovirin Using *Lactobacillus*  
 \$452,514 ..... NIH-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

**Xu, Xiaoshan** **Physics and Astronomy/  
 Nebraska Center for Materials and Nanoscience**  
 \*Microstructure and Strain Effects on Ferroelectric  
 and Transport Properties of HfO<sub>2</sub>-based Thin Films  
 \$519,740 ..... NSF  
 Gruverman, Alexei ..... Physics and Astronomy/  
 Nebraska Center for Materials and Nanoscience  
 Tsybaly, Evgeny ..... Physics and Astronomy/  
 Nebraska Center for Materials and Nanoscience

**Yan, Qiben** **Computer Science and Engineering**

\*SaTC: CORE: Small: URadio: Towards Secure Smart Home  
IoT Communication Using Hybrid Ultrasonic-RF Radio  
\$499,999 .....NSF  
Zhou, Qin ..... Mechanical & Materials Engineering

**Yang, Jinliang** **Agronomy and Horticulture**

\*Rescuing the Fixed Deleterious Alleles for Genome-Enabled  
Micronutrients Improvement in Maize  
\$500,000 ..... USDA-NIFA  
Waters, Brian ..... Agronomy and Horticulture

**Yang, Ruiguo** **Mechanical & Materials Engineering**

\*Cell-Cell Adhesion Mechanics and Mechanotransduction  
at the Single Cell Level  
\$439,584 .....NSF  
Lim, Jung Yul ..... Mechanical & Materials Engineering

**Yates, Dustin** **Animal Science**

\*Recovering Performance and Quality  
in IUGR-born Low-birthweight Livestock  
\$500,000 ..... USDA-NIFA  
Petersen, Jessica ..... Animal Science

**Yoder, Aaron** **Biological Systems Engineering**

Nebraska AgrAbility  
\$729,000 ..... USDA-NIFA  
Frecks, Nancy ..... West Central Research  
and Extension Center  
Harris-Broomfield, Susan ..... West Central Research  
and Extension Center  
Riley, Mark ..... Biological Systems Engineering

**Yu, Bin** **Biological Sciences/  
Center for Plant Science Innovation**

\*Understand the Functional Mechanism of the DSP1 Complex  
in the 3' Maturation of Plant Small Nuclear RNAs  
\$682,608 .....NSF  
Zhang, Chi ..... Biological Sciences/  
Center for Plant Science Innovation

**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

**Yuill, David** **Durham School of Architectural  
Engineering and Construction**

\*A Field Study to Characterize Fault Prevalence  
in Residential Comfort Systems  
\$749,792 ..... DOE

**Zempleni, Janos** **Nutrition and Health Sciences/  
Nebraska Center for the Prevention  
of Obesity-Related Diseases**

\*Nutritive Value and Potential Health Benefits of LOL-Exosomes  
\$257,886 ..... Purina Mills  
Adamec, Jiri ..... Biochemistry/Nebraska Center for the  
Prevention of Obesity-Related Diseases  
Cui, Juan ..... Computer Science and Engineering/  
..... Nebraska Center for the  
Prevention of Obesity-Related Diseases

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

**Zeng, Lirong** **Plant Pathology**

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

**Zeng, Xiao** **Chemistry**

\*Exploration of Low-Dimensional Gas Clathrate Hydrates  
\$256,188 .....NSF  
Cheung, Chin Li (Barry) ..... Chemistry

**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

\$763,265 ..... 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, 2018–June 30, 2019

\* Indicates new in 2018–2019

### 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



#### **Dishari, Shudipto**

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



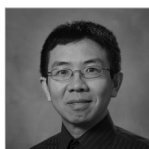
#### **Duncan, Brittany**

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



#### **Li, Xu**

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



#### **Libault, Marc**

Agronomy and Horticulture/Center for Plant  
Science Innovation  
\*CAREER: Exploring the Transcriptional Regulatory  
Networks Controlling the Early Stages of Legume  
Nodulation  
\$573,573 .....NSF



#### **Lim, Jung Yul**

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



#### **Louis, Joe**

Entomology  
\*CAREER: Deciphering Sorghum Resistance  
Mechanisms to Phloem-Feeding Aphids  
\$1,513,415 .....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**

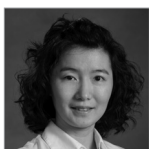
Psychology  
 CAREER: Functional Brain Networks  
 Mediating Positivity Bias in Healthy Aging  
 \$756,711 .....NSF

**Obata, Toshihiro**

Biochemistry/Center for Plant Science Innovation  
 \*CAREER: Establishing the Roles of Multi-Enzyme  
 Complexes in Metabolic Network Regulation  
 \$746,955 .....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  
 Magnetolectric Transformer: A New Voltage  
 Conversion and Control Device for Smart Grids  
 \$500,000 .....NSF

**Rao, Prahalada**

Mechanical & Materials Engineering  
 CAREER: Smart Additive Manufacturing  
 \$543,836 .....NSF

**Roston, Rebecca**

Biochemistry/Center for Plant Science Innovation  
 \*CAREER: How SFR2 Allows Chloroplast Envelope  
 Membranes to Survive Freezing, from Initial Signal  
 to Molecular Mechanism  
 \$846,076.00 .....NSF

**Sealy, Michael**

Mechanical & Materials Engineering  
 \*CAREER: Hierarchical Structure Integrity of  
 Magnesium Alloys via Asynchronous Laser and  
 Additive Processing  
 \$500,000 .....NSF

**Shizuka, Dai**

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

**Sinitriskii, Alexander**

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

**Stains, Marilyne**

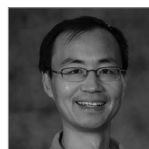
Chemistry/Center for Science, Mathematics  
 and Computer Education  
 CAREER: The Winding Roads to Effective Teaching:  
 Characterizing the Progressions in Instructional  
 Knowledge and Practices of STEM Faculty  
 \$959,849 .....NSF

**Wachs, Rebecca**

Biological Systems Engineering  
 \*CAREER: Alternative Non-Opioid Therapies for  
 Low Back Pain  
 \$510,389 .....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 Magnetolectric Memory Effect  
 \$591,256 .....NSF

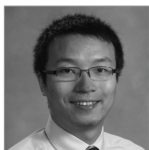
**Yin, Yanbin**

Nebraska Food for Health Center  
 \*CAREER: Evolutionary Genomics of Enzymes for  
 Complex Carbohydrate Metabolism  
 \$353,179 .....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



**Zhang, Limei**

Biochemistry/Nebraska Center for Redox Biology/  
Nebraska Center for Integrated Biomolecular  
Communication  
\*CAREER: Structural and Mechanistic Studies on  
an Iron-Sulfur Cluster-based Nitric Oxide Sensor  
\$600,000 .....NSF

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**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

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**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

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**Office of Naval Research Young Investigator Program**

The Office of Naval Research Young Investigator Program supports academic scientists and engineers who are in their first or second full-time tenure-track academic appointment and who show exceptional promise for doing creative research.



**Argyropoulos, Christos**

Electrical and Computer Engineering  
\*YIP: Theoretically Modeling the High Thermal  
Emission/Formation Dynamics of Femtosecond  
Laser Functionalized Surfaces to Optimize Surfaces  
\$749,910 ..... DoD-ONR

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# Arts and Humanities Awards \$250,000 or More

Active awards, July 1, 2018–June 30, 2019

\* Indicates new in 2018–2019

## Cohen, Matt

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

\*Charles Chesnutt: A Digital Archive

\$292,627 ..... NEH  
5/1/19 – 4/30/21

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



Through a grant from the National Endowment for the Humanities, the existing Charles Chesnutt Digital Archive will be redesigned, and more works by the African-American author will be added. The project, a collaboration between Nebraska and The New School in New York City, is directed at Nebraska by Matt Cohen, professor of English,

and Kenneth M. Price, Hillegass University Professor of Literature and co-director of CDRH. The project is edited by Stephanie Browner of The New School. Chesnutt is a major figure in American literary studies and was a profound thinker about race and justice in the United States. He wrote six book-length works, more than 80 stories, and many essays and speeches during his career.

## Heitman, Carolyn

### Anthropology/Center for Digital Research in the Humanities

Salmon Pueblo Archaeological Research Collection

\$300,000 ..... NEH  
5/1/15 – 10/31/18

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

\$349,899 ..... NEH  
6/1/19 – 5/30/22

Lorang, Elizabeth ..... University Libraries/Center for Digital Research in the Humanities

Genoa Indian School Digital Reconciliation Project  
\$290,123 ..... Council on Library and Information Resources  
6/1/18 – 5/31/20

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



With funding from the National Endowment for the Humanities and 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, are compiling, digitizing and making 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 hosts 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: Stage 2

\$278,000 ..... NEH

1/1/19 - 12/31/21

Homestead, Melissa ..... English/Center for Digital Research in the Humanities



The National Endowment for the Humanities is supporting the work of Andrew Jewell, professor of University 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**

American Life in Poetry Project

**English**

\$491,885 ..... Poetry Foundation

1/1/05 - 12/31/19



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.

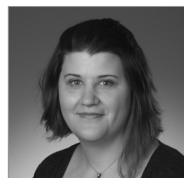
**Lorang, Elizabeth** **Center for Digital Research in the Humanities**

Extending Image Analysis for Archival Discovery (Aida)

\$462,317 ..... IMLS

12/1/16 - 11/30/19

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.

**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

7/1/17 - 6/30/20



Kenneth Price, Hillegass University Professor of English and co-director of the Center for Digital Research in the Humanities, directs the Walt Whitman Archive, a digital archive that makes Whitman’s vast work easily and conveniently accessible to scholars, students, and general readers alike. With support from the National Endowment for the Humanities,

the first edition of *Leaves of Grass*, along with the constellation of draft documents that contributed to it, has been developed into a digital variorum from manuscript and notebook beginnings through its many variations in print. The goal of the project is to advance understanding of this paradigm-shifting book and to enable future scholarship by drawing on some of the opportunities for representation unique to digital editing.

**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

\$981,012 ..... NEH  
9/1/07 - 8/31/20

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.

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

Active awards, July 1, 2018–June 30, 2019

\* Indicates new in 2018–2019

### **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  
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

### **Hoff, Michael** Art, Art History and Design

Antiochia ad Cragum Excavations: 2019 Season  
\$52,800 ..... Merops Foundation

### **Homestead, Melissa** English

\*The Creative Partnership of Willa Cather and Edith Lewis  
\$50,400 ..... NEH

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

Text Mining the Novel:  
Establishing the Foundations of a New Discipline  
\$88,233 ..... Government of Canada-SSHRC through McGill University

### **Jones, Jeannette** Institute for Ethnic Studies/History/Center for Digital Research in the Humanities

\*To Enter Africa from America:  
The United States, Africa and the New Imperialism, 1862-1919  
\$216,106 ..... 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, 2018–June 30, 2019

\* Indicates new in 2018–2019

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

**James, Michael** **Textiles, Merchandising and Fashion Design**  
Robert Hillestad Textiles Gallery  
\$10,000 ..... Pearle Francis Finigan Foundation

**Jewell, 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  
\$44,181 ..... National Historical Publications and Records  
Commission through University of Iowa

**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

**Yang, Shuling** **Teaching, Learning and Teacher Education**  
Coaching Preschool Teachers to Ask  
Higher-Level Questions in Dialogic Reading  
\$5,000 ..... International Literacy Association



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 2018-2019

Recognition for faculty and other university personnel  
who received patents for their inventions  
July 1, 2018–June 30, 2019

### **Dennis R. Alexander, Troy P. Anderson, Craig Zuhlke, Sidy Ndao, George Gogos**

Electrical and Computer Engineering; Mechanical & Materials Engineering

**Title:** Monolithic Heat-transfer Device

**Date:** 4/23/2019

**Number:** 10267567

**Country:** United States

### **Mark A. Borden, Benjamin S. Terry**

Mechanical & Materials Engineering

**Title:** System and Methods for Ventilation through a Body Cavity

**Date:** 11/13/2018

**Number:** 10124126

**Country:** United States

### **Judith M. Burnfield, Carl A. Nelson, Cale Stolle**

Mechanical & Materials Engineering

**Title:** Biomechanical Foot Guidance Linkage

**Date:** 4/9/2019

**Number:** 10252100

**Country:** United States

### **Edgar B. Cahoon, Umidjon Iskandarov, Hae Jin Kim, Jillian Collins-Silva**

Biochemistry

**Title:** Novel Acyltransferases and Methods of Using

**Date:** 5/7/2019

**Number:** 10280431

**Country:** United States

### **Thomas E. Clemente, Edgar B. Cahoon, Hyunwoo Park, Hanh Nguyen**

Biochemistry; Agronomy and Horticulture

**Title:** Method for the Production of High Saturated, Low Polyunsaturated Soybean Oil

**Date:** 10/16/2018

**Number:** 10100325

**Country:** United States

### **Stephen G. DiMagno, Bao Hu**

Chemistry

**Title:** Radioiodinated Compounds

**Date:** 8/21/2018

**Number:** 10053423

**Country:** United States

**Date:** 3/13/2019

**Number:** 3089962

**Countries:** France, Netherlands, Italy, Spain, United Kingdom, Germany, Belgium

### **Stephen G. DiMagno, Bao Hu**

Chemistry

**Title:** Guanidinium Compounds

**Date:** 10/30/2018

**Number:** 10112893

**Country:** United States

**Shane M. Farritor, Dmitry Oleynikov, Ryan L. McCormick,  
Tyler Wortman, Eric Markvicka**

Mechanical & Materials Engineering; Surgery (UNMC)

*Title:* Robotic Surgical Devices, Systems and Related Methods

*Date:* 10/30/2018

*Number:* 10111711

*Country:* United States

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**Thomas Frederick, Shane M. Farritor, Eric Markvicka, Joe Bartels,  
Jack Mondry**

Mechanical & Materials Engineering

*Title:* Single Site Robotic Device and Related Systems and Methods

*Date:* 3/5/2019

*Number:* 10219870

*Country:* United States

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**Craig Herzinger, John A Woollam, Mathias Schubert, Tino Hoffman,  
Sean Knight, Gregory K. Pribil**

Electrical and Computer Engineering

*Title:* Integrated Vacuum-Ultraviolet Mid, and Near-Ultraviolet, Visible, Near, Mid and Far Infrared and Terahertz Optical Hall Effect (OHE) Instrument, and Method of Use

*Date:* 9/11/2018

*Number:* 10073120

*Country:* United States

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**Andrea Holmes, Mathias Schubert, Patrick H. Dussault, Tino Hofmann,  
Daniel Schmidt, Rebecca Y. Lai**

Electrical and Computer Engineering; Chemistry

*Title:* Optical Sensing and Separation Based on Ordered Three-dimensional Nanostructured Surfaces

*Date:* 1/29/2019

*Number:* 10190978

*Country:* United States

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**Jinsong Huang, Yuchuan Shao, Qingfeng Dong**

Mechanical & Materials Engineering

*Title:* Systems and Methods for Scalable Perovskite Device Fabrication

*Date:* 1/29/2019

*Number:* 10193092

*Country:* United States

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**Jinsong Huang**

Mechanical & Materials Engineering

*Title:* Self-powered GHZ Solution-processed Hybrid Perovskite Photodetectors

*Date:* 2/5/2019

*Number:* 10199579

*Country:* United States

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**William Laegreid, Hiep Vu, Asit Pattnaik, Fernando A. Osorio,  
Fangrui Ma**

Veterinary and Biomedical Sciences; Biological Sciences

*Title:* A Non-naturally Occuring Porcine Reproductive and Respiratory Syndrome Virus (PRRSV) and Methods of Using

*Date:* 9/11/2018

*Number:* 10072046

*Country:* United States

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*Date:* 5/7/2019

*Number:* 2687150

*Country:* Russia

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*Date:* 6/14/2019

*Number:* 6538071

*Country:* Japan

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**Hao Luo, Hong Jiang, Lei Tian**

Computer Science

*Title:* Enforcing Persistency for Battery-Backed Mobile Devices

*Date:* 4/30/2019

*Number:* 10275164

*Country:* United States

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**Yongfeng Lu, Yunshen Zhou, Hossein Rabiee Golgir**

Electrical and Computer Engineering

*Title:* Growth of Nitride Films

*Date:* 3/19/2019

*Number:* 10233544

*Country:* United States

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**Sally Mackenzie, Yingzhi Xu**

Agronomy and Horticulture; Center for Plant Science Innovation

**Title:** Methods and Compositions for Obtaining Useful Plant Traits

**Date:** 8/28/2018

**Number:** 10058044

**Country:** United States

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**Sally Mackenzie, Roberto De la Rosa Santamaria**

Agronomy and Horticulture; Center for Plant Science Innovation

**Title:** Plants with Useful Traits and Related Methods

**Date:** 4/10/2019

**Number:** 2704554

**Countries:** United Kingdom, Turkey, Spain, Netherlands, Italy, Germany, France, Belgium

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**Andrew Marshall, Peter A. Dowben, Nishtha Sharma**

Physics and Astronomy

**Title:** Unipolar Magnetoelectric Magnetic Tunnel Junction

**Date:** 1/8/2019

**Number:** 10177303

**Country:** United States

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**Kenneth Narva, Kanika Arora, Sarah Worden, Blair Stegfried, Chitvan Khajuria, Ana Maria Velez, Ronda Hamm, Meghan Frey, Nick Storer, Elane Fishilevich**

Entomology

**Title:** Parental RNAi Suppression of Kruppel Gene to Control Hemipteran Pests

**Date:** 8/14/2018

**Number:** 10047374

**Country:** United States

**Title:** Parental RNAi Suppression of Hunchback Gene to Control Hemipteran Pests

**Date:** 8/14/2018

**Number:** 10047360

**Country:** United States

**Title:** Parental RNAi Suppression of Chromatin Remodeling Genes to Control Coleopteran Pests

**Date:** 8/21/2018

**Number:** 10053706

**Country:** United States

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**Sidy Ndao, Mahmoud Elzouka**

Mechanical & Materials Engineering

**Title:** Near-field Heat Transfer Enabled Nanothermomechanical

Memory and Logic Devices

**Date:** 7/10/2018

**Number:** 10020010

**Country:** United States

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**Carl A. Nelson, Alan Goyzueta**

Mechanical & Materials Engineering

**Title:** Compliant Surgical Graspers and Methods of Making and Using

**Date:** 4/9/2019

**Number:** 10251659

**Country:** United States

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**Wei Niu, Jiantao Guo, Qingsheng Li, Yue Li, Nanxi Wang**

Biological Sciences; Chemistry

**Title:** Live, Attenuated Vaccines and Methods of Making and Using

**Date:** 6/18/2019

**Number:** 10322172

**Country:** United States

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**Wei Qiao, Liyan Qu, Ze Wang**

Electrical and Computer Engineering

**Title:** Monitoring Aging of Power Semiconductor Devices Based on Case Temperature

**Date:** 5/14/2019

**Number:** 10288672

**Country:** United States

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**Wei Qiao, Taesic Kim, Liyan Qu**

Electrical and Computer Engineering

**Title:** Rechargeable Multi-cell Battery

**Date:** 5/21/2019

**Number:** 10297855

**Country:** United States

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**Alexander Sinitskii, Alexey Lipatov, Alexei Gruverman**

Chemistry; Physics and Astronomy

**Title:** Memory Device Based on Heterostructures of Ferroelectric and Two-dimensional Matter

**Date:** 12/25/2018

**Number:** 10163932

**Country:** United States

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

Chemistry

**Title:** Polymer on Graphene

**Date:** 1/29/2019

**Number:** 10192971

**Country:** United States

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**Oleg Tchernyshyov, Alexey Kovalev, Kirill Belashchenko**

Physics and Astronomy

**Title:** Magnetolectric Memory Cells with Domain Wall-mediated Switching

**Date:** 10/2/2018

**Number:** 10090034

**Country:** United States

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**Benjamin S. Terry, Weston Lewis, Wanchuan Xie, Pengbo Li, Alfred Tsubaki**

Mechanical & Materials Engineering

**Title:** Gastrointestinal Sensor Implantation System

**Date:** 3/5/2019

**Number:** 10219748

**Country:** United States

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**Christopher Y. Tuan, Lim Nguyen**

Civil Engineering; Electrical and Computer Engineering

**Title:** Concrete Mix for Shotcrete Applications for Electromagnetic Shielding

**Date:** 7/24/2018

**Number:** 10034418

**Country:** United States

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**Title:** Electrically Conductive Concrete Mix for Electromagnetic (Em) Ground Plane

**Date:** 4/9/2019

**Number:** 10256006

**Country:** United States

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**Harkamal Walia, Dante Placido, Thomas E. Clemente**

Agronomy and Horticulture

**Title:** Sequences Involved in Plant Yield And Methods of Using

**Date:** 7/31/2018

**Number:** 10036034

**Country:** United States

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**Haosen Wang, Wei Qiao, Liyan Qu**

Electrical and Computer Engineering

**Title:** Electromagnetic Power Converter

**Date:** 5/14/2019

**Number:** 10290417

**Country:** United States

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**Donald Weeks, Thomas E. Clemente, Paul C.C. Feng, Stanislaw Flasinski, Razvan Dumitru**

Biochemistry; Agronomy and Horticulture

**Title:** Improved Production and Yield Capacity of Transgenic Plants Expressing a Genetically Engineered Version of the Dicamba Monooxygenase Gene (aka, oxygenaseDIC)

**Date:** 9/10/2018

**Number:** 300876

**Country:** India

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## 2018-2019 License Agreements

Recognition for faculty whose technologies formed the basis of licensing agreements with industry partners  
July 1, 2018–June 30, 2019

### **Gary Anderson, Clayton Kelling**

Veterinary and Biomedical Sciences

*Technology:* Cell Line

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### **David Andrews**

Agronomy and Horticulture

*Technology:* Purple Plant Colorant

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### **P. Stephen Baenziger, Mitchell Montgomery, Rich Little, Greg Dorn**

Agronomy and Horticulture

*Technology:* Barley Variety

*Technology:* Triticale Variety (2 licenses)

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### **P. Stephen Baenziger, Mitchell Montgomery, Greg Dorn**

Agronomy and Horticulture

*Technology:* Triticale Variety

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### **P. Stephen Baenziger, Del Dovel, Ben Moreno-Sevilla**

Agronomy and Horticulture

*Technology:* Triticale Variety

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### **Mark Behrens, Xiao-Zhou Wang, Nedim Mutlu, Patricia Herman, Thomas Clemente, Donald Weeks**

Biochemistry; Biological Sciences; Agronomy and Horticulture

*Technology:* Dicamba Use in Canola

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### **Carrick Detweiler, Ashraf Islam, Adam Houston, Ajay Shankar**

Computer Science; Mechanical & Materials Engineering; Earth and Atmospheric Sciences; Computer Science and Engineering

*Technology:* Sensor Housing

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### **Stephen DiMagno**

Chemistry

*Technology:* Medical Imaging Agents

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### **Achim Dobermann, Daniel T. Walters, Haishun Yang, Kenneth G. Cassman, Patricio Grassini**

Agronomy and Horticulture

*Technology:* Hybrid Maize Software

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### **Achim Dobermann, Daniel T. Walters, Haishun Yang, Kenneth G. Cassman, Tri Setiyono**

Agronomy and Horticulture

*Technology:* Software

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### **Achim Dobermann, Daniel T. Walters, Haishun Yang, Kenneth G. Cassman, Patricio Grassini**

Agronomy and Horticulture

*Technology:* Hybrid Maize Software

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### **Vadim N. Gladyshev**

Biochemistry

*Technology:* Expression of Selenoproteins in Cells

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### **George Graef**

Agronomy and Horticulture

*Technology:* Soybean Varieties (4 licenses)

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### **George Graef, Leslie Korte**

Agronomy and Horticulture

*Technology:* Soybean Varieties

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### **George Graef, Leslie Korte, Dennis White, Travis Wegner, James Specht**

Agronomy and Horticulture

*Technology:* Soybean Varieties

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**George Graef, Leslie Korte, Dennis White, Travis Wegner,  
James Specht, Orlando Zapata, Rebecca Ott, Shawn Jenkins,  
Tyler Frederick, Aaron Hoagland**

Agronomy and Horticulture

**Technology:** Soybean Varieties

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**Ashu Guru, Santosh Pitla, Dipti Dev**

4-H Youth Development; Biological Systems Engineering; Child, Youth  
and Family Studies

**Technology:** NU Sensi-plate

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**Jinsong Huang, Qingfeng Dong, Yuchuan Shao**

Mechanical & Materials Engineering

**Technology:** Solar Cell Technology

---

**Sally Mackenzie, Robersy Sanchez Rodriguez**

Agronomy and Horticulture

**Technology:** Plant Epigenetics

---

**Patricia Jan Sollars, Gary Edward Pickard**

Veterinary and Biomedical Sciences

**Technology:** Oncolytic Viruses for the Treatment and Prevention  
of Cancer

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**Stephen Taylor, Joseph Baumert**

Food Science and Technology

**Technology:** Allergen Kits

---

**Benjamin S. Terry**

Mechanical & Materials Engineering

**Technology:** Extrapulmonary Ventilation

---

**Christopher Y. Tuan, Lim Nguyen**

Civil Engineering; Electrical and Computer Engineering

**Technology:** Conductive Concrete (2 licenses)

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**Jens Walter, Robert Hutkins, Thomas E. Burkey**

Food Science and Technology; Animal Science

**Technology:** Prebiotics

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**Janos Zempleni**

Nutrition and Health Sciences

**Technology:** Milk Exosome Technology

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## 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, 2018–June 30, 2019

*Submitted by faculty, chairs/heads or deans*

### John Bailey

### Glenn Korff School of Music

Conductor. International Flute Orchestra. Concert tour of Italy. Churches in Palermo, Sicily; Mosta, Malta; Rome, Italy.

Conductor. NFA Professional Flute Choir. Full concert. National Flute Association annual national convention, Orlando, FL.

### Diane Barger

### Glenn Korff School of Music

Performer, clarinet. “Études Concertantes.” Featured recital. ClarinetFest®, International Clarinet Association, Knoxville, TN.

### Jamie Bullins

### Johnny Carson School of Theatre and Film

Scenic designer. “Jam.” NET, Nebraska’s PBS & NPR Stations, Lincoln, NE.

Costume designer. “Ghastly Dreadfuls.” Center for Puppetry Arts, Atlanta, GA.

Scenic designer. “Invasion: Christmas Carol.” Dad’s Garage Theatre, Atlanta, GA.

Scenic designer. “A Christmas Carol.” Theatre Buford, Buford, GA.

Scenic designer. “The Doll Maker’s Gift.” The Rose Theatre, Omaha, NE.

Scenic designer. “A Streetcar Named Desire.” Theatre Buford, Buford, GA.

### Wheeler Winston Dixon

### English/Film Studies

Director. “Wheeler Winston Dixon: From Ancient History to A Hundred Years from Today.” Career retrospective. LA Filmforum, the Spielberg Theatre at the Egyptian Cinema, Los Angeles, CA.

Director. “En Route,” “Broken Bow,” “210 Tests,” “Melting Mona Lisa,” “Ulysses on the Shore,” “I Think I Dont Know.” Invited screening. 5th Annual Atrabilious Experimental Film Festival, Filmhuis Cavia, Amsterdam, the Netherlands.

Director. “Wheeler Winston Dixon: Experimental Videos 2019.” De Nijverheid Theatre, Utrecht, the Netherlands.

### Eddie Dominguez

### Art, Art History and Design

Artist, ceramics. “Garden of Eden.” Solo exhibition. Columbus Museum of Art, Columbus, GA; Everson Museum of Art, Syracuse, NY.

### Dana Fritz

### Art, Art History and Design

Artist, photography. Selections from “Terraria Gigantica.” Terraria Gigantica: The World under Glass. Solo exhibition. The Turchin Center for the Visual Arts, Boone, NC.

Artist, photography. Selections from “Terraria Gigantica.” Land Use. Stephen Bulger Gallery, Toronto, Canada.

Artist, photography. Selections from “Terraria Gigantica” and “Views Removed.” Kalee Appleton and Dana Fritz: New Landscapes. Shircliff Gallery of Art, Vincennes, IN.

### Kevin Hanrahan

### Glenn Korff School of Music

Vocal performer. “New Art Song of the Pacific Rim.” CD recording. Wirripang Pty. Ltd., Sydney, Australia.

### Nathan Koch

### Glenn Korff School of Music

Performer, bassoon. “Sonata for Piano and Violin in A Major” (trans. Koch). Solo performance. Conference of the International Double Reed Society, University of South Florida, Tampa, FL.

### Tom Larson

### Glenn Korff School of Music

Composer, producer. “Focus.” Digital recording. Recorded at Studio Dedé, Tokyo, Japan.

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

Scenic designer. "The Wedding Singer." Next Stop Theatre Company, Herndon, VA.

Scenic designer. "Legally Blonde." Catholic University of America, Washington, D.C.

Scenic designer. "Beauty and the Beast." Riverside Center for the Performing Arts, Fredericksburg, VA.

Scenic designer. "Grand Concourse." Prologue Theatre Company, Arlington, VA.

Scenic designer. "Into the Light: An Immersive Choral Experience." Washington Choral Arts Society, Washington, D.C.

**Zachary Tate Porter****Architecture**

Artist, architecture. "Topographic Survey of Two Sidewalk Holes." Digital drawing exhibition. Drawing for the Design Imaginary. Carnegie Museum of Art, Pittsburgh, PA.

Artist, architecture. "Topographic Survey of Two Sidewalk Holes." Drawing Attention: The Digital Culture of Contemporary Architectural Drawings. Roca Gallery, London, UK.

**Guy Reynolds****Cather Project, Program of Excellence/English**

Director, orchestra. "Prairie Songs: Remembering Ántonia." Lincoln Symphony Orchestra, Lincoln, NE.

**Kaci Richter****Visual Communications/Broadcasting**

Vocal narrator. "Terrorism, Betrayal, and Resilience: My Story of the 1998 U.S. Embassy Bombings" by Prudence Bushnell. Audiobook. Audible, Lincoln, NE.

**Colleen Syron****Art, Art History & Design**

Designer, poster. "Rural Addiction." Curated social justice poster exhibition. Good Apple Awards: For All of Us. Livestock Exchange Building, Omaha, NE.

**William G. Thomas III****History**

Developer, with the Center for Digital Research in the Humanities. "O Say Can You See: Early Washington, D.C., Law, and Family." Online database. University of Nebraska, Lincoln, NE.

Writer, co-producer. "Anna." Animated short film. BronzeLens Film Festival, Atlanta, GA; Virginia Film Festival, Charlottesville, VA; Utopia Film Festival, Greenbelt, MD; Hip Hop Film Festival, New York, NY; New Media Film Festival, Los Angeles, CA [Best Animation]; Hampton University Film Festival, Hampton, VA.

**Sandra Williams****Art, Art History and Design**

Artist, cut paper. "Wild Things: Nature and the Social Imagination." Exhibition. Len G. Everett Gallery, Monmouth College, Monmouth, IL.

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

Director, with J. Livingstone. "Livingstone's Missionary Travels Manuscript (1857) - A Critical Edition." Livingstone Online (<https://www.livingstoneonline.org/>).

Director, with J. McDonald. "Livingstone's Manuscripts in South Africa (1843-1872) - A Critical Edition." Livingstone Online (<https://www.livingstoneonline.org/>). University of Maryland Libraries, College Park, MD.

Director, with M. Ward. "Livingstone's 1870 Field Diary and Select 1870-1871 Manuscripts - A Multispectral Critical Edition." Livingstone Online (<https://www.livingstoneonline.org/>). University of Maryland Libraries, College Park, MD.

## Books

Faculty who wrote or edited books published July 1, 2018–June 30, 2019

Submitted by faculty, chairs/heads or deans

### Marco Abel

English

Editor, with Christina Gerhardt. *Celluloid Revolt: German Screen Cultures and the Long 1968*. Rochester, NY: Camden House.

### Kristen M. Blankley

Law

Author, with Maureen A. Weston, Jill I. Gross, Stephen Huber. *Arbitration: Law, Policy, and Practice*. Durham, NC: Carolina Academic Press.

### Dawn O. Braithwaite

Communication Studies

Author, with Kathleen Galvin, Paul Schrodt, Carma Bylund. *Family Communication: Cohesion and Change, 10th edition*. New York, NY: Routledge.

### Eve M. Brank

Center on Children, Families,  
and the Law/Psychology

Author. *The Psychology of Family Law*. New York, NY: New York University.

### Amy N. Burnett

History

Author. *Debating the Sacraments: Print and Authority in the Early Reformation*. New York, NY: Oxford University Press.

### David Cahan

History

Author. *Hemholtz: A Life in Science*. Chicago, IL: University of Chicago Press.

### Jennine Capó Crucet

English

Author. *My Time Among the Whites: Notes from an Unfinished Education*. New York, NY: Macmillan Publishers.

### Terence J. Centner

Agricultural Economics/Law

Author. *Consumers, Meat and Animal Products: Policies, Regulations and Marketing*. Abingdon, UK: Routledge.

### Rochelle Dalla

Child, Youth and Family Studies

Editor, with Donna Sabella. *Routledge International Handbook of Human Trafficking: A Multi-Disciplinary and Applied Approach*. New York, NY: Routledge/Taylor & Francis.

### Bedross Der Matossian

History

Editor, with Suleiman A. Mourad, Naomi Koltun-Fromm. *Routledge Handbook on Jerusalem*. New York, NY: Routledge.

Editor, with Barlow Der Mugrdchian. *Western Armenian in the 21st Century: Challenges and New Approaches*. Fresno, CA: The Press at California State University.

### Wheeler Winston Dixon

English/Film Studies

Author. *Synthetic Cinema: The 21st Century Movie Machine*. New York, NY: Palgrave Macmillan.

### Iker González-Allende

Modern Languages and Literatures

Author. *Hombres en Movimiento: Masculinidades Españolas en los Exilios y Emigraciones, 1939-1999 (Men in Motion: Spanish Masculinities in Exiles and Migrations, 1939-1999)*. West Lafayette, IN: Purdue University Press.

Editor, with José Ángel Ascunce Arrieta. *El Mundo Está en Todas Partes: La Creación Literaria de Bernardo Atxaga (The World Is Everywhere: The Literary Creation of Bernardo Atxaga)*. Barcelona, Spain: Anthropos.

### Mark A. Griep

Chemistry

Author, with Bev DeVore-Wedding, Janyce Woodard, Hank Miller. *Lab Manual for Connecting Chemistry to the Tribal Community: Two Semesters of Chemistry Experiments and Teachings*. Lincoln, NE: Keeper's Cottage Press.

Editor, with Linette Watkins. *Best Practices for Chemistry REU Programs*. Washington, D.C.: American Chemical Society Press.

### Mark A. Hinchman

Interior Design/Architecture

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.

### Gabriel A. Houck

English

Author. *You or a Loved One*. Asheville, NC: Orison Press.

### Robert Hutkins

Food Science and Technology

Author. *Microbiology and Technology of Fermented Foods*. London, England: Wiley.

**Katrina Jagodinsky** **History**  
Editor. *Beyond the Borders of the Law: Critical Legal Histories of the North American West*. Lawrence, KS: University Press of Kansas.

**Kenneth A. Kiewra** **Educational Psychology**  
Author. *Nurturing Children's Talents: A Guide for Parents*. Santa Barbara, CA: ABC-CLIO.

**Marjorie J. Kostelnik** **Child, Youth and Family Studies**  
Author, with A. K. Soderman, A. P. Whiren, M. L. Rupiper (UNL). *Guiding Children's Social Development, 9th edition*. Boston, MA: Cengage Learning.

Author, with A. K. Soderman, A. P. Whiren, M. L. Rupiper (UNL). *Developmentally Appropriate Curriculum: Best Practices in Early Childhood Education*. New York, NY: Pearson.

**Richard Leiter** **Schmid Law Library**  
Author. *National Survey of State Laws, 8th edition*. Buffalo, NY: William S. Hein & Co., Inc.

**Suping Lu** **University Libraries**  
Editor. 忍辱负重的使命 – 美国外交官记载的南京大屠杀与劫后的社会状况 (*A Mission under Duress*). Nanjing, China: Jiangsu People's Publishing House.

**Colleen E. Medill** **Law**  
Author. *Introduction to Employee Benefits Law: Policy and Practice, 5th edition*. St. Paul, MN: LEG, Inc., dba West Academic.

**Chigozie Obioma** **English**  
Author. *An Orchestra of Minorities*. New York, NY: Little Brown and Co.

**David L. Olson** **Supply Chain Management and Analytics**  
Author, with Majid Nabavi (UNL). *Introduction to Business Analytics*. New York, NY: Business Expert Press.

Author, with Georg Lauhoff. *Descriptive Data Mining, 2nd edition*. Singapore: Springer Nature.

**Yi Qian** **Electrical and Computer Engineering**  
Author, with Haipeng Yao, Chunxiao Jiang, Yi Qian. *Developing Networks Using Artificial Intelligence*. Cham, Switzerland: Springer.

**Brett Ratcliffe** **Entomology/  
University of Nebraska State Museum**  
Author. *A Monographic Revision of the Genus Gymnetis MacLeay, 1819 (Coleoptera: Scarabaeidae: Cetoniinae)*. Lincoln, NE: University of Nebraska State Museum.

**Patricia A. Simpson** **Modern Languages and Literatures**  
Editor, with Elisabeth Krimmer. *Realities and Fantasies of German Female Leadership: From Maria Antonia of Saxony to Angela Merkel*. Rochester, NY: Camden House.

**Gerald J. Steinacher** **History**  
Author, with Ari Cohen (UNL). *Unlikely Heroes: The Place of Holocaust Rescuers in Research and Teaching*. Lincoln, NE: University of Nebraska Press.

**Alison G. Stewart** **Art, Art History, and Design**  
Editor, with Miriam H. Kirch, Birgit Ulrike Münch. *Crossroads. Frankfurt am Main and the Art Market in Early Modern Europe*. Petersberg, Germany: Imhof Verlag.

**Jay Storz** **Biological Sciences**  
Author. *Hemoglobin: Insights into Protein Structure, Function, and Evolution*. New York, NY: Oxford University Press.

**Walter W. Stroup** **Statistics**  
Author, with George A. Milliken, Elizabeth A. Claassen, Russell D. Wolfinger. *SAS for Mixed Models: Introduction and Basic Applications*. Cary, NC: SAS Institute, Inc.

**Jordan Stump** **Modern Languages and Literatures**  
Translator. *The Barefoot Woman* by Scholastique Mukasonga. Brooklyn, NY: Archipelago Books.

**Alexander Vazansky** **History**  
Author. *An Army in Crisis: Social Conflict and the U.S. Army in Germany, 1968–1975*. Lincoln, NE: University of Nebraska Press.

**Isabel Velázquez** **Modern Languages and Literatures**  
Author. *Household Perspectives on Minority Language Maintenance and Loss: Language in the Small Spaces*. Bristol, UK: Multilingual Matters.

**Adrian Wisnicki** **English/Center for Digital  
Research in the Humanities**  
Author. *Fieldwork of Empire, 1840–1900: Intercultural Dynamics in the Production of British Expeditionary Literature*. New York, NY: Routledge.

## Recognitions and Honors

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

July 1, 2018–June 30, 2019

Submitted by faculty, chairs/heads or deans

**Brian Larkins** **Agronomy and Horticulture/  
Emeritus Associate Vice Chancellor for Life Sciences**  
National Academy of Sciences

**James Van Etten** **Plant Pathology**  
National Academy of Sciences

**Marco Abel** **English**  
Berlin Prize, American Academy in Berlin

**John Clark Archer** **Geography/Center for Great Plains Studies**  
E. Willard and Ruby S. Miller Award, American Association of Geographers  
Nonfiction Reference Award Winner, 2018 Book Awards Competition, Nebraska Center for the Book

**Jack Arterburn** **Panhandle Research and Extension Center**  
Top 10 Industry Leaders under Age 40, *Cattle Business Weekly*

**Stacy Asher and Aaron Sutherlen** **Art, Art History and Design**  
50 Books/50 Covers Award, American Institute of Graphic Arts

**Steven M. Barlow** **Special Education and Communication Disorders/  
Biological Systems Engineering/  
Center for Brain, Biology and Behavior**  
Callier Prize for Outstanding Scientific Achievement, Callier Center, University of Texas – Dallas

**Paul N. Black** **Biochemistry**  
Fellow, American Association for the Advancement of Science

**Eve Brank** **Center on Children, Families,  
and the Law/Psychology**  
Outstanding Teaching and Mentoring Award, American Psychology-Law Society

**Brent Cejda** **Educational Administration**  
Senior Scholar Award, Council for the Study of Community Colleges

**Bertrand S. Clarke** **Statistics**  
Fellow, Institute of Mathematical Statistics

**Deb Cosgrove** **Accountancy**  
Outstanding Faculty Advisor Award, Beta Alpha Psi

**Andrea S. Cupp** **Animal Science**  
President, Society for the Study of Reproduction

**Rochelle L. Dalla** **Child, Youth and Family Studies**  
Outstanding Professional Publication Award–Families and Health, National Council on Family Relations

**Kwame Dawes** **English**  
Windham-Campbell Prize, Yale University's Beinecke Rare Book and Manuscript Library

**Jeffrey L. Day** **Architecture/Landscape Architecture**  
Progressive Architecture Award, *Architect Magazine*  
Fellow, American Institute of Architects

**Maria Rosario T. de Guzman** **Child, Youth and Family Studies**  
Ursula Gielen Global Psychology Book Award, American Psychological Association

**Leslie Delserone** **University Libraries**  
Editor-in-chief, *Journal of Agricultural and Food Information*

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

**Judy Diamond** **University of Nebraska State Museum**  
Outstanding Administrative Support Award, National Science Education Leadership Association

**Robert Diffendal** **Natural Resources/  
University of Nebraska State Museum**  
Lifetime Achievement Award, Sun Yat-Sen University



**Eric Einspahr** **College of Education and Human Sciences**  
Excellence in Advising Award, National Academic Advising Association

**Helen Fagan** **Agricultural Leadership, Education and Communication/Rural Futures Institute**  
Paul Harris Fellow, Rotary International

**Tracy D. Frank** **Earth and Atmospheric Sciences**  
Fulbright Scholarship Award, Ireland, Council for International Exchange of Scholars

**Sheri Fritz** **Earth and Atmospheric Sciences**  
Israel C. Russell Award in Limnogeology, Geological Society of America

**Kurt F. Geisinger** **Educational Psychology/Buros Center for Testing**  
President, International Test Commission

**Edmund T. Hamann** **Teaching, Learning, and Teacher Education/Anthropology**  
Fulbright Scholarship Award, Mexico, Council for International Exchange of Scholars  
David G. Imig Distinguished Service Award, Carnegie Project on the Educational Doctorate

**Jane Hanson** **Programs in English as a Second Language**  
President's Lifetime Achievement Award, Mensa Foundation

**Carrie Heitman** **Anthropology/Center for Digital Research in the Humanities**  
President, Council for Museum Anthropology

**Susan Hermiller** **Mathematics**  
Fellow, American Mathematical Society

**Chuck Hibberd** **Animal Science/Extension**  
2019 Inductee, National Institute of Food and Agriculture Hall of Fame

**Kristen Hoerl** **Communication Studies**  
Best Book Award for 2018, American Studies Division of the National Communication Association

**Gabriel A. Houck** **English**  
Creative Writing Fellow in Fiction, Emory University

**Jan Hygnstrom** **Agronomy and Horticulture**  
Professional Recognition Award, American Association of Pesticide Safety Educators

**Suat Irmak** **Biological Systems Engineering**  
Three Educational Aids Blue Ribbon publications awards, American Society of Agricultural and Biological Engineers (ASABE)  
Educational Aids Blue Ribbon Award for educational website (with Aaron Nygren, Jenny Rees, Brandy VanDeWalle and Gary Zoubek, Extension), ASABE

**Margaret Jacobs** **History**  
Member, American Academy of Arts and Sciences

**Katrina Jagodinsky** **History**  
Jack and Nancy Farley Distinguished Visiting Scholar in History, Simon Fraser University

**Paul Jasa** **Biological Systems Engineering/Extension**  
Harold and Kay Scholl Excellence in Conservation Award, Soil and Water Conservation Society

**Dipra Jha** **Nutrition and Health Sciences**  
Doctor Honoris Causa, Kyiv Cooperative Institute of Business and Law, Ukraine  
John Wiley & Sons Innovation in Teaching Award, International Council on Hotel, Restaurant and Institutional Education

**Amit Jhala** **Agronomy and Horticulture**  
Award of Merit in Extension, Gamma Sigma Delta  
Outstanding Associate Editor Award, *Canadian Journal of Plant Science*

**Jeannette Eileen Jones** **Ethnic Studies/History**  
Fellow, American Council of Learned Societies

**Alice Kang** **Political Science/Ethnic Studies**  
Best Paper Award, *European Journal of Politics and Gender*

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

Mellon Fellow, Reynolda House Museum of American Art, Wake Forest University, North Carolina

**Casey R. Kelly** **Communication Studies**

Karl R. Wallace Memorial Award, National Communication Association

**Richard Leiter** **Schmid Law Library**

Roy M. Mersky Spirit of Law Librarianship Award for Public Service, American Association of Law Libraries

**Yijia Lin** **Finance**

Co-editor, *North American Actuarial Journal*

**Michael Lippman** **Classics and Religious Studies**

Award for Excellence in Teaching of the Classics at the College Level, Society for Classical Studies

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

Fellow, American Association of Hispanics in Higher Education

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

Honorary Diplomat, American College of Veterinary Microbiologists

**ThanhVu Nguyen** **Computer Science and Engineering**

Most Influential Paper Award, International Conference on Software Engineering

**Chigozie Obioma** **English**

Shortlist, Booker Prize for Fiction for *An Orchestra of Minorities*, The Booker Prize Foundation

**Clyde Ogg** **Extension**

Fellow Award, American Association of Pesticide Safety Educators.

**Angela K. Pannier** **Biological Systems Engineering**

2017 Presidential Early Career Awards for Scientists and Engineers, White House Office of Science and Technology Policy

**Ellen Pappozzi** **Agronomy and Horticulture**

Pi Alpha Xi Fellow, American Society for Horticultural Science

**Peng Peng** **Special Education and Communication Disorders**

2018 Early Career Award for Contributions to Research, International Dyslexia Association

**Suzette Person** **Computer Science and Engineering**

Test of Time Award, ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering

**Al Peterson** **Mathematics**

Bernd Aulbach Prize, International Society of Difference Equations

**Laura Poppo** **Management**

Dan and Mary Lou Schendel Best Paper Prize, Strategic Management Society

**Yi Qian** **Electrical and Computer Engineering**

Fellow, Institute of Electrical and Electronics Engineers (IEEE)

Distinguished Technical Achievement Recognition Award, IEEE Technical Committee on Green Communications and Computing

Outstanding Service Award, IEEE Communications and Information Security Technical Committee

Editor-in-chief, *IEEE Wireless Communications*

**Gil Renberg** **Classics and Religious Studies**

Charles J. Goodwin Award of Merit, Society for Classical Studies

**James Schnable** **Agronomy and Horticulture**

Early Career Scientist Award, North American Plant Phenotyping Network

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

Don Miller Distinguished Service Award, Nebraska Association of Teachers of Mathematics

**Francisco Souto** **Art, Art History and Design**

Individual Artist Fellowship in Visual Arts, Nebraska Arts Council

**Marilyne Stains** **Chemistry**

Presidential Early Career Award for Scientists and Engineers, National Science Foundation

Rising Star Award, American Chemical Society Women Chemists Committee

**Joe Starita** **Journalism and Mass Communications**  
Sower Award in the Humanities, Humanities Nebraska

**Jay Storz** **School of Biological Sciences**  
Fulbright Scholarship Award, Argentina, Council for International Exchange of Scholars

**Ryan P. Sullivan** **Law**  
Pro Bono Leader Award, American Bar Association

**Colleen Syron** **Art, Art History and Design**  
Honorable Mention, Poster Design, Graphis Design Annual 2020  
Honorable Mention, Online Advertising, Neptune Award for Excellence in Marine Marketing Communications, Marine Marketers of America  
Silver Medal, Best Poster, American Institute for Graphic Arts

**Kim Todd** **Agronomy and Horticulture**  
Arborvitae Award, Lauritzen Gardens

**Richard Torrace** **Educational Administration**  
Elwood F. Holton III Research Excellence Award, *Human Resource Development Review*

**Can Vuran** **Computer Science and Engineering**  
Top 10 Most Downloaded Articles, *Ad Hoc Networks Journal* (with Suat Irmak, Biological Systems Engineering, Rigoberto Wong and Abdul Salam)

**Judy Walker** **Mathematics**  
Fellow, Association for Women in Mathematics

**Robert "Bob" Wilhelm** **Office of Research and Economic Development**  
Fellow, National Academy of Inventors

**Tyler Williams** **Extension**  
Achievement Award, National Association of County Agricultural Agents

**David Wishart** **Geography**  
Nonfiction Reference Award Winner, 2018 Book Awards Competition, Nebraska Center for the Book

**Adrian Wisnicki** **English/Center for Digital Research in the Humanities**  
Seal from Committee on Scholarly Editions for Livingstone's Manuscripts in South Africa (1843-1872), Modern Language Association

Seal from Committee on Scholarly Editions for Livingstone's 1870 Field Diary and Select 1870-1871 Manuscripts, Modern Language Association

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

**Brenda Wristen** **Glenn Korff School of Music**  
Outstanding Music Alumna, Lubbock Christian University

**Janos Zempleni** **Nutrition and Health Sciences**  
Osborne and Mendel Award 2019, American Society for Nutrition

**Xiao Cheng Zeng** **Chemistry**  
Fellow, Materials Research Society

## Glossary of Federal Agency Abbreviations

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

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