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
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
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 (CRRI)  
$10,000,000  
NSF-EPSCoR  
6/15/16 – 5/31/21

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

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

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

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

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

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

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

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

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

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

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

van Dijk, Karin  
*Biochemistry/Center for Biotechnology/Center for Plant Science Innovation/Nebraska Center for Redox Biology*
### AWARDS OF $5 MILLION OR MORE

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<th>Name</th>
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The University of Nebraska–Lincoln is leading a $20 million, Nebraska-based research effort to improve crop productivity. Funded with a five-year award from the National Science Foundation’s Established Program to Stimulate Competitive Research, or EPSCoR, this project draws upon a range of expertise in Nebraska. The university is teaming with scientists at the University of Nebraska Medical Center, University of Nebraska at Kearney and Doane University on the Center for Root and Rhizobiome Innovation. Project co-leaders are Edgar Cahoon, George W. Holmes Professor of Biochemistry and director of the Center for Plant Science Innovation, and James Alfano, Charles Bessey Professor of Plant Pathology. The research uses a holistic strategy to study root and soil microbe interactions and to develop new biological tools to enhance crop performance.

**Claes, Daniel**  
**Physics and Astronomy**  
**U.S. CMS Phase-1 Upgrades**  
$11,479,310 ..............................................NSF  
6/15/14 – 5/31/19

Physicist Daniel Claes leads a collaboration involving eight universities to upgrade the Compact Muon Solenoid particle detector, a key component of the world’s largest physics experiment. With a five-year, nearly $11.5 million grant from the National Science Foundation, the team is working to increase the effectiveness of a vital component of the Large Hadron Collider at CERN laboratory in Switzerland, the supercollider that made discovery of the Higgs boson possible. The Nebraska team was part of the multi-institutional collaboration that built the original CMS experiment, one of two large particle detector experiments at the Large Hadron Collider. With this NSF grant, they now lead a large research partnership to upgrade the detector in stages through 2019. Their collaborators are at the University of Kansas, University of Illinois at Chicago, Rutgers University, Cornell University, SUNY Buffalo, Purdue University Calumet, Notre Dame University and Northeastern University.

**Dombrowski, Kirk**  
**Rural Drug Addiction Research Center**  
$11,854,178 ..............................................NIH-NIGMS  
4/5/19 – 2/29/24

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

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  
7/1/15 – 5/31/23  
Various Associations/Foundations

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  
1/1/12 – 12/31/19  
USDA-AFRI

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  
12/5/16 – 9/30/22  
DOT

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/Agromony and Horticulture

Ge, Yufeng .......................... Biological Systems Engineering

Daniel Schachtman, professor of agronomy and horticulture and director of the university’s Center for Biotechnology, leads a $13.5 million, multi-institutional research effort to improve sorghum as a sustainable source for biofuel production. A five-year grant from the U.S. Department of Energy funds this highly collaborative project that takes a comprehensive approach to understanding how plants and microbes interact and to learn which sorghum germplasm can grow with less water and nitrogen. The University of Nebraska–Lincoln is collaborating with scientists at Danforth Plant Science Center, Washington State University; University of North Carolina-Chapel Hill; Boyce Thompson Institute, Clemson University; Iowa State University; Colorado State University and the DOE-Joint Genome Institute.

Takacs, James

Chemistry/Nebraska Center for Integrated Biomolecular Communication

Nebraska Center for Integrated Biomolecular Communication (NCIBC)

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

With a five-year, $11.3 million grant from the National Institutes of Health, the University of Nebraska–Lincoln has established a research center focused on investigating cellular-level miscommunications that contribute to complex diseases like cancer, diabetes and chronic liver disease. The NCIBC serves as a hub for interdisciplinary collaborations among Nebraska’s biomedical researchers and involves faculty at the University of Nebraska Medical Center, as well. The center, directed by James Takacs, Charles J. Mach University Professor of Chemistry, fosters a systems approach, combining the research activities of chemists, biochemists, engineers and bioinformaticists. It connects researchers developing new molecular probes and analytical techniques with those unraveling molecular mechanisms of diseases.

Tsymbal, Evgeny

Physics and Astronomy/Nebraska Center for Materials and Nanoscience

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.

Walsh, Harkamal

Agronomy and Horticulture

RII Track-2 FEC: Comparative Genomics and Phenomics Approach to Discover Genes Underlying Heat Stress Resilience in Cereals

$5,783,738 .............................................. NSF-EPSCoR
8/1/17 – 7/31/21

Morota, Gota .......................... Animal Science
Obata, Toshihiro .......................... Biochemistry
Yu, Hongfeng .......................... Computer Science and Engineering
Zhang, Chi .......................... Biological Sciences
Zhang, Qi .......................... Statistics
Harkamal Walia, associate professor of agronomy and horticulture, leads a project to explore the effects of high nighttime temperatures on wheat and rice. Temperature stress can lead to severe losses in the yield and quality of crops, especially wheat and rice, two major cereal crops worldwide. With the support of a $5.78 million grant from the National Science Foundation’s Established Program to Stimulate Competitive Research (EPSCoR), Walia’s team is investigating genes and genetic variants in wheat and rice to identify genetic markers and physiological characteristics tied to heat tolerance. The team 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.
<table>
<thead>
<tr>
<th>Name</th>
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<td>Assessment of Adult Female and Neonatal Mule Deer (Odocoileus hemionus) Survival, Movements and Habitat Use in Nebraska</td>
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<td>Educational Psychology/Nebraska Center for Research on Children, Youth, Families and Schools</td>
<td>School Psychology Specialization in Toddlers with Autism Spectrum Disorders</td>
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<td>Injection Risk Networks in Rural Puerto Rico</td>
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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
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Damsky, David  Natural Resources
Foggia, Jennifer  Natural Resources
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Martin, Dustin  Natural Resources

Forbes, Cory  Natural Resources
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Garcia Ruiz, Hernan  Plant Pathology/Nebraska Center for Virology
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$1,312,105  .................................. NIH-NIGMS

Gervais, Sarah  Psychology
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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
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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
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Harris, Edward  Biochemistry
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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
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Bradshaw, Jeffrey  Panhandle Research and Extension Center
Golick, Douglas  Entomology
Wegulo, Stephen  Plant Pathology
Zygielbaum, Arthur  Natural Resources
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Marvin, Christine, Special Education and Communication Disorders/Nebraska Center for Research on Children, Youth, Families and Schools
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Bloom, Kenneth, Physics and Astronomy
$2,070,000 ........................................ NSF

Claes, Daniel, Physics and Astronomy
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Lechtenberg, Karla  Midwest Roadside Safety Facility
*NYSDOT-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
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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
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Schmidt, Amy ............................Animal Science/Biological Systems Engineering
Wang, Bing .............................Food Science and Technology

Lodi, Kathleen  Extension
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Lu, Yongfeng  Electrical and Computer Engineering
*3D-Printing of Diamond-Composite Structures using Selective Laser Semi-Melting
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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
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MacDonald, James  Animal Science
Enhancing Animal Protein through Crops and Cattle
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Awada, Tala .....................................Natural Resources
Banerjee, Simanti ..........................Agricultural Economics
Blanco, Humberto ...........................Agronomy and Horticulture
Drewoski, Mary .............................Animal Science
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Parsons, Jay .....................................Agricultural Economics
Redfearn, Daren ............................Agronomy and Horticulture
Suyker, Andy ....................................Natural Resources

Mahmood, Rezaul  Natural Resources
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$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
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$1,511,785 ...................................... ED
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Molfese, Victoria  Child, Youth and Family Studies
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$1,387,788 .......................... NIH-NICHD through Indiana University
Molfese, Dennis ........................... Psychology
Rudasill, Kathleen .............................. Educational Psychology

Napolitano, Scott  Educational Psychology/
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$1,191,884 .............................. ED
Maerlender, Arthur .............................. Center for Brain, Biology and Behavior/
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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/
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Nelson, Jennifer .............................. Psychology/
Center for Brain, Biology and Behavior

Neta, Maital  Psychology/
Center for Brain, Biology and Behavior
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Nugent, Gwen  Nebraska Center for Research on
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Nebraska Center for Research on Children,
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Crockett, Lisa .............................. Psychology/Nebraska Center for Research on
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Sheridan, Susan .............................. Educational Psychology/Nebraska Center for
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Wheeler, Lorey .............................. Nebraska Center for Research on
Children, Youth, Families and Schools

Olson, Kristin  Sociology/Gallup Research Center
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Smyth, Jolene .............................. Sociology/Gallup Research Center
Soh, Leen-Kiat .............................. Computer Science and Engineering

Pannier, Angela  Biological Systems Engineering
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$2,197,500 .............................. NIH-NIBIB

Pegg, Mark  Natural Resources
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Hamel, Martin .............................. Natural Resources

Pérez, Lance  Academic Affairs
WIDER: Adopting Research-Based Instructional Strategies
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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, Marilyn .............................. Chemistry
Rilett, Laurence  
Civil Engineering/Nebraska Transportation Center  
Traffic Calming Elements for Entry Control Facility Threat Delay and Containment  
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Faller, Ronald  
Civil Engineering/Nebraska Transportation Center  
Reid, John  
Mechanical & Materials Engineering/Nebraska Transportation Center  

Faller, Ronald  
Civil Engineering/Nebraska Transportation Center  
Transportation Infrastructure - Visualizations & ITS Laboratory  
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Khattak, Aemal  
Civil Engineering  
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Savaiano, Mackenzie  
Special Education and Communication Disorders  
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Special Education and Communication Disorders  

Scott, Stephen  
Computer Science and Engineering  
*Operationalizing Cyber Situational Awareness Research: Capability Exploration  
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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  
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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  

Ray, Chittaranjan  
Civil Engineering/Water Center/Robert B. Daugherty Water for Food Institute  
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Burbach, Mark  
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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  
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Rajca, Andrzej  
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New Nitroxide Spin Labels for Distance Measurements in Biological Systems  
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Chemistry  

Rely, N.R. Jayagopala  
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Steffen, David  
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**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/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
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<td>Special Education and Communication Disorders/Academy for Child and Family Wellbeing</td>
<td>A Missing Link to a Better Tomorrow: Developing Health Literacy in Transition-Age Youth with High Incidence Disabilities</td>
<td>$1,499,994</td>
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<td>RII Track-2 FEC: G2P in VOM: An Experimental and Analytical Framework for Genome to Phenome Connections in Viruses of Microbes</td>
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<td>Mechanism of the Antiviral Activity of BAF against Poxvirus and HSV-1 Infection</td>
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</table>
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

Zemleni, 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**

RII 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**

Yamamoto, Catherine  
**Student Affairs**

Student Support Services Program  
$2,647,468 ........................................ ED
### Awards of $250,000 to $999,999

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

* Indicates new in 2018–2019

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<td>The Human Virome as Trace Evidence in Forensic Investigation</td>
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<td>Strain Driven Dynamics of Phase Transitions in Oxide Antiferromagnets</td>
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**Physics and Astronomy**  
First-Principles Studies of Relativistic Spin Interactions and Torques  
$258,646  
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Belli, Robert  
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Benson, John  
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Reproductive Success, Survival, and Cause-specific Mortality of Bighorn Sheep in Nebraska  
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Berkowitz, David  
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**USAID through Kansas State University**

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$401,400  
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Chromatin Modification in Archaea and Its Role in Gene Expression
$379,675 ........................................ NSF
Van Cott, Kevin  Chemical and Biomolecular Engineering
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Cerutti, Heriberto  Biological Sciences/Center for Plant Science Innovation

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

Bovaird, James  Educational Psychology/Nebraska Center for Research on Children, Youth, Families and Schools
Efficacy of the START-Play Program for Infants with Neuromotor Disorders
$475,408  ED-IES through Duquesne University
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Buchholz, Wallace  Biological Process Development Facility
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Pytlík Zillig, Lisa  Public Policy Center
Shank, Nancy  Public Policy Center
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Wall, Nicole  Natural Resources

Developing Nebraska’s Homeland Security Planning Capacity
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Cahoon, Edgar  Biochemistry/Center for Plant Science Innovation
*Dissecting the Sphingolipid Metabolic and Regulatory Network
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$490,000 ......................................... USDA-NIFA

Sustainable Biofuel from the Great Plains to the Semi-Arid West: Improved Germlasm for Camelina Oilseed
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Carroll, John  Natural Resources
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Centurion, Martin  Physics and Astronomy
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$375,170 ......................................... NSF
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$689,033 ................................ Gordon and Betty Moore Foundation  
Clemente, Thomas  
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$560,000 ........................................ NSF  
Cheung, Chin Li (Barry)  
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$406,283 ......................................... NSF  
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$489,781 ........................................ USDA-NIFA  
Demirel, Yasar  
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Animal Science  
Investigation of Host Genetic Role in PCV2 and PRRSV Susceptibility  
$459,200 ......................................... USDA-NIFA  
Kachman, Stephen  
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$299,006 ......................................... NSF  
Choueiry, Berthe  
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Christensen, Alan  
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Novel Mechanisms of Plant Mitochondrial DNA Repair  
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$469,949 ........................................ USDA-NIFA  
Ramer-Tait, Amanda  
Food Science and Technology/ Nebraska Center for the Prevention of Obesity Diseases through Dietary Molecules  
$297,543 ......................................... NSF
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<td>Special Education and Communication Disorders</td>
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University of Central Florida  
Spin and Dipole Ordering at Molecular Film Interfaces  
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Duncan, Daniel  
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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 ............................................. 
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$338,160 .......................... EPA through University of Massachusetts-Amherst  
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Eskridge, Kent  Statistics
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$799,563  DOT-FHWA through Hawaii Department of Transportation
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Rosenbaugh, Scott  Midwest Roadside Safety Facility

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Gettinger, Donald .............................. University of Nebraska State Museum
Racz, Gabor ................................. University of Nebraska State Museum
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Gay, Timothy
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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

$250,000 - $999,999 29
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 ........................................ Buffet 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
Zemleni, 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
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<td>Electrical and Computer Engineering</td>
<td>REU Site: Research Experience for Undergraduates in Nanohybrid Functional Materials</td>
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<td>Jhala, Amitkumar</td>
<td>Agronomy and Horticulture</td>
<td>Pollen-Mediated Gene Flow from Acetolactate Synthase-Inhibiting Herbicide-Resistant Sorghum to Johnsongrass</td>
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<td>*Robust Methods for Food Allergen Detection and Quantitative Risk Assessment</td>
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<td>Veterinary Medicine and Biomedical Sciences</td>
<td>Establishing One Health Best Practices for Range Bison Herds</td>
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<td>Keshwani, Deepak</td>
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<td>Immersive Educational Game Simulations to Enhance Understanding of Corn-Water Ethanol-Beef System Nexus</td>
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<td>Applying Behavioral Ecological Network Models to Enhance Distributed Spectrum Access in Cognitive Radio</td>
<td>$296,969</td>
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<td>Kim, Surin</td>
<td>Textiles, Merchandising and Fashion Design</td>
<td>Leveraging Community Connections, Local Issues, and Youth High Tech Entrepreneurship Education to Nurture Rural Economic Opportunities</td>
<td>$493,560</td>
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<td>Identification and Modeling of Interphase in Cementitious Mixtures through Integrated Experimental-Computational Multiscale Approach</td>
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<td>*Getting Ready Preschool Development Grant PDG</td>
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<td>Korus, Jesse</td>
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<td>Nebraska GeoCloud: An Integrated Bedrock Mapping and Hydrogeologic Framework Database and Map Viewer</td>
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<td>Statistical Mechanics of Non-Local Disordered Models with Associated Quantum LDPC Codes</td>
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<td>Developing Hydrogeologic Databases to Assist in Water Resources Management</td>
<td>$654,700</td>
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<td>*BARRAL - Bioenergy, Advanced Biofuel and Rubber Research Agricultural Linkages</td>
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**Funding Sources:**
- NSF
- E. I. Du Pont
- USDA-NIFA
- DHHS-ACF-Nebraska Department of Health and Human Services through Nebraska Children and Families Foundation
- Lower Platte South NRD
- Bureau of Business Research
- USDA-NIFA through Ohio State University
- Panhandle Research and Extension Center

**Note:** Funding amounts range from $250,000 to $999,999.
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<td>Lechtenberg, Karla</td>
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<td>Crash Testing MoDOT Devices</td>
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<td>Longitudinal Evaluation of Noyce Science Teachers to Determine Sources of Effective Teaching</td>
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<td>Understanding Parasite Resistance in Organic Livestock and Using a Systems Approach for Control</td>
<td>$291,478 USDA-ARS</td>
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<td>Impact of Fc N-glycan Structure on HIV-specific Antibody Functions</td>
<td>$438,219 NIH-NIAID through University of Wyoming</td>
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<td>Long-acting Antiretroviral Nanoparticles for HIV Prophylaxis</td>
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<td>Antibiotic Resistance Genes in the Soil-Plant Ecosystem</td>
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<td>*EAGER: Empowering Out-of-School-Time Educators and Students through 4-H and the Land-Grant System</td>
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<td>Fabrication and Verification of Fuel Targets for Laser Fusion Research</td>
<td>$296,637 DOE through University of Rochester Radar 2021</td>
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<td>High-power Laser System for Repairing Al-Mg Alloy Ship Plates</td>
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<td>Post-Detonation Radiological and Nuclear Forensics Using Laser-Assisted Mass Spectrometry in Open Air</td>
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<td>Vertically Aligned Carbon-Nanotubes Embedded in Ceramic Matrices for Hot Electrode Applications</td>
<td>$400,000 DOE-NETL</td>
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<td>Diamond Coating Adaptive to Substrate Materials Using a Diamond-Composite Buffer Layer</td>
<td>$793,342 DoD-MDA</td>
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<td>Using Precision Technology in On-farm Field Trials to Enable Data-intensive Fertilizer Management</td>
<td>$513,798 USDA-NIFA through University of Illinois at Urbana-Champaign</td>
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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
Voletsky, 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: FELS: 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
**Proctor, Christopher**  Agronomy and Horticulture  
Optimizing Cropping Systems for Resilience to Stress: The Role of Maturity Group Selection and Cover Crops on Yield, Weeds, Insects and Microbes  
$461,187  
USDA-NIFA

**Drewnoski, Mary**  Animal Science  
$250,000 – $999,999  
Animal Science

**Everhart, Sydney**  Plant Pathology  
McMechan, Anthony  Eastern Nebraska Research and Extension Center  
$250,000 – $999,999  
Plant Pathology

**Parsons, Jay**  Agricultural Economics  
Redfearn, Daren  Agronomy and Horticulture  
$461,187  
USDA-NIFA

**Qian, Yi**  Electrical and Computer Engineering  
$300,000  
NSF

**Sharif-Kashani, Hamid**  Electrical and Computer Engineering  
$337,897  
NSF

**Qiao, Wei**  Electrical and Computer Engineering  
Online Nonintrusive Identification and Monitoring of Internal Weak Points of Electro-energy Devices Using Package Surface Temperature  
$300,000  
NSF

**Qiao, Xin**  Panhandle Research and Extension Center  
*SCC: An Integrated and Smart System for Irrigation Management in Rural Communities  
$541,048  
USDA-NIFA through University of Iowa

**Rudnick, Daran**  West Central Research and Extension Center  
Yang, Haishun  Agronomy and Horticulture  
$541,048  
USDA-NIFA through University of Iowa

**Radu, Petronela**  Mathematics  
Higher Order Nonlocal Models in Continuum Mechanics  
$354,089  
NSF

**Foss, Mikil**  Mathematics  
$354,089  
NSF

**Raikes, Helen**  Child, Youth and Family Studies  
Evaluation of Early Steps to School Success  
$734,694  
Save the Children

**Rajca, Andrzej**  Chemistry  
Organic Nanoparticles for Dual MRI-Guided Therapeutic Selection and Ovarian Cancer Drug Delivery  
$316,735  
NIH-NCI through Massachusetts Institute of Technology

**Rasmussen, Jennifer**  Midwest Roadside Safety Facility  
Determination of Zone of Intrusion Envelopes under MASH Impact Conditions for Rigid Barrier  
$400,000  
National Academy of Sciences-NCHRP

**Ray, Chittaranjan**  Water Center/Civil Engineering/Robert B. Daugherty Water for Food Institute  
Sustaining Agriculture through Adaptive Management Resilient to a Declining Ogallala Aquifer and Changing Climate  
$918,791  
USDA-NIFA through Colorado State University

**Rudnick, Daran**  West Central Research and Extension Center  
Shaver, Tim  West Central Research and Extension Center/Robert B. Daugherty Water for Food Institute  
$384,227  
Nebraska Environmental Trust

**Swanson, David**  Computer Science and Engineering  
*NeTS: Small: Intelligent Optical Networks using Virtualization and Software-Defined Control  
$466,000  
NSF

**Jhala, Amitkumar**  Agronomy and Horticulture  
Larson, Jonathan  Southeast Research and Extension Center  
Ogg, Clyde  Agronomy and Horticulture  
Wright, Robert  Entomology  
Wu-Smart, Judy  Entomology

**Rasby, Rick**  Nebraska Extension Implementation Program  
$627,447  
USDA-NIFA

**Bradshaw, Jeffrey**  Panhandle Research and Extension Center  
Glew, Keith  Southeast Research and Extension Center  
Green, Jody  Southeast Research and Extension Center  
Jackson-Ziem, Tamra  Plant Pathology  
Hala, Amitkumar  Agronomy and Horticulture

**Rudnick, Daran**  West Central Research and Extension Center  
Schoengold, Karina  Agricultural Economics/Robert B. Daugherty Water for Food Institute  
Shaver, Tim  West Central Research and Extension Center/Robert B. Daugherty Water for Food Institute  
Integrating the Vadose Zone for Improved Management of Nebraska Ground Water Quality  
$384,227  
Nebraska Environmental Trust

**Snow, Daniel**  Water Center/Robert B. Daugherty Water for Food Institute  
Sustaining Agriculture through Adaptive Management Resilient to a Declining Ogallala Aquifer and Changing Climate  
$918,791  
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**Rasmussen, Jennifer**  Midwest Roadside Safety Facility  
Determination of Zone of Intrusion Envelopes under MASH Impact Conditions for Rigid Barrier  
$400,000  
National Academy of Sciences-NCHRP

**Faller, Ronald**  Midwest Roadside Safety Facility  
$400,000  
Midwest Roadside Safety Facility

**Stolle, Cody**  Midwest Roadside Safety Facility  
$400,000  
Midwest Roadside Safety Facility

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Shaver, Tim  West Central Research and Extension Center/Robert B. Daugherty Water for Food Institute  
Integrating the Vadose Zone for Improved Management of Nebraska Ground Water Quality  
$384,227  
Nebraska Environmental Trust
Reddy, N.R. Jayagopala  
Veterinary Medicine and Biomedical Sciences  
*Prevention of Viral Cardiomyopathy and Insulitis 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  
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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  

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  
The Strain-Stress Relationships for Band Gap, Phonon and Plasmon Energies in Monoclinic Ga2O3 and Related Materials  
$323,393  
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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  
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*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/
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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
*MENA drought 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
Knuston, 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 Multiferroic 
Polymer Nanocomposites between Tuskegee University 
and University of Nebraska--Lincoln 
$627,217 .......................................................... NSF through Tuskegee University
Dowben, Peter  
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Nebraska Center for Materials and Nanoscience 
$627,217 .......................................................... NSF through Tuskegee University
Ducharme, Stephen  
Physics and Astronomy/ 
Nebraska Center for Materials and Nanoscience 
$627,217 .......................................................... NSF through Tuskegee University
Shield, Jeffrey  
Mechanical & Materials Engineering/ 
Nebraska Center for Materials and Nanoscience 
$627,217 .......................................................... NSF through Tuskegee University
Tucker, Shane  
University of Nebraska State Museum  
Highway Paleontology Program 
$765,766 .......................................................... DOT-FHWA through Nebraska Department of Transportation
Tucker, Shane  
Mechanical & Materials Engineering  
*PCC-3: Non-Destructive Testing (NDT) Microstructural 
Response Characterization and Impact 
$500,000 .......................................................... DoD-Air Force Research Lab through 
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An Integrated Experimental and Computational Approach 
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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  
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A Statewide Assessment 
$967,451 .......................................................... DOI-FWS through 
Nebraska Game and Parks Commission
Allen, Craig .......................................................... Natural Resources
Umstadter, Donald  
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$638,252 .......................................................... DoD-Offutt Air Force Base-STRATCOM through 
National Strategic Research Institute
Banerjee, Sudeep  
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$374,844 .......................................................... NSF
Van Den Broeke, Matthew  
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$391,463 .......................................................... NSF through University of Oklahoma
van Dijk, Karin  
Biochemistry  
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$599,096 .......................................................... NSF
Vu, Hiep  
Animal Science/Nebraska Center for Virology  
Development of a Broadly Protective Diva Marker Vaccine 
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$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  
Veterinary Medicine and Biomedical Sciences/ 
Center for Biotechnology/ 
Nebraska Center for Virology

$250,000 – $999,999
Vuran, Can  Computer Science and Engineering  
$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, Ziguo  ..................................  Computer Science and Engineering  
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  
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  
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  
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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  
Hartshorn, Kelley  Sociology
White, Brett  Animal Science  Role of GnRH-II and Its Receptor in Testicular Function of Swine  $480,000 ......................................... USDA-NIFA


Wilson, Richard  Plant Pathology  *Molecular Mechanisms Integrating Fungal Growth with Plant Innate Immunity Suppression  $599,999 ........................................ 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  *Microstructure and Strain Effects on Ferroelectric and Transport Properties of HfO2-based Thin Films  $519,740 ....................................... NSF

Wortman, Samuel  Agronomy and Horticulture  Leveraging Management to Speed Degradation of Bio-based Mulches in Soil  $499,718 ....................................... USDA-NIFA

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

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<th>Name</th>
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<td>Yan, Qiben</td>
<td>Computer Science and Engineering</td>
<td>*SaTC: CORE: Small: URadio: Towards Secure Smart Home IoT Communication Using Hybrid Ultrasonic-RF Radio</td>
<td>$499,999</td>
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<td>Yang, Jinliang</td>
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<td>*Rescuing the Fixed Deleterious Alleles for Genome-Enabled Micronutrients Improvement in Maize</td>
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<td>*Cell-Cell Adhesion Mechanics and Mechanotransduction at the Single Cell Level</td>
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<td>Frecks, Nancy</td>
<td>West Central Research and Extension Center</td>
<td>*Nutritive Value and Potential Health Benefits of LOL-Exosomes Roles of Milk-Borne MicroRNAs in the Regulation of Gut Inflammation</td>
<td>$257,886</td>
<td>Purina Mills</td>
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<td>*Understand the Functional Mechanism of the DSP1 Complex in the 3’ Maturation of Plant Small Nuclear RNAs</td>
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<td>*A Field Study to Characterize Fault Prevalence in Residential Comfort Systems</td>
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<td>Role of Organelle-localized Lys63-linked Ubiquitination in Plant Immunity</td>
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<td>*Exploration of Low-Dimensional Gas Clathrate Hydrates</td>
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<td>Zuhlke, Craig</td>
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<td>Fundamental Studies on Functionalizing Metallic Surfaces with Applications to Enhanced Heat Transfer and Drag Reduction; Novel Power Sources</td>
<td>$763,265</td>
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<tr>
<td>Alexander, Dennis</td>
<td>Electrical and Computer Engineering</td>
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<td>Gogos, George</td>
<td>Mechanical &amp; Materials Engineering</td>
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<tr>
<td>Ianno, Natale</td>
<td>Electrical and Computer Engineering</td>
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<tr>
<td>Shield, Jeffrey</td>
<td>Mechanical &amp; Materials Engineering</td>
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</tr>
</tbody>
</table>
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 Magnetoelectric 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

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

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

**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 Magnetoelectric Memory Effect  
$591,256 .................................. NSF

**Yin, Yanbin**  
Nebraska Food for Health Center  
*CAREER: Evolutionary Genomics of Enzymes for Complex Carbohydrate Metabolism*  
$353,179 .................................. NSF
**Air Force Young Investigator Program**

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

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

**Department of Energy Early Career Research Program**

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

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

**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
**Arts and Humanities Awards**  
**$250,000 or More**  
Active awards, July 1, 2018–June 30, 2019  
* Indicates new in 2018–2019

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**Cohen, Matt**  
English/Center for Digital Research in the Humanities  
*Charles Chesnutt: A Digital Archive*  
$292,627  
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  
5/15 – 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  
6/1/19 – 5/30/22  
Lorang, Elizabeth  
University Libraries/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.
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.

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.

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.
<table>
<thead>
<tr>
<th>Name</th>
<th>Institution/Center</th>
<th>Project Title</th>
<th>Amount</th>
<th>Funding Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barker, Bradley</td>
<td>Extension</td>
<td>Library Innovation Studios: Transforming Rural Communities</td>
<td>$236,771</td>
<td>IMLS through Nebraska Library Commission</td>
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<td>Boeckner, Linda</td>
<td>Extension</td>
<td>Mechanical &amp; Materials Engineering</td>
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<td>Farritor, Shane</td>
<td>Panhandle Research and Extension Center</td>
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<td>Hancock, Connie</td>
<td>Panhandle Research and Extension Center</td>
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<td>Narjes, Charlotte</td>
<td>Agricultural Economics</td>
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<td>Cohen, Matt</td>
<td>English/Center for Digital Research in the Humanities</td>
<td>Walt Whitman’s Annotations</td>
<td>$125,961</td>
<td>NEH</td>
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<td>Gray, Nicole</td>
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<td>Dawes, Kwame</td>
<td>English</td>
<td>African Poetry Digital Project</td>
<td>$150,000</td>
<td>Ford Foundation</td>
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<td>University Libraries</td>
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<td>Edwards, Richard</td>
<td>Center for Great Plains Studies</td>
<td>African American Homesteaders Historic Resource Study</td>
<td>$168,274</td>
<td>DOI-NPS</td>
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<tr>
<td>Hoff, Michael</td>
<td>Art, Art History and Design</td>
<td>Antiochia ad Cragum Excavations: 2019 Season</td>
<td>$52,800</td>
<td>Merops Foundation</td>
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<tr>
<td>Homestead, Melissa</td>
<td>English</td>
<td>*The Creative Partnership of Willa Cather and Edith Lewis</td>
<td>$50,400</td>
<td>NEH</td>
</tr>
<tr>
<td>Jockers, Matthew</td>
<td>English/Center for Digital Research in the Humanities</td>
<td>Text Mining the Novel:</td>
<td>$88,233</td>
<td>Government of Canada-SSHRC through McGill University</td>
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<td>Establishing the Foundations of a New Discipline</td>
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<td>Jones, Jeannette</td>
<td>Institute for Ethnic Studies/History/</td>
<td>*To Enter Africa from America:</td>
<td>$216,106</td>
<td>NEH</td>
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<td>Center for Digital Research in the Humanities</td>
<td>The United States, Africa and the New Imperialism, 1862-1919</td>
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<td>Richards-Rissetto, Heather</td>
<td>Anthropology/Center for Digital Research in the Humanities</td>
<td>Keeping Data Alive: Supporting Reuse and Repurposing of 3D Data in the Humanities</td>
<td>$74,368</td>
<td>NEH</td>
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<tr>
<td>Walter, Katherine</td>
<td>Center for Digital Research in the Humanities</td>
<td>From Prairie to Palace: Buffalo Bill’s Wild West in Europe</td>
<td>$52,711</td>
<td>NEH through Buffalo Bill Center of the West</td>
</tr>
</tbody>
</table>

* Indicates new in 2018–2019
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
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**

Recruitment 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**

**Title:** Monolithic Heat-transfer Device  
**Date:** 4/23/2019  
**Number:** 10267567  
**Country:** United States

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

**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**

**Department:** 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**

**Department:** 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**

**Department:** 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**

**Department:** 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**

**Department:** 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

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

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

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

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

Jinsong Huang
Mechanical & Materials Engineering
Title: Self-powered GHZ Solution-processed Hybrid Perovskite Photodetectors
Date: 2/5/2019
Number: 10199579
Country: United States

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

Date: 5/7/2019
Number: 2687150
Country: Russia

Date: 6/14/2019
Number: 6538071
Country: Japan

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

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
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

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

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

Kenneth Narva, Kanika Arora, Sarah Worden, Blair Siegfried, 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

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

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

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

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

Wei Qiao, Taesic Kim, Liyan Qu  
Electrical and Computer Engineering  
**Title:** Rechargeable Multi-cell Battery  
**Date:** 5/21/2019  
**Number:** 10297855  
**Country:** United States
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

Alexander Sinitskii, Jody G. Redepenning, Benjamin Wymore
Chemistry
Title: Polymer on Graphene
Date: 1/29/2019
Number: 10192971
Country: United States

Oleg Tchernyshyov, Alexey Kovalev, Kirill Belashchenko
Physics and Astronomy
Title: Magnetoelectric Memory Cells with Domain Wall-mediated Switching
Date: 10/2/2018
Number: 10090034
Country: United States

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

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

Title: Electrically Conductive Concrete Mix for Electromagnetic (Em) Ground Plane
Date: 4/9/2019
Number: 10256006
Country: United States

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

Haosen Wang, Wei Qiao, Liyan Qu
Electrical and Computer Engineering
Title: Electromagnetic Power Converter
Date: 5/14/2019
Number: 10290417
Country: United States

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
<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
<th>Technology</th>
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<tbody>
<tr>
<td>Gary Anderson, Clayton Kelling</td>
<td>Veterinary and Biomedical Sciences</td>
<td>Cell Line</td>
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<td>David Andrews</td>
<td>Agronomy and Horticulture</td>
<td>Purple Plant Colorant</td>
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<td>P. Stephen Baenziger, Mitchell Montgomery, Rich Little, Greg Dorn</td>
<td>Agronomy and Horticulture</td>
<td>Barley Variety</td>
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<td>P. Stephen Baenziger, Mitchell Montgomery, Greg Dorn</td>
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<td>Triticale Variety (2 licenses)</td>
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<td>P. Stephen Baenziger, Del Dovel, Ben Moreno-Sevilla</td>
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<td>Mark Behrens, Xiao-Zhou Wang, Nedim Mutlu, Patricia Herman, Thomas Clemente, Donald Weeks</td>
<td>Biochemistry; Biological Sciences; Agronomy and Horticulture</td>
<td>Dicamba Use in Canola</td>
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<td>Carrick Detweiler, Ashraful Islam, Adam Houston, Ajay Shankar</td>
<td>Computer Science; Mechanical &amp; Materials Engineering; Earth and Atmospheric Sciences; Computer Science and Engineering</td>
<td>Sensor Housing</td>
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<td>Stephen DiMagno</td>
<td>Chemistry</td>
<td>Medical Imaging Agents</td>
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<td>Achim Dobermann, Daniel T. Walters, Haishun Yang, Kenneth G. Cassman, Patricio Grassini</td>
<td>Agronomy and Horticulture</td>
<td>Hybrid Maize Software</td>
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<td>Achim Dobermann, Daniel T. Walters, Haishun Yang, Kenneth G. Cassman, Tri Setiyono</td>
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<td>Achim Dobermann, Daniel T. Walters, Haishun Yang, Kenneth G. Cassman, Patricio Grassini</td>
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<td>Vadim N. Gladyshev</td>
<td>Biochemistry</td>
<td>Expression of Selenoproteins in Cells</td>
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<td>George Graef</td>
<td>Agronomy and Horticulture</td>
<td>Soybean Varieties (4 licenses)</td>
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<td>George Graef, Leslie Korte</td>
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<td>Soybean Varieties</td>
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<tr>
<td>George Graef, Leslie Korte, Dennis White, Travis Wegner, James Specht</td>
<td>Agronomy and Horticulture</td>
<td>Soybean Varieties</td>
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</table>
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

---

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

---

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)

---

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

---

Janos Zempleni  
Nutrition and Health Sciences  
*Technology*: Milk Exosome Technology
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
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. “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.
5th Annual Atrabilious Experimental Film Festival, Filmhuis Cavia, Amsterdam, 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

Kevin Hanrahan
Glenn Korff School of Music
Wirripang Pty. Ltd., Sydney, Australia.

Nathan Koch
Glenn Korff School of Music

Tom Larson
Glenn Korff School of Music
JD Madsen  Johnny Carson School of Theatre and Film

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.


Zachary Tate Porter  Architecture
Artist, architecture. “Topographic Survey of Two Sidewalk Holes.”


Guy Reynolds  Cather Project, Program of Excellence/English
Director, orchestra. “Prairie Songs: Remembering Ántonia.” Lincoln Symphony Orchestra, Lincoln, NE.

Kaci Richter  Visual Communications/Broadcasting

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

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

Adrian Wisnicki  English/Center for Digital Research in the Humanities


Books
Faculty who wrote or edited books published July 1, 2018–June 30, 2019
Submitted by faculty, chairs/heads or deans

Marco Abel  English

Kristen M. Blankley  Law

Dawn O. Braithwaite  Communication Studies

Eve M. Brank  Center on Children, Families, and the Law/Psychology

Amy N. Burnett  History

David Cahan  History

Jennine Capó Crucet  English

Terence J. Centner  Agricultural Economics/Law

Rochelle Dalla  Child, Youth and Family Studies

Bedross Der Matossian  History

Wheeler Winston Dixon  English/Film Studies

Iker González-Allende  Modern Languages and Literatures


Mark A. Griep  Chemistry


Mark A. Hinchman  Interior Design/Architecture

Kristen Hoerl  Communication Studies

Gabriel A. Houck  English

Robert Hutkins  Food Science and Technology
<table>
<thead>
<tr>
<th>Name</th>
<th>Department/Division</th>
<th>Title</th>
<th>Publisher/Location</th>
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<tbody>
<tr>
<td>Yi Qian</td>
<td>Electrical and Computer Engineering</td>
<td>Author, with Haipeng Yao, Chunxiao Jiang, Yi Qian. <em>Developing Networks Using Artificial Intelligence.</em> Cham, Switzerland: Springer.</td>
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<tr>
<td>Brett Ratcliffe</td>
<td>Entomology/University of Nebraska State Museum</td>
<td>Author. <em>A Monographic Revision of the Genus Gymnetis MacLeay, 1819 (Coleoptera: Scarabaeidae: Cetoniinae).</em> Lincoln, NE: University of Nebraska State Museum.</td>
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<tr>
<td>Patricia A. Simpson</td>
<td>Modern Languages and Literatures</td>
<td>Editor, with Elisabeth Krimmer. <em>Realities and Fantasies of German Female Leadership: From Maria Antonia of Saxony to Angela Merkel.</em> Rochester, NY: Camden House.</td>
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<tr>
<td>Gerald J. Steinacher</td>
<td>History</td>
<td>Author, with Ari Cohen (UNL). <em>Unlikely Heroes: The Place of Holocaust Rescuers in Research and Teaching.</em> Lincoln, NE: University of Nebraska Press.</td>
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<tr>
<td>Name</td>
<td>Department/Center</td>
<td>Award/Recognition</td>
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<tr>
<td>Brian Larkins</td>
<td>Agronomy and Horticulture/Emeritus Associate Vice Chancellor for Life Sciences</td>
<td>National Academy of Sciences</td>
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<tr>
<td>James Van Etten</td>
<td>Plant Pathology</td>
<td>National Academy of Sciences</td>
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<tr>
<td>Marco Abel</td>
<td>English</td>
<td>Berlin Prize, American Academy in Berlin</td>
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<tr>
<td>John Clark Archer</td>
<td>Geography/Center for Great Plains Studies</td>
<td>E. Willard and Ruby S. Miller Award, American Association of Geographers</td>
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<td></td>
<td></td>
<td>Nonfiction Reference Award Winner, 2018 Book Awards Competition, Nebraska Center for the Book</td>
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<tr>
<td>Jack Arterburn</td>
<td>Panhandle Research and Extension Center</td>
<td>Top 10 Industry Leaders under Age 40, <em>Cattle Business Weekly</em></td>
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<td>Stacy Asher and Aaron Sutherlen</td>
<td>Art, Art History and Design</td>
<td>50 Books/50 Covers Award, American Institute of Graphic Arts</td>
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<tr>
<td>Steven M. Barlow</td>
<td>Special Education and Communication Disorders/Biological Systems Engineering/Center for Brain, Biology and Behavior</td>
<td>Callier Prize for Outstanding Scientific Achievement, Callier Center, University of Texas – Dallas</td>
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<tr>
<td>Paul N. Black</td>
<td>Biochemistry</td>
<td>Fellow, American Association for the Advancement of Science</td>
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<tr>
<td>Eve Brank</td>
<td>Center on Children, Families, and the Law/Psychology</td>
<td>Outstanding Teaching and Mentoring Award, American Psychology-Law Society</td>
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<tr>
<td>Brent Cejda</td>
<td>Educational Administration</td>
<td>Senior Scholar Award, Council for the Study of Community Colleges</td>
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<tr>
<td>Bertrand S. Clarke</td>
<td>Statistics</td>
<td>Fellow, Institute of Mathematical Statistics</td>
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<tr>
<td>Deb Cosgrove</td>
<td>Accountancy</td>
<td>Outstanding Faculty Advisor Award, Beta Alpha Psi</td>
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<td>Andrea S. Cupp</td>
<td>Animal Science</td>
<td>President, Society for the Study of Reproduction</td>
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<tr>
<td>Rochelle L. Dalla</td>
<td>Child, Youth and Family Studies</td>
<td>Outstanding Professional Publication Award–Families and Health, National Council on Family Relations</td>
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<tr>
<td>Kwame Dawes</td>
<td>English</td>
<td>Windham-Campbell Prize, Yale University’s Beinecke Rare Book and Manuscript Library</td>
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<tr>
<td>Jeffrey L. Day</td>
<td>Architecture/Landscape Architecture</td>
<td>Progressive Architecture Award, <em>Architect Magazine</em></td>
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<td>Maria Rosario T. de Guzman</td>
<td>Child, Youth and Family Studies</td>
<td>Ursula Gielen Global Psychology Book Award, American Psychological Association</td>
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<tr>
<td>Leslie Delserone</td>
<td>University Libraries</td>
<td>Editor-in-chief, <em>Journal of Agricultural and Food Information</em></td>
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<tr>
<td>Ken Dewey</td>
<td>Geography and Natural Resources</td>
<td>Public Education Award, National Weather Association</td>
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<tr>
<td>Judy Diamond</td>
<td>University of Nebraska State Museum</td>
<td>Outstanding Administrative Support Award, National Science Education Leadership Association</td>
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<td>Robert Diffendal</td>
<td>Natural Resources/University of Nebraska State Museum</td>
<td>Lifetime Achievement Award, Sun Yat-Sen University</td>
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<td>Recognition</td>
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<tr>
<td>Eric Einspahr</td>
<td>College of Education and Human Sciences</td>
<td>Excellence in Advising Award, National Academic Advising Association</td>
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<td>Helen Fagan</td>
<td>Agricultural Leadership, Education and Communication/Rural Futures Institute</td>
<td>Paul Harris Fellow, Rotary International</td>
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<td>Tracy D. Frank</td>
<td>Earth and Atmospheric Sciences</td>
<td>Fulbright Scholarship Award, Ireland, Council for International Exchange of Scholars</td>
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<td>Sheri Fritz</td>
<td>Earth and Atmospheric Sciences</td>
<td>Israel C. Russell Award in Limnogeology, Geological Society of America</td>
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<td>Kurt F. Geisinger</td>
<td>Educational Psychology/ Buros Center for Testing</td>
<td>President, International Test Commission</td>
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<td>Edmund T. Hamann</td>
<td>Teaching, Learning, and Teacher Education/ Anthropology</td>
<td>Fulbright Scholarship Award, Mexico, Council for International Exchange of Scholars</td>
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<td>David G. Imig Distinguished Service Award, Carnegie Project on the Educational Doctorate</td>
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<td>Jane Hanson</td>
<td>Programs in English as a Second Language</td>
<td>President’s Lifetime Achievement Award, Mensa Foundation</td>
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<td>Carrie Heitman</td>
<td>Anthropology/Center for Digital Research in the Humanities</td>
<td>President, Council for Museum Anthropology</td>
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<td>Susan Hermiller</td>
<td>Mathematics</td>
<td>Fellow, American Mathematical Society</td>
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<td>Chuck Hibberd</td>
<td>Animal Science/Extension</td>
<td>2019 Inductee, National Institute of Food and Agriculture Hall of Fame</td>
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<td>Kristen Hoerl</td>
<td>Communication Studies</td>
<td>Best Book Award for 2018, American Studies Division of the National Communication Association</td>
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<td>Gabriel A. Houck</td>
<td>English</td>
<td>Creative Writing Fellow in Fiction, Emory University</td>
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<td>Jan Hygnstrom</td>
<td>Agronomy and Horticulture</td>
<td>Professional Recognition Award, American Association of Pesticide Safety Educators</td>
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<td>Suat Irmak</td>
<td>Biological Systems Engineering</td>
<td>Three Educational Aids Blue Ribbon publications awards, American Society of Agricultural and Biological Engineers (ASABE)</td>
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<td>Educational Aids Blue Ribbon Award for educational website (with Aaron Nygren, Jenny Rees, Brandy VanDeWalle and Gary Zoubek, Extension), ASABE</td>
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<td>Margaret Jacobs</td>
<td>History</td>
<td>Member, American Academy of Arts and Sciences</td>
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<td>Katrina Jagodinsky</td>
<td>History</td>
<td>Jack and Nancy Farley Distinguished Visiting Scholar in History, Simon Fraser University</td>
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<td>Paul Jasa</td>
<td>Biological Systems Engineering/Extension</td>
<td>Harold and Kay Scholl Excellence in Conservation Award, Soil and Water Conservation Society</td>
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<td>Dipra Jha</td>
<td>Nutrition and Health Sciences</td>
<td>Doctor Honoris Causa, Kyiv Cooperative Institute of Business and Law, Ukraine</td>
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<td>John Wiley &amp; Sons Innovation in Teaching Award, International Council on Hotel, Restaurant and Institutional Education</td>
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<td>Amit Jhala</td>
<td>Agronomy and Horticulture</td>
<td>Award of Merit in Extension, Gamma Sigma Delta</td>
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<td>Jeannette Eileen Jones</td>
<td>Ethnic Studies/ History</td>
<td>Outstanding Associate Editor Award, Canadian Journal of Plant Science</td>
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<tr>
<td>Alice Kang</td>
<td>Political Science/Ethnic Studies</td>
<td>Best Paper Award, European Journal of Politics and Gender</td>
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</table>
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 Diplomate, 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 Paparozzi  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 Torraco, 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
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<tr>
<th>Acronym</th>
<th>Full Name</th>
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<td>DHS</td>
<td>Department of Homeland Security</td>
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<tr>
<td>DHHS</td>
<td>Department of Health and Human Services</td>
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<tr>
<td>ACF</td>
<td>Administration for Children and Families</td>
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<td>CDC</td>
<td>Centers for Disease Control</td>
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<td>NIOSH</td>
<td>National Institute for Occupational Safety and Health</td>
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<td>SAMHSA</td>
<td>Substance Abuse and Mental Health Services Administration</td>
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<td>DOC</td>
<td>Department of Commerce</td>
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<tr>
<td>NIST</td>
<td>National Institute of Standards and Technology</td>
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<td>NOAA</td>
<td>National Oceanic and Atmospheric Administration</td>
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<td>Department of Defense</td>
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<td>Air Force Office of Scientific Research</td>
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<td>Army Research Office</td>
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<td>Defense Threat Reduction Agency</td>
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<td>DURIP</td>
<td>Defense University Research Instrumentation Program</td>
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<td>MDA</td>
<td>Missile Defense Agency</td>
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<td>MURI</td>
<td>Multidisciplinary University Research Initiatives</td>
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<td>Office of Naval Research</td>
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<td>SERDP</td>
<td>Strategic Environmental Research and Development Program</td>
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<td>U.S. Strategic Command</td>
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<td>DOE</td>
<td>Department of Energy</td>
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<td>ARPA-E</td>
<td>Advanced Research Projects Agency-Energy</td>
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<td>EPSCoR</td>
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