RESEARCH AND CREATIVE ACTIVITY

JULY 01, 2021 - JUNE 30, 2022

Major Sponsored Programs and Faculty Accomplishments in Research and Creative Activity
This booklet highlights successes in research, scholarship and creative activity by University of Nebraska–Lincoln faculty during the fiscal year running July 1, 2021, to June 30, 2022.

It lists investigators, project titles and funding sources on major grants and sponsored awards that were active during the year; fellowships and other recognitions and honors bestowed on our faculty; books, chapters and creative literature published by faculty; performances, exhibitions and other examples of creative activity; patents and licensing agreements; and conference presentations. In recognition of the important role faculty play in the undergraduate experience at Nebraska, this booklet notes the students and mentors participating in the Undergraduate Creative Activities and Research Experience (UCARE) and the First-Year Research Experience (FYRE) programs.

Increasing impact through research and creative activity is one of the six core aims of the N2025 strategic plan. A few measurements of progress made this year:

- UNL achieved a record $321 million in total research expenditures in FY 2021, a 31% increase over the past decade.
- Our faculty earned 1,560 sponsored research awards in FY 2021.

N2025 aims also include contributing to economic growth throughout the state and broadening Nebraska’s engagement in community, industry and global partnerships. These are some measures of our efforts to commercialize university-sponsored research and partner with industry:

- Nebraska Innovation Campus created 2,127 jobs statewide. The cumulative impact of NIC investments totals $328.9 million.
- Industry sponsorship supported $19.8 million in research expenditures.
- NUtech Ventures brought in $6.36 million in licensing income.

I want to thank the Nebraska Research community for its willingness to collaborate, mentor and redefine success in research and creative activity. Your leadership is paving the way for future growth and providing an unparalleled educational experience. At Nebraska, it is the people who make the place.

Because of your dedication and expertise, Nebraska is positioned to solve some of the world’s most wicked problems. I am impressed by your commitment to the Grand Challenges initiative, a strategic investment of up to $40 million over four years for projects in the high-impact areas of anti-racism and racial equity; climate resilience; early childhood education and development; health equity; quantum science and engineering; science and technology literacy for society; and sustainable food and water security. More than 180 faculty, staff and students are contributing to projects funded in Year 1.

Another N2025 aim is to create a climate that emphasizes, prioritizes and expands inclusive excellence and diversity. In the Office of Research and Economic Development, we continue to seek ways to remove barriers to success and ensure all Nebraska researchers have the resources they need to thrive. Thank you for the feedback you’ve thoughtfully provided.

I am pleased to present this record of accomplishments.

Bob Wilhelm
Vice Chancellor for Research and Economic Development
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The Nebraska Research community ... is paving the way for future growth and providing an unparalleled educational experience. At Nebraska, it is the people who make the place.”
Awards of $5 Million or More
Active awards, July 1, 2021–June 30, 2022
* Indicates new in 2021–2022

Bevins, Rick
Psychology/Rural Drug Addiction Research Center
Rural Drug Addiction Research Center
$11,854,178 ........................................... NIH-NIGMS
4/5/19 – 2/29/24
Habecker, Patrick . . . Sociology/Rural Drug Addiction Research Center
Tyler, Kimberly . . . Sociology/Rural Drug Addiction Research Center
Nelson, Timothy . . . . . . Psychology

The Rural Drug Addiction Research Center was created in 2019 as a National Institutes of Health Center of Biomedical Research Excellence, or COBRE. Under the leadership of Rick Bevins, Chancellor’s Professor of psychology, the center’s mission is to advance understanding of causes, impacts and interventions related to rural drug addiction in the Midwest, a geographic area that has been historically understudied. Designed to be interdisciplinary and data-driven, the research links pre-clinical studies to field-based behavioral, neural, social, clinical, translational research and dissemination.

Bloom, Kenneth
Physics and Astronomy
U.S. CMS Operations at the LHC
$51,250,000 ........................................... NSF
1/1/22 – 12/31/26

Ken Bloom, professor of physics and astronomy, oversees Nebraska’s leadership of the National Science Foundation-funded portion of the U.S. CMS Operations Program. The university’s role in this effort will advance cutting-edge work in subatomic physics at CERN, the European Organization for Nuclear Research in Switzerland, site of the Large Hadron Collider, the world’s largest, most powerful particle accelerator.

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, Aaron Douglas Professor of psychology and director of the Center on Children, Families and the Law (CCFL), and Kathryn Olson, associate director of CCFL and research assistant professor of psychology, lead this effort to develop and deliver training to child and family services specialists 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)
$10,062,433 ........................................... NSF-EPSCoR
6/15/16 – 4/30/22
Adamec, Jiri . . . . . . . . . . . Biochemistry/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
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
The University of Nebraska–Lincoln is leading a $20 million, Nebraska-based research effort to improve crop productivity. Funded with an 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 leader is Edgar Cahoon, George Holmes Professor of biochemistry and director of the Center for Plant Science Innovation. The research uses a holistic strategy to study root and soil microbe interactions and to develop new biological tools to enhance crop performance.

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

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

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

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

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

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

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

Chambers, Jeffrey
Center on Children, Families and the Law
COVID: NE Housing Assistance Common Fund - Balance of State
$6,486,296
HUD through Nebraska Department of Economic Development
6/1/21 – 5/31/23

The Center on Children, Families and the Law received a $6.5 million grant to respond to rural Nebraska homeowners who have been unable to make mortgage and utility payments due to the COVID-19 pandemic and are in jeopardy of losing their homes. Led by Jeff Chambers, senior project director in CCFL, the center is partnering with five community-based organizations to administer assistance to families through June 2023. The funding is sponsored by the U.S. Department of Housing and Urban Development Community Development Block Grant COVID-19 program and administered through the Nebraska Department of Economic Development. This work is part of the CCFL Community Services Division’s larger efforts to build an infrastructure in Nebraska to respond to families in housing crisis after the pandemic. It is an extension of CCFL’s mission of “Helping the Helpers.”

Corman, Jessica
Natural Resources
RII Track-2 FEC: From Ecosystems to Evolution: Harnessing Elemental Data to Detect Stoichiometric Control-Points and their Consequences for Organismal Evolution
$5,987,352
NSF-EPSCoR
1/1/21 – 12/31/24

With a $6 million grant from the National Science Foundation’s Established Program to Stimulate Competitive Research, Jessica Corman is leading a team in developing a first-of-its-kind national environmental database. This tool will help researchers and policymakers study, predict and manage the ever-changing balance of elements in the environment and their impact on ecosystems regionally and nationally. The database, a collection of information from streams, lakes and the organisms that reside in them, will unlock major potential in ecological stoichiometry, a framework that explores the mismatch between available environmental elements and what organisms need. Corman, assistant professor of natural resources, is working with partners from the University of Wyoming, Central Arkansas University and Middlebury College.
CASNR dean Tiffany Heng-Moss leads this effort. The University of Nebraska–Lincoln established the Quality Improvement Center for Workforce Development with a $15.5 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 professor in the Center on Children, Families and the Law, this multidisciplinary project studies and tests promising strategies to help child welfare agencies recruit and retain staff workers. Nebraska collaborates with three national child welfare consultants and researchers at the University of Colorado, Denver; University of Louisville; and University of Tennessee, Knoxville. The center draws on a range of expertise, including social work, industrial organizational psychology, human resource management, educational psychology, implementation science and the law.

Heng-Moss, Tiffany
College of Agricultural Sciences and Natural Resources

Developing the Next Generation of Rwandan Agricultural Leaders
$47,492,836 ........................................ Various Associations/Foundations
7/1/15 – 5/31/23
Davis, Josh ........................................ Global Affairs
Waller, Steven ................................. Center for Grassland Studies

With grants totaling more than $47,000,000, the College of Agricultural Sciences and Natural Resources (CASNR) at the University of Nebraska–Lincoln is partnering with various associations and foundations to provide educational opportunities for Rwandan students to participate in the CASNR 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 dean Tiffany Heng-Moss leads this effort.

Khattak, Aemal
Civil and Environmental Engineering/Nebraska Transportation Center

University Transportation Centers Open Competition 2016
$15,584,200 ........................................ DOT
12/5/16 – 9/30/23

The Mid-America Transportation Center, a consortium of academic institutions led by the University of Nebraska–Lincoln, leads a $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. Aemal Khattak, MATC director and professor of civil and environmental engineering, leads the 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 – 8/14/22
Dweikat, Ismail ................................ Center for Plant Science Innovation/Agronomy and Horticulture
Ge, Yufeng .................................. Biological Systems Engineering

Daniel Schachtman, George Holmes 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 project...
A 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), Phase 2

$10,667,732 .................................NIH-NIGMS  
9/14/21 – 7/31/26

Checco, James  Chemistry/Nebraska Center for Integrated Biomolecular Communication

Clarke, Jennifer  Statistics/Food Science and Technology/Nebraska Center for Integrated Biomolecular Communication

Eichhorn, Catherine  Chemistry/Nebraska Center for Integrated Biomolecular Communication

Guo, Jiantao  Chemistry/Nebraska Center for Integrated Biomolecular Communication

Lai, Rebecca  Chemistry/Nebraska Center for Integrated Biomolecular Communication

Niu, Wei  Chemical and Biomolecular Engineering/Nebraska Center for Integrated Biomolecular Communication

Powers, Robert  Chemistry/Nebraska Center for Integrated Biomolecular Communication

Wilson, Mark  Biochemistry/Nebraska Center for Integrated Biomolecular Communication

A five-year, $11 million grant from the National Institutes of Health provides continuing support for 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 and Engineering Center: Polarization and Spin

$9,629,898 .................................NSF  
11/1/14 – 10/31/21

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. Evgeny Tsymbal, George Holmes Professor of physics and astronomy, leads the Nebraska team.

**Walia, Harkamal**  Agronomy and Horticulture

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

$5,983,737 .................................NSF-EPSCoR  
8/1/17 – 7/31/23

Morota, Gota  Animal Science

Obata, Toshihiro  Biochemistry

Yu, Hongfeng  Computing

Zhang, Chi  Biological Sciences

Zhang, Qi  Statistics

Harkamal Walia, Heuermann Chair of agronomy, 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 $5.98 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.
AWARDS OF $5 MILLION OR MORE

Wilhelm, Bob  
Office of Research and Economic Development  

Nebraska Center for Energy Sciences Research  
$7,500,000  
Nebraska Public Power District  
4/1/21 – 3/31/26

The Nebraska Center for Energy Sciences Research is a collaboration between the university and the Nebraska Public Power District. The center was established in 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 and wind/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 – 9/30/22

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. RICA students learn the principles of conservation agriculture and One Health while emphasizing written communication, leadership and entrepreneurship. Students at RICA are 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.

COBRE: Nebraska Center for the Prevention of Obesity Diseases through Dietary Molecules  
$12,211,719  
NIH-NIGMS  
8/5/14 – 5/31/24

Lim, Jung Yul  
Mechanical & Materials Engineering

Sukumaran, Sunil  
Nutrition and Health Sciences

Vechetti, Ivan  
Nutrition and Health Sciences

Wang, Yongjun  
Nebraska Center for the Prevention of Obesity Diseases

Yao, Qiuming  
Computing

With the support of a $12.2 million grant from the National Institutes of Health’s Center of Biomedical Research Excellence (COBRE) program, the university has established the Nebraska Center for the Prevention of Obesity Diseases through Dietary Molecules. The center, under the leadership of Janos Zempleni, Willa Cather Professor of molecular nutrition, focuses on understanding nutrition and obesity at the molecular level. Answering molecular-level questions regarding obesity and related diseases is a crucial first step toward curbing this national epidemic. The University of Nebraska Medical Center collaborates on the center, which aims to establish a community of nationally recognized researchers in nutrition, genetics, biochemistry, food science, immunology and computer science. The long-term goal is to become a leader in nutrient signaling and the prevention of obesity and obesity-related diseases, including non-alcoholic fatty liver disease, cardiovascular disease and Type 2 diabetes.
### Awards of $1 Million to $4,999,999

Active awards, July 1, 2021–June 30, 2022

* Indicates new in 2021–2022

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<tr>
<th>Name</th>
<th>Department</th>
<th>Project Title</th>
<th>Award Amount</th>
<th>Funding Organization</th>
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<tr>
<td>Allen, Craig</td>
<td>Natural Resources</td>
<td>RII Track-2 FEC: Resilience Informatics for the Convergence of Critical Capacities to Address Regional-Scale Environmental Change</td>
<td>$3,953,265</td>
<td>NSF-EPSCoR</td>
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<td>Banerjee, Simanti</td>
<td>Agricultural Economics</td>
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<td>Biological Systems Engineering</td>
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<td>Computing</td>
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<td>Twidwell, Dirac Jr.</td>
<td>Agronomy and Horticulture</td>
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<td>Allmand, Matthew</td>
<td>Extension/Biological Systems Engine/ Food Science and Technology</td>
<td>Manufacturing Extension Partnership Center for Nebraska</td>
<td>$2,903,638</td>
<td>DOC-NIST</td>
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<td>Anderson, Troy</td>
<td>Entomology</td>
<td>*Development of an Efficacious Attractive Toxic Sugar Bait Station</td>
<td>$1,432,037</td>
<td>Bill and Melinda Gates Foundation</td>
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<td>Andrews, Trey</td>
<td>Psychology/Ethnic Studies/Rural Drug Addiction Research Center/Center for Brain, Biology and Behavior</td>
<td>*Allostatic Load, Response to Discrimination Stress, Discrimination Exposure Frequency, and Social Network Structure and Function</td>
<td>$2,525,029</td>
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<td>Habecker, Patrick</td>
<td>Sociology/Rural Drug Addiction Research Center/Center for Brain, Biology and Behavior</td>
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<td>Nelson, Timothy</td>
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<td>Angeletti, Peter</td>
<td>Biological Sciences</td>
<td>Cancer Research International Training and Intervention Consortium (CRITIC)</td>
<td>$4,425,389</td>
<td>NIH-NCI</td>
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<td>Balkir, Sina</td>
<td>Electrical and Computer Engineering</td>
<td>Low-Power Signal-Processing Electronics for Unattended Radiation Monitoring Sensors</td>
<td>$1,060,772</td>
<td>DoD-DTRA</td>
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<td>Hoffman, Michael</td>
<td>Agriculture and Communication Disoders</td>
<td>Somatosensory Modulation of Salivary Gene Expression and Oral Feeding in Preterm Infants</td>
<td>$2,797,503</td>
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<td>Basche, Andrea</td>
<td>Agronomy and Horticulture</td>
<td>Cover Crop Initiative: A Collaborative Project to Advance Knowledge and Utilization of Cover Crops for Conservation Measures in Nebraska</td>
<td>$1,049,500</td>
<td>USDA-NRCS</td>
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<td>Panhandle Research and Extension Center</td>
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<td>Koehler-Cole, Katja</td>
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<td>Becker, Donald</td>
<td>Biochemistry/Nebraska Center for Redox Biology</td>
<td>Molecular Mechanisms of Disease</td>
<td>$1,214,052</td>
<td>NIH-NIGMS</td>
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<td>Bellows, Laurie</td>
<td>Graduate Studies</td>
<td>TRIO – Ronald E. McNair Postbaccalaureate Achievement Program</td>
<td>$1,251,209</td>
<td>ED</td>
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<td>Benson, John</td>
<td>Natural Resources</td>
<td>Assessment of Adult Female and Neonatal Mule Deer (Odocoileus hemionus) Survival, Movements and Habitat Use in Nebraska</td>
<td>$1,358,070</td>
<td>Nebraska Game and Parks Commission</td>
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<td>Berkowitz, David</td>
<td>Chemistry</td>
<td>Medical Countermeasure Drug Discovery and Development</td>
<td>$3,283,464</td>
<td>DoD-Offutt Air Force Base-STRATCOM through National Strategic Research Institute</td>
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<td>Dussault, Patrick</td>
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<td>Biochemistry</td>
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<td>Powers, Robert</td>
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<td>Name</td>
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<td>Bevins, Rick</td>
<td>Psychology</td>
<td>Interoceptive Conditioning with Nicotine: Changes in Abuse Liability</td>
<td>$1,786,220</td>
<td>NIH-NIDA</td>
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<td>Bildner, Christopher</td>
<td>Statistics</td>
<td>Group Testing for Infectious Disease Detection: Multiplex Assays and Back-End Screening</td>
<td>$2,164,953</td>
<td>NIH-NIAID</td>
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<td>Binek, Christian</td>
<td>Physics and Astronomy/Nebraska Center for Materials and Nanoscience</td>
<td>Emergent Quantum Materials and Technologies (EQUATE)</td>
<td>$4,617,536</td>
<td>NSF-EPSCoR</td>
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**Chemistry**  
A Research Program on Advancing Biomedical Glycoproteomics  
$1,999,597  
NIH-NIGMS

**Dowben, Peter**  
**Physics and Astronomy/Nebraska Center for Materials and Nanoscience**  
E2CDA: Type I: Antiferromagnetic Magneto-electric Memory and Logic  
$3,573,423  
NSF/Semiconductor Research Corp

**Duppong Hurley, Kristin**  
**Special Education and Communication Disorders/Academy for Child and Family Wellbeing**  
Randomized Clinical Trial of the Boys Town In-Home Program  
$1,112,775  
Father Flanagan’s Boys’ Home

**Eichhorn, Catherine**  
**Chemistry**  
*Structural Dynamics of Regulatory RNAs and Ribonucleoproteins*  
$1,845,838  
NIH-NIGMS

**Engen-Wedin, Nancy**  
**Teaching, Learning and Teacher Education**  
Indigenous Roots Teacher Education Program  
$1,174,067  
ED

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**Erixson, John**  
**Nebraska State Forest Service**  
Cooperative Forestry Program  
$3,221,930  
USDA-FS

**Faller, Ronald**  
**Midwest Roadside Safety Facility/Nebraska Transportation Center**  
Crash Testing of Various Bridge Guardrails and Transitions, Phase III  
$2,369,485  
Hawaii Dept of Transportation

**Bielenberg, Robert**  
**Midwest Roadside Safety Facility**  
$1,218,785  
TrafFix Devices Inc.

**Binek, Christian**  
**Physics and Astronomy/Nebraska Center for Materials and Nanoscience**  
$1,172,504  
NSF through University of Delaware

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**Low-Cost, Sacrificial, Energy-Absorbing, Crash Cushion**  
$1,364,999  
DOT-FHWA through Nebraska Department of Transportation

**Pajouh, Mojdeh A.**  
**Midwest Roadside Safety Facility**  
Civil and Environmental Engineering  
$1,174,067  
ED

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**Sim, Chungwook**  
**Civil and Environmental Engineering**  
$1,000,000  
DOJ-NIJ

**Song, Chung**  
**Civil and Environmental Engineering**  
$1,000,000  
DOJ-NIJ

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**Rosenbaugh, Scott**  
**Midwest Roadside Safety Facility**  
$1,174,067  
ED
Fischer, Jean  Nutrition and Health Sciences
Supplemental Nutrition Assistance Program (SNAP-ED)
$3,614,686  USDA-FNS through Nebraska Department of Health and Human Services
Behrends, Donna  Nutrition and Health Sciences
Franzen-Castle, Lisa  Nutrition and Health Sciences
Johnson, Mary Ann  Nutrition and Health Sciences
Sehi, Natalie  Nutrition and Health Sciences
Wielenga, Vanessa  Nutrition and Health Sciences

Fuchs, Brian  Natural Resources
*USDA Support for Enhancements to the U.S. Drought Monitor 2021-2022
$1,275,000  USDA-OCE

Garcia Ruiz, Hernan  Plant Pathology/Nebraska Center for Virology
Recognition and Recruitment of RNA Viruses into RNA Silencing Pathways
$1,312,105  NIH-NIGMS

Ge, Yufeng  Biological Systems Engineering
High Intensity Phenotyping Sites: Transitioning to a Nationwide Plant Phenotyping Network
$3,000,000  USDA-NIFA
Baenziger, P. Stephen  Agronomy and Horticulture
Sandall, Leah  Agronomy and Horticulture
Schnable, James  Agronomy and Horticulture
Shi, Yeyin  Biological Systems Engineering

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

Graef, George  Agronomy and Horticulture
Increasing Genetic Diversity, Yield, and Protein of U.S. Commercial Soybean Germplasm
$2,135,860  United Soybean Board/Smith/Bucklin
Alvarez Y Albala, Sophie  Biotechnology
Clemente, Thomas  Agronomy and Horticulture
Holding, David  Agronomy and Horticulture
Hyten, David Jr.  Agronomy and Horticulture

Grassini, Patricio  Agronomy and Horticulture
Developing Solutions for Closing the Yield Gap in Smallholder Oil Palm Plantations in Indonesia
$4,246,035  Norwegian Ministry of Foreign Affairs

Harris, Edward  Biochemistry
Liver-Mediated Clearance of Low Molecular Weight Heparins
$1,486,339  NIH-NHLBI
Dodds, Eric  Chemistry

Helikar, Tomas  Biochemistry
*Multi-Cellular and Multi-Scale Systems Modeling to Understand the Dynamics of the Human Immune System in Interdisciplinary Applications
$1,856,250  NIH-NIGMS
Innovating Life Sciences Education through Computational Modeling and Simulations
$1,896,570  NSF
Dauer, Joseph  Natural Resources
Smith, Wendy  Center for Science, Mathematics and Computer Education

Iverson, Nicole  Biological Systems Engineering
New and Improved Sensor Platforms and Quantification of Nitric Oxide for In Vitro and In Vivo Systems
$1,777,195  NIH-NIGMS

Jacobson, Beth  Student Affairs
UNL Educational Talent Search
$2,635,070  ED
Khalimonchuk, Oleh  
Biochemistry/Nebraska Center for Redox Biology  
Mitochondrial Fidelity and Homeostasis  
$1,846,766 ............................................NIH-NIGMS

Kievit, Forrest  
Biological Systems Engineering  
Nanoparticle-Mediated Reduction of Oxidative Stress  
for the Treatment of Traumatic Brain Injury  
$2,216,406 ............................................NIH-NINDS

Knoche, Lisa  
Nebraska Center for Research on Children, Youth, Families and Schools  
Coaching in Early Intervention (CEI): Promoting Outcomes for Infants/Toddlers with Disabilities Through Evidence-Based Practices  
$1,599,991 .............................................ED  
Nugent, Gwen  
Nebraska Center for Research on Children, Youth, Families and Schools  
Schachter, Rachel  
Child, Youth and Family Studies  
Sheridan, Susan  
Nebraska Center for Research on Children, Youth, Families and Schools  

Getting Ready 0-3 (GR03): Supporting the Development of Infants/Toddlers Through an Integrated Parent-Teacher Relationship-Based Approach  
$2,498,510 ......................................DHHS-ACF  
Bovaird, Jim  
Educational Psychology  
Marvin, Christine  
Special Education and Communication Disorders/Nebraska Center for Research on Children, Youth, Families and Schools  
Sheridan, Susan  
Nebraska Center for Research on Children, Youth, Families and Schools

Kravchenko, Ilya  
Physics and Astronomy  
Maximizing Returns from the CMS Experiment: Analysis of Run 2 Data and Preparation for the High-Luminosity LHC  
$1,500,000 .............................................NSF  
Bloom, Kenneth  
Physics and Astronomy  
Claes, Daniel  
Physics and Astronomy

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  
Pajouh, Mojdeh A.  
Midwest Roadside Safety Facility  
Song, Chung  
Civil and Environmental Engineering  
Steelman, Joshua  
Civil and Environmental Engineering  
Stolle, Cody  
Midwest Roadside Safety Facility

Lehn, Joyce  
Student Affairs  
Student Support Services Program  
$2,952,820 .............................................ED

Lewis, Elizabeth  
Teaching, Learning and Teacher Education/Center for Science, Mathematics and Computer Education  
Meeting the Needs of Diverse Students Through a Next Generation of Science Teacher Leadership in Nebraska  
$2,916,074 .............................................NSF  
Claes, Daniel  
Physics and Astronomy  
Harwood, David  
Earth and Atmospheric Sciences  
Helding, Brandon  
Social and Behavioral Sciences Research Consortium  
Heng-Moss, Tiffany  
College of Agricultural Sciences and Natural Resources  
Matkin, Gina  
Agricultural Leadership, Education and Communication  
McElravy, L.J.  
Agricultural Leadership, Education and Communication  
Menon, Deepika  
Teaching, Learning and Teacher Education/Center for Science, Mathematics and Computer Education  
Moon, Alena  
Chemistry  
Searls, Mindi  
Earth and Atmospheric Sciences/Center for Science, Mathematics and Computer Education  
Smith Wendy  
Center for Science, Mathematics and Computer Education
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<td>Discovering the Molecular Identities, Functions, and Evolutionary Histories of X-Linked Hybrid Male Sterility Genes in Drosophila</td>
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<td>Exploring Cognitive and Foundational Processes Among Students With and Without Mathematics Learning Difficulties</td>
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<td>Educational Psychology/Center for Brain, Biology and Behavior/Nebraska Center for Research on Children, Youth, Families and Schools</td>
<td>School Psychology Specialization in Concussion/Mild Traumatic Brain Injury (mTBI)</td>
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<td>探求促进正向学习环境和学术成绩的INSIGHTS的有效性在内布拉斯加州:一个复制研究</td>
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<td>New Worker Pre-Service Training in the Eastern Service Area (Douglas and Sarpy Counties)</td>
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<td>Using Cell Priming and Telecommunications Modeling to Enhance Gene Delivery for Stem Cell Therapies (DP2)</td>
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<td>Securing Water for and from Agriculture Through Effective Community and Stakeholder Engagement</td>
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Schoengold, Karina  Agricultural Economics
*RII Track-2 FEC BioWRAP (Bioplastics with Regenerative Agricultural Properties): Spray-on Bioplastics with Growth Synchronous Decomposition and Water, Nutrient, and Agrochemical Management for Enhanced Field Crop Production
$1,800,000  NSF through Kansas State University
Haacker, Erin  Earth and Atmospheric Sciences
Isom, Loren  Industrial Agricultural Products Center
Proctor, Christopher  Agronomy and Horticulture
Ray, Chittaranjan  Civil and Environmental Engineering/Nebraska Water Center
Rudnick, Daran  Biological Systems Engineering
Wilkins, Mark  Biological Systems Engineering/Food Science and Technology/Industrial Agricultural Products Center

Scott, Stephen  Computing
Operationalizing Cyber Situational Awareness Research: Capability Exploration
$1,525,215  DoD-Offutt Air Force Base-STRATCOM through National Strategic Research Institute
Haugerud, Rick  Information Services
Magilton, Elsbeth  Law
Varyiam, Vinod  Computing

Sheridan, Susan  Educational Psychology/Nebraska Center for Research on Children, Youth, Families and Schools/Buffett Early Childhood Institute
Efficacy of Virtual Professional Development in Rural Schools to Enhance Teacher-Parent Partnerships for Students with Behavioral Challenges
$3,800,000  ED-IES
Wheeler, Lorey  Nebraska Center for Research on Children, Youth, Families and Schools
Witte, Amanda  Nebraska Center for Research on Children, Youth, Families and Schools

Sinitskii, Alexander  Chemistry
DNA-Enabled Hierarchical Assembly of Graphene Electronics
$4,499,998  DoD-ONR

Smith, Adam  Nebraska State Forest Service
*Nebraska Forest Restoration Partnership
$4,500,000  USDA-NRCS

Smith, Wendy  Mathematics/Center for Science, Mathematics and Computer Education
*Achieving Critical Transformations in Undergraduate Programs in Mathematics (ACTUP Math)
$1,500,000  NSF
Bennett, Amy  Mathematics/Center for Science, Mathematics and Computer Education
Funk, Rachel  Center for Science, Mathematics and Computer Education
Wench Hill, Trish  Social and Behavioral Science Research Consortium

To assist children and families with behavioral challenges and early learning contexts in rural and urban Nebraska.

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

*Practices and Research on Student Pathways in Education from Community College and Transfer Students in STEM (PROSPECT S-STEM)
$1,421,247  NSF
Duncan, Brittany  Computing
Funk, Rachel  Center for Science, Mathematics and Computer Education
Searls, Mindi  Earth and Atmospheric Sciences/Center for Science, Mathematics and Computer Education
Soh, Leen-Kiat  Computing
Soh, Leen-Kiat  
Center for Science, Mathematics and Computer Education/Computing

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

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

Sun, Xinghui  
Biochemistry

Role of IncRNA Meg3 in Obesity-Induced Endothelial Senescence and Insulin Resistance

$1,955,473  
NIH-NHLBI

Harris, Edward  
Biochemistry

Khalimonchuk, Oleh  
Biochemistry

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

USDA Support of the U.S. Drought Monitor and Hub Activities with the National Drought Mitigation Center for the Period of 2020 to 2023

$2,375,000  
USDA-OCE

Bathke, Deborah  
Natural Resources

Fuchs, Brian  
Natural Resources

Haigh, Tonya  
Natural Resources

Knutson, Cody  
Natural Resources

Smith, Kelly  
Natural Resources

Tadesse, Tsegaye  
Natural Resources

Providing Drought Information Services for the Nation: The National Drought Mitigation Center

$1,600,000  
DOC-NOAA

Bathke, Deborah  
Earth and Atmospheric Sciences

Fuchs, Brian  
Natural Resources

Haigh, Tonya  
Natural Resources

Knutson, Cody  
Natural Resources

Smith, Kelly  
Natural Resources

Tadesse, Tsegaye  
Natural Resources

Takacs, James  
Chemistry

Catalytic Asymmetric Hydroboration: Uncapping the Potential with Two-point Binding Substrates

$1,232,002  
NIH-NIGMS

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

Nebraska STEM: Supporting Elementary Rural Teacher Leadership

$1,499,493  
NSF

Homp, Michelle  
Center for Science, Mathematics and Computer Education/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

Wei, Sally  
College of Engineering/Nebraska Center for Research on Children, Youth, Families and Schools
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*Art TEAMS: Nurturing Educators Who Integrate Art, Core Subjects, and Culturally Responsive Teaching to Support Students in Becoming Makers of Change*
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<td>Rapid Manufacturing of a Universal Flu Vaccine Using TMV-Conjugated Centralized Antigens</td>
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<td>Mechanism of the Antiviral Activity of BAF Against Poxvirus and HSV-1 Infection</td>
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<td>Time-Resolved X-ray Crystallography of Dynamics in Cysteine-Dependent Enzymes</td>
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<td>Studies of Artificially Structured Composite Magnets</td>
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<td>Carbohydrate Enzyme Gene Clusters in Human Gut Microbiome</td>
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<td>Understand the Function of the MOS4-Associated Complex in MicroRNA Biogenesis</td>
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<td>*Role of Chive-derived Exosome-like Nanoparticles in Suppressing Inflammation in Obesity</td>
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<td>Molecular Signatures of New Bioactive Compounds in Humans: Cows Milk MicroRNAs</td>
<td>$1,785,715 USDA-NIFA</td>
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<td>Structures and Mechanisms of Iron-Sulfur Proteins in Redox Control and Stress Response</td>
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<td>Fundamental Studies on Functionalizing Metallic Surfaces Using Femtosecond Lasers with Applications to Enhanced Heat Transfer; Novel Power</td>
<td>$1,230,441 DoD-ONR</td>
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### Awards of $250,000 to $999,999

**Active awards, July 1, 2021–June 30, 2022**  
* Indicates new in 2021–2022

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<td>Application of the Human Virome to Touched Objects and Hair Shafts</td>
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Civil and Environmental Engineering  
*CAMRADES Connecting AntiMicrobial Resistance, Agricultural Decisions, and Environmental Systems: A Tool for Mitigating AMR and Assessing Risk to Human Health in Agro-Ecosystems  
$309,037 ........................................ USDA-NIFA through Iowa State University  
Schmidt, Amy  
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Wang, Bing  
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Influence of Agrochemical Mixtures on Treatment Wetland Ecosystems Services  
$499,999 ........................................ USDA-NIFA  
Snow, Daniel  
Nebraska Water Center  
REU Site: Sustainability of Horizontal Civil Networks in Rural Areas  
$445,241 ........................................ NSF  
Eun, Jongwan  
Civil and Environmental Engineering  
Jones, Elizabeth  
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Kim, Seunghhee  
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Li, Xu  
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Li, Yusong  
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Linzell, Daniel  
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Sim, Chungwook  
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Steelman, Joshua  
Nebraska Transportation Center  
Wittich, Christine  
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Wood, Richard  
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Basche, Andrea  
Agronomy and Horticulture  
Enhancing the Sustainability of U.S. Cropping Systems Through Cover Crops and an Innovative Information and Technology Network  
$370,607 ........................................ USDA-NIFA through North Carolina State University  
McMechan, Justin  
Entomology  
Wortman, Samuel  
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Bashford, Gregory  
Biological Systems Engineering  
REU Site: Undergraduate Research Opportunities in Biomedical Devices at the University of Nebraska–Lincoln  
$414,979 ........................................ NSF  
Markovicka, Eric  
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Batelaan, Herman  
Physics and Astronomy  
Coherent Electron Control  
$475,161 ........................................ NSF  
Becker, Donald  
Biochemistry/Nebraska Center for Redox Biology/Center for Plant Science Innovation  
*Direct Removal of Groundwater Nitrate Coupling Water Treatment and Algae Growth  
$456,962 ........................................ Nebraska Environmental Trust  
Allen, James  
Biochemistry  
Demirel, Yasar  
Chemical and Biomolecular Engineering  
Investigating the Proline Cycle as a Potential Cancer Therapy Target  
$291,983 ........................................ NIH-NIGMS through University of Missouri-Columbia  
REU Site: Training in Redox Biology  
$298,186 ........................................ NSF  
Adamec, Jiri  
Biochemistry/Nebraska Center for Redox Biology/Center for Plant Science Innovation  
Du, Liangcheng  
Chemistry/Nebraska Center for Redox Biology/Center for Plant Science Innovation  
Franco Cruz, Rodrigo  
Veterinary Medicine and Biomedical Sciences/Nebraska Center for Redox Biology/Center for Plant Science Innovation  
Khalimonchuk, Oleh  
Biochemistry/Nebraska Center for Redox Biology/Center for Plant Science Innovation  
Lee, Jaekwon  
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Ro, Seung-Hyun  
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Stone, Julie  
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Wilson, Mark  
Biochemistry/Nebraska Center for Redox Biology/Center for Plant Science Innovation  
Zhang, Limei  
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Belashchenko, Kirill  
Physics and Astronomy/Nebraska Center for Materials and Nanoscience  
First-Principles Studies of Spin-Orbit Torque and Magnetoresistance in Magnetic Nanostructures  
$363,787 ........................................ NSF
Benson, John  Natural Resources
  Elk Resource Selection, Movement, Survival, and Population Dynamics in Western Nebraska
$831,942  DOI-FWS through Nebraska Game and Parks Commission
  Reproductive Success, Survival, and Cause-specific Mortality of Bighorn Sheep in Nebraska
$280,740  Nebraska Game and Parks Commission

Bevins, Rick  Psychology
  Extracellular Vesicles, Meth Relapse and Sex Differences
$425,309  NIH-NIDA through University of Nebraska Medical Center

Bianchini Huebner, Andreia  Food Science and Technology
  Alliance for Food Security Through Reduction of Postharvest Loss and Food Waste
$935,827  USAID through Kansas State University

Bielenberg, Robert  Midwest Roadside Safety Facility
  Development of an Optimized MASH TL-4 Kansas Corral Rail (Kansas, Iowa, South Dakota and Virginia)
$401,400  DOT-KS DOT through Nebraska Department of Transportation

Binek, Christian  Physics and Astronomy/Nebraska Center for Materials and Nanoscience
  Magnetoelectrics and Spinorbitronics in Topological Heterostructures and Superlattices
$838,679  DoD-ONR through University of California, Los Angeles

Blanco, Humberto  Agronomy and Horticulture
  Managing Cover Crops to Enhance Soil Ecosystem Services in Soils Vulnerable to Environmental Pressures
$500,000  USDA-NIFA
  Assessing Innovative Strategies to Maximize Cover Crop Yields for Biofuel Across Precipitation Gradient
$252,471  Nebraska Environmental Trust

Blum, Paul  Biological Sciences
  Epigenetic Inheritance in the Crenarchaeota
$618,472  NSF

Bobaru, Florin  Mechanical & Materials Engineering
  Corrosion-Induced Fracture and Failure: Transforming Computations from Micrometers and Minutes to Meters and Years
$748,375  NSF

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
$591,349  ED-IES through Duquesne University

Brennan, Marc  Special Education and Communication Disorders  
Restoration of Spectral Resolution with Hearing-Aid Amplification  
$448,983 ..........................................................NIH-NIDCD

Brewer, Gary  Entomology  
A Multi-Tactic Push-Pull Strategy for Controlling Stable Flies on Pasture Cattle in Nebraska and Florida  
$325,000 .......................................................USDA-NIFA

Boxler, David  West Central Research and Extension Center  
Hanford, Kathryn  Statistics  
Stockton, Matt  West Central Research and Extension Center

Brown-Brandl, Tami  Biological Systems Engineering  
FACT-CIN: A Coordinated Innovation Network for Advancing Computer Vision in Precision Livestock Farming  
$286,058 ..........................................................USDA-NIFA through Michigan State University

   Assessing the Effects of Farrowing Crate Design and Mothering Phenotype on Pre-Weaning Piglet Survival  
$439,110 ..........................................................National Pork Board

Keshwani, Deepak  Biological Systems Engineering  
Shi, Yeyin  Biological Systems Engineering  
Stowell, Rick  Biological Systems Engineering

Buan, Nicole  Biochemistry  
Identifying Coupled Metabolic Processes in Methanogenic Archaea  
$598,983 ..........................................................NSF

Bulling, Denise  Public Policy Center  
*Prevention and Promotion Program  
$785,956 ..........................................................DHHS-SAMHSA through Nebraska Department of Health and Human Services

Walther, Janell  Public Policy Center  
An Evidence-Based Approach to Preventing Student Suicide at the University of Nebraska–Lincoln  
$305,409 ..........................................................DHHS-SAMHSA

Cahoon, Edgar  Center for Plant Science Innovation/Nebraska Food for Health Center  
*Expanding Opportunities in Agricultural Sciences: Crop-to-Food Innovation  
$742,668 ..........................................................USDA-NIFA

Auchtung, Jennifer  Food Science and Technology/Center for Plant Science Innovation/Nebraska Food for Health Center

Benson, Andrew  Center for Plant Science Innovation/Nebraska Food for Health Center

Ciftci, Ozan  Center for Plant Science Innovation/Nebraska Food for Health Center

Clemente, Thomas  Agronomy and Horticulture/Center for Plant Science Innovation/Nebraska Food for Health Center

Danao, Mary-Grace  Food Science and Technology/Center for Plant Science Innovation/Nebraska Food for Health Center

Frels, Katherine  Agronomy and Horticulture/Center for Plant Science Innovation/Nebraska Food for Health Center

Holding, David  Agronomy and Horticulture/Center for Plant Science Innovation/Nebraska Food for Health Center

Ramer-Tait, Amanda  Food Science and Technology/Center for Plant Science Innovation/Nebraska Food for Health Center

Rose, Devin  Agronomy and Horticulture/Food Science and Technology/Center for Plant Science Innovation/Nebraska Food for Health Center

Schnable, James  Agronomy and Horticulture/Center for Plant Science Innovation/Nebraska Food for Health Center

Velander, Paul  Biochemistry/Center for Plant Science Innovation/Nebraska Food for Health Center

Wilkins, Mark  Biological Systems Engineering/Industrial Agricultural Products Center/Center for Plant Science Innovation/Nebraska Food for Health Center

Xu, Changmou  Food Science and Technology/Center for Plant Science Innovation/Nebraska Food for Health Center
High-Value Oilseed Design and Optimization: Camelina- and Soybean-Based Astaxanthin Production
$450,000 ........................................ USDA-NIFA
Obata, Toshihiro Biochemistry/Center for Plant Science Innovation

High-throughput Mutagenesis in Arabidopsis
$300,000 ........................................ Google Inc.
Yu, Bin Biological Sciences/Center for Plant Science Innovation

Dissecting the Sphingolipid Metabolic and Regulatory Network
$750,000 ........................................ NSF
Markham, Jonathan Biochemistry/ Center for Plant Science Innovation
Saha, Rajib Chemical and Biomolecular Engineering/ Center for Plant Science Innovation

Centurion, Martin Physics and Astronomy
Capturing Ultrafast Electron-Driven Chemical Reactions in Molecules
$700,847 ........................................ DOE

Cerutti, Heriberto Biological Sciences/ Center for Plant Science Innovation
*Mechanisms of Small RNA-Mediated Silencing in Chlamydomonas
$794,803 ........................................ NSF
Developing Genetic and Genomics Tools for Tetraselmis sp.
$689,033 Gordon and Betty Moore Foundation
Clemente, Thomas Agronomy and Horticulture/ Center for Plant Science Innovation

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

Chaves Elizondo, Byron Food Science and Technology
Improving the Development of Food Safety Plans Through the Advanced Preventive Controls School Initiative
$299,559 ........................................ USDA-NIFA
Baumert, Joseph Food Science and Technology
Downs, Melanie Food Science and Technology
Martinez, Bismarck Food Science and Technology
Wang, Bing Food Science and Technology

Checco, James Chemistry
*Chemical Approaches to Interrogate Neuropeptide and Peptide Hormone Signaling in Disease
$702,573 ........................................ NIH-NIGMS

Chizinski, Christopher Natural Resources
Motivations, Preferences, Attitudes, and Expenditures of Kansas Anglers
$375,504 Kansas Department of Wildlife and Parks
Exploring Links Between Hunting and Conservation Organization Participation to Increase Effectiveness of R3 Programs
$315,809 Nebraska Game and Parks Commission

Human Dimensions of Wildlife Survey Analysis
$281,510 DOI-FWS through Nebraska Game and Parks Commission

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

Christensen, Alan Biological Sciences
Double-Strand Break Repair in Plant Mitochondria: Products and Proteins
$820,000 NSF

Ciftci, Ozan Food Science and Technology
An Innovative Green Platform Technology to Manufacture Novel Multifunctional Hollow Solid Lipid Micro- and Nanoparticles
$481,960 USDA-NIFA
Ciftci, Deniz Food Science and Technology
Hutkins, Robert Food Science and Technology

Development of an Integrated Green Process to Obtain a High-value, Stable and Bioavailable Lycopene Product from Tomato Processing Industry Waste
$489,781 USDA-NIFA
Demirel, Yasar Chemical and Biomolecular Engineering
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Habitat and Coinfection as Drivers of Heterogeneity in Cross-Scale Wildlife Infectious Disease Processes  
$348,171  ........................................ NSF through University of Arkansas

Cui, Bai  Mechanical & Materials Engineering  
*Additively Manufactured Graded Composite Transition Joints for Dissimilar Metal Weldments in Advanced Ultra-Supercritical Power Plant  
$300,000  ..................................... DOE through West Virginia University

*High-throughput Computational Guided Development of Refractory Complex Concentrated Alloys-based Composite  
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Understanding the Mechanisms of the Pulsed Electric Current Process for Joining Oxide-Dispersion-Strengthened Alloys  
$307,825  ..................................... NSF

Zhou, Qin  Mechanical & Materials Engineering  
Mechanisms of Toughening Structural Ceramics by Thermal Engineered Laser Shock Peening  
$348,336  ..................................... NSF

Lu, Yongfeng  Electrical and Computer Engineering

Cupp, Andrea  Animal Science  
Metabolic Regulators of Corpus Luteum Function  
$388,210  ..................................... NIH-NICHD through University of Nebraska Medical Center

Wood, Jennifer  Animal Science

Dauer, Jenny  Natural Resources  
*Supporting Students’ Critical Evaluation of Evidence in Socioscientific Issues Contexts  
$299,983  ..................................... NSF

Moon, Alena  Chemistry  
Bridging Science Education and Psychology Perspectives to Support Science Literacy Theory and Instruction  
$349,836  ..................................... NSF

Making Decisions about Socioscientific Issues in Multidisciplinary Postsecondary Learning Environments  
$303,419  ..................................... NSF

Dauer, Joseph  Natural Resources  
Quantitative Modeling in Undergraduate Biology Courses: Teaching Approaches and Student Outcomes  
$402,926  ..................................... NSF

Couch, Brian  Biological Sciences

ECR DBER DCL: Describing the Neurobehavioral Effects of Modeling-Based Instruction in Undergraduate Life Sciences Education  
$313,898  ..................................... NSF

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De Guzman, Maria  Child, Youth and Family Studies/Nebroaska Center for Research on Children, Youth, Families and Schools  
Youth Civic Engagement: Using Simulations and Design Thinking  
$648,242  ..................................... USDA-NIFA

Do, Kieu-Anh  Child, Youth and Family Studies

Kim, Surin  Textiles, Merchandising and Fashion Design/Nebraska Center for Research on Children, Youth, Families and Schools

Larson, Andy  4-H State Office/Nebraska Center for Research on Children, Youth, Families and Schools

Parra, Gilbert  Child, Youth and Family Studies/Nebraska Center for Research on Children, Youth, Families and Schools

Rice, Nathan  Extension

Thorson, Stephanie  Extension

DeLong, John  Biological Sciences  
Understanding the Consequences of Body Size Evolution in Ecological Communities  
$450,000  ..................................... James S. McDonnell Foundation

Detweiler, Carrick  Computing  
Real-time Weather Awareness for Enhanced Safety Assurance in UTM  
$805,406  ..................................... NASA through Oklahoma State University

Houston, Adam  Earth and Atmospheric Sciences

NRI: INT: Raining Drones: Mid-Air Release and Recovery of Atmospheric Sensing Systems  
$643,600  ..................................... NSF

Houston, Adam  Earth and Atmospheric Sciences
Fixed Wing VTOL Sensor Emplacement
$750,141               DoD-Offutt Air Force Base-STRATCOM through National Strategic Research Institute
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Duncan, Brittany               Computing

Diefes-Dux, Heidi
*Research: Evidencing Epidemic Change in Engineering Education: Shenning Light on Instructor Adaptability and Course Complexity for Sustained Change
$419,039                          NSF
Panther, Grace                  Civil and Environmental Engineering

Dilillo, David
Promoting Prosocial Bystander Behavior in Intoxicated Men: Evaluation of RealConsent2.0
$871,088                NIH-NIAAA through Georgia State University
Gervais, Sarah           Psychology

Doht, Mitchell
Nebraska Local Technical Assistance Program
Nebraska Local Technical Assistance Program
$818,039                DOT-FHWA through Nebraska Department of Transportation

Douglass, Matthew
Long-Term Perspectives on Water Security, Food Security, and Land Management Among Daasanach Pastoralists of East Turkana, Northern Kenya
$748,870                         NSF
Powell, Larkin                  Natural Resources
Qi, Yi                           Natural Resources

Dowben, Peter
Nebraska Center for Materials and Nanoscience
Heteromolecular Interface Design for Better Multiferroic Molecular Spintronics
$486,234                          NSF

Duncan, Brittany
NRI: INT: Leveraging Environmental Monitoring UAS in Rainforests
$722,804                          NSF
Detweiler, Carrick         Computing

Duppong Hurley, Kristin
Special Education and Communication Disorders/Academy for Child and Family Wellbeing
Parental Involvement in Education: Comparing Academic Outcomes for High School Students in the General Population and those at Risk of Emotional and Behavioral Issues
$599,680                          ED-IES
Huscroft-D’Angelo, Jacqueline   Special Education and Communication Disorders/Academy for Child and Family Wellbeing
Lambert, Matthew              Special Education and Communication Disorders/Academy for Child and Family Wellbeing
Torkelson-Trout, Alexandra    Special Education and Communication Disorders/Academy for Child and Family Wellbeing

Dzenis, Yuris
Mechanical & Materials Engineering
STTR: Corrosion Resistant Missile Cell Hatch Cover
$500,047               DoD-NAVSEA through Pacific Engineering Inc.
Ultratough Lightweight High-Temperature Nanofibers for Aerospace Composites
$599,374                    DoD-AFOSR
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*Indigenous Roots School Leaders
Crash Testing of a Precast Concrete Barrier

Fernandez-Ballester, Lucia  Mechanical & Materials Engineering
Nucleation Control of Conjugated Polymers Through Melt-crystallization and Self-seeding

Fernando, Samodha  Animal Science
Investigating the Emergence and Ecology of Antimicrobial Resistance in High-Risk Beef Cattle

Fuchs, Matthias  Physics and Astronomy
High-Efficiency, High-Current Laser-driven Electron Injector

Frels, Katherine  Agronomy and Horticulture
Breeding Scab-Resistant and Low DON Winter Barley Varieties for the Great Plains

Franz, Trenton  Natural Resources

Gay, Timothy  Physics and Astronomy
Accurate Electron Spin Optical Polarimetry (AESOP)

Ge, Yufeng  Biological Systems Engineering
A Rapid In-Field System to Measure Deep Soil C Stock and Flux

Gardner, Scott  University of Nebraska State Museum/Biological Sciences
Digitization TCN: Digitizing Collections to Trace Parasite-Host Associations and Predict the Spread of Vector-Borne Disease

Geysen, Robert  Engineering
CPS: Dynamic 3D Soil Information System Enabled by UAV and Proximal Depth Sensing

Graf, Christian  Mechanical Engineering
VisNIR-Based Multi-sensing Penetrometer for in situ High-resolution Depth Sensing of Soils
Gilmore, Troy  Natural Resources
Evaluation of Watershed-scale Groundwater Transit Time Distributions from Field Sampling and Numerical Modeling
$387,030 ........................................ NSF

Golf, Frank  Physics and Astronomy
*Pursuing a Non-standard Higgs Boson Off the Beaten Path
$525,000 ........................................ NSF

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  Entomology
Peterson, Julie  West Central Research and Extension Center
Smart, Autumn  Entomology
Velez Arango, Ana Maria  Entomology
Weissling, Tom  Entomology
Wu-Smart, Judy  Entomology

Graef, George  Agronomy and Horticulture
Winter Nursery Support for Soybean Breeding and Genetics Studies
$257,069 ........................................ Nebraska Soybean Board
Increasing Soybean Genetic Gain for Yield by Developing Tools, Know-How and Community Among Public Breeders in the North Central U.S.
$253,260 ..................... North Central Soybean Research Program through Ohio State University
Hyten, David Jr.  Agronomy and Horticulture

Grassini, Patricio  Agronomy and Horticulture
*S niche
$685,000 .................. Bill and Melinda Gates Foundation through Regrow Agriculture Inc.

*Extrapolation Domains for Aggregating Environmental Outcomes from Local to Regional Levels
$375,000 ........................................ DOE-ARPA-E

Developing a Platform to Monitor N Footprint in Agro-Ecosystems
$431,000 ........................................ USDA-NIFA
Brozovic, Nicholas  Agricultural Economics/ Daugherty Water for Food Global Institute
Gibson, Kate  Daugherty Water for Food Global Institute
Rattalino Edreira, Juan Ignacio  Agronomy and Horticulture

Griep, Mark  Chemistry
REU Site: Research Experiences for Undergraduates in Chemical Assembly at the University of Nebraska
$387,249 ........................................ NSF

Groskopf, Jessica  Panhandle Research and Extension Center
North Central Farm and Ranch Stress Assistance Center: Engaging Programs to Support Well-being
$437,193 ........................................ USDA-NIFA through University of Illinois

Grosskopf, Kevin  Durham School of Architectural Engineering and Construction
Modular Construction: A Field Study of Energy Efficiency and Code Compliance Through Offsite Prefabrication
$400,000 ........................................ DOE

Grover, Piyush  Mechanical & Materials Engineering
*Inducing and Exploiting Criticality in Collective Behavior by Phase Space Analysis of Mean Field Type Control Problems
$311,533 ........................................ NSF

*Dynamics and Control of Active Nematics Using Nonlinear Reduced-order Models
$450,000 ........................................ DOE
Park, Jae Sung  Mechanical & Materials Engineering

Gruverman, Alexei  Physics and Astronomy/ Nebraska Center for Materials and Nanoscience
Domain Wall Engineering for Novel Nanoelectronics
$338,422 ........................................ NSF

Guo, Jiantao  Chemistry
Development of Proximity-Induced Fluorogenic Reactions for Imaging Biomolecular Interaction
$613,476 ........................................ NIH-NIGMS
Niu, Wei  Chemical and Biomolecular Engineering
Guretzky, John  Agronomy and Horticulture  
*Fostering Resilience and Ecosystem Services in Landscapes by Integrating Diverse Perennial Circular Systems  
$371,410 ........................................ USDA-NIFA through University of Wisconsin-Madison

Habecker, Patrick  Sociology  
Promoting Community Conversations About Research to End Native Youth Suicide in Rural Alaska  
$333,006 ..................................... NIH-NIMH through University of Michigan

Hage, David  Chemistry  
Ultrafast Affinity Extraction Fundamental Studies and Use in Environmental Applications  
$400,000 ........................................ NSF  
Snow, Daniel ..................................... Nebraska Water Center  
New Approaches to Catalyst Screening and Development  
$575,000 ........................................ NSF  
Berkowitz, David ................................ Chemistry

Haghshenas Fatmehsari, Hamzeh  Civil and Environmental Engineering  
Effect of Antioxidant Additives and Recycling Agents on Performance of Asphalt Binders and Mixtures Phase I  
$397,788 ........................................ DOT-FHWA through Nebraska Department of Transportation

Haigh, Tonya  Natural Resources  
*Climate-smart Indigenous Agriculture: Drought Planning and Adaptation with New Mexico Pueblos  
$297,800 ........................................ USDA-NRCS  
Bathke, Deborah ................................ Natural Resources  
Knutson, Cody ................................ Natural Resources

Harwood, David  Earth and Atmospheric Sciences/Antarctic Drilling Program  
*Sensitivity of the West Antarctic Ice Sheet to 2o Celsius (SWAIS 2C)  
$757,689 ........................................ NSF  
Subglacial Antarctic Lakes Scientific Access (SALSA): Integrated Study of Carbon Cycling in Hydrologically Active Subglacial Environments  
$349,956 ........................................ NSF through Montana State University

Hasan, Mohammad Rashedul  Computing  
*Towards an AI to Deliver Individualized Just-in-Time Interventions that Enhance Student Performance in STEM Disciplines  
$599,891 ........................................ NSF  
Kantamneni, Neeta  Educational Psychology  
McQuillan, Julia ................................ Sociology  
Soh, Leen-Kiat ................................ Computing  
Wheeler, Lorey ................................ Nebraska Center for Research on Children, Youth, Families and Schools

Hatton-Bowers, Holly  Child, Youth and Family Studies/Nebraska Center for Research on Children, Youth, Families and Schools  
*Cultivating Healthy Intentional Mindful Educators (CHIME): Evaluating the Use of Mindfulness and Compassion to Promote Early Head Start/Head Start Education Staff’s Well-Being  
$499,704 ........................................ DHHS-ACF  
Clark, Carrie  Educational Psychology/Nebraska Center for Research on Children, Youth, Families and Schools  
Foged, Jaci ................................ Extension/Nebraska Center for Research on Children, Youth, Families and Schools  
Knoche, Lisa ................................ Nebraska Center for Research on Children, Youth, Families and Schools  
Sheridan, Susan ................................ Nebraska Center for Research on Children, Youth, Families and Schools  
Wheeler, Lorey ................................ Nebraska Center for Research on Children, Youth, Families and Schools

Hebets, Eileen  Biological Sciences  
A Comparative Systems Approach to Complex Animal Signaling  
$800,486 ........................................ NSF  
Navigation and the Neural Integration of Multimodal Sensory Information in the Brain of an Arthropod  
$331,353 ........................................ NSF

Heitman, Carrie  Global Integrative Studies  
*(Re)Connections Through Time: Developing a Model for Multi-Modal Storytelling About Indigenous Communities and Their Collections  
$310,000 ........................................ Andrew W. Mellon Foundation

Hibbeler, Theodore  Extension  
Umonhon Nation Agricultural Economic Development Program  
$400,000 ........................................ USDA  
Grummert, Jordan ................................ Extension
Holding, David  Agronomy and Horticulture/ Center for Plant Science Innovation
Advancing CRISPR Generated High-Digestibility High-Lysine Sorghum from Proof of Concept to Large-Scale Production
$500,000 ........................................ USDA-NIFA
Rose, Devin ............................... Food Science and Technology/ Center for Plant Science Innovation

Hong, Xia  Physics and Astronomy/ Nebraska Center for Materials and Nanoscience
*DMREF: Accelerated Discovery of Artificial Multiferroics with Enhanced Magnetoelectric Coupling
$450,000 ........................................ NSF
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

Houston, Adam  Earth and Atmospheric Sciences
*NRI: Dispersed Autonomy for Marsupial Aerial Robot Teams
$454,570 ........................................ NSF
Targeted Observation by Radars and UAS of Supercells (TORUS)
$866,107 ........................................ 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

Hunt, Thomas  Entomology
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
$315,749 ........................................ Mead Johnson Nutrition
Izard, Jacques ............................. Food Science and Technology

Iqbal, Javed  Agronomy and Horticulture
*Demonstrating an Integrated Nutrient Management Approach for Improving Drinking Groundwater Quality in Nebraska
$298,631 ....................................... USDA-NIFA
Johnson, Leslie ............................. Extension
Malakar, Arindam ........................... Nebraska Water Center
Milander, Jeremy ........................... Extension
Proctor, Christopher ...................... Agronomy and Horticulture
Schmidt, Amy ............................... Animal Science/Biological Systems Engineering
Snow, Daniel ............................... Nebraska Water Center

Jaffe, Anna  Psychology/Rural Drug Addiction Research Center
Leveraging Social Networks to Promote Sexual Assault Recovery and Reduce Drinking to Cope through Web-Based Intervention
$897,913 ....................................... NIH-NIAAA

Jagodinsky, Katrina  History/Center for Digital Research in the Humanities
*REU Site: Freedom Stories Digital Legal Research Lab
$331,568 ....................................... NSF
Thomas, William ........................... History/Center for Digital Research in the Humanities

Jin, Congrui  Civil and Environmental Engineering
*From Agricultural Waste to Lithium-Ion Battery Anodes: Deciphering the Feedstock Processing-Property-Performance Relationship
$320,000 ....................................... USDA-NIFA
Clarke, Bertrand ............................ Biological Systems Engineering/ Statistics
Wilkins, Mark ............................... Biological Systems Engineering/ Food Science and Technology/ Industrial Agricultural Products Center

Johnson, Phillip  Food Science and Technology
Robust Methods for Food Allergen Detection and Quantitative Risk Assessment
$424,742 ....................................... USDA-NIFA
Baumert, Joseph ............................ Food Science and Technology
Downs, Melanie ............................ Food Science and Technology
Marsh, Justin ............................... Food Science and Technology
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<td>Chemical and Biomolecular Engineering</td>
<td>Extracellular Vesicles as the Vehicles for Promoting Liver Injury Induced by HIV and Alcohol</td>
<td>$344,448</td>
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<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>Religious Exemption Laws and the Rights of Sexual and Gender Minorities</td>
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Lawrence, Nevin  
BARRAL - Bioenergy, Advanced Biofuel 
and Rubber Research Agricultural Linkages  
$500,001  
USDA-NIFA through Ohio State University  
Maharjan, Bijesh  
Panhandle Research and Extension Center  
Qiao, Xin  
Panhandle Research and Extension Center  
BARRAL - Bioenergy, Advanced Biofuel 
and Rubber Research Agricultural Linkages  
$250,000 – $999,999  
USDA-NIFA through Ohio State University  

Lee, Kevin  
Center for Science, Mathematics and 
Computer Education/Physics and Astronomy  
*Development and Research on Smartphone Simulations in 
Introductory College Astronomy  
$299,344  
NSF  
Menon, Deepika  
Center for Science, Mathematics 
and Computer Education/ 
Teaching, Learning and Teacher Education  

Lewis, Ronald  
Animal Science  
*Improving Robustness and Climatic Resilience in 
U.S. Sheep Populations Through Genomics  
$650,000  
USDA-NIFA  

Li, Haorong  
Durham School of Architectural 
Engineering and Construction  
*Smart Operations of Common HVAC Systems  
$591,055  
Turntide Technologies  

Li, Qingsheng  
Biological Sciences/ 
Nebraska Center for Virology  
*Effects of CSF1R Blockade on Repopulation of SIV Reservoirs from 
the CNS to the Periphery After Antiretroviral Therapy Interruption  
$356,068  
NIH-NINDS through Boston College  
Targeted In Vivo Delivery of Gene Therapeutics for HIV Cure  
$460,106  
NIH-NIAID through Temple University  
Impact of the Gut Microbiome on HIV-1 Rectal Transmission 
and Immunopathogenesis During ART  
$416,659  
NIH-NIAID  
Impact of Fc N-glycan Structure on HIV-specific Antibody Functions  
$586,217  
NIH-NIAID through University of Wyoming  

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

Libault, Marc  
Agronomy and Horticulture/ 
Center for Plant Science Innovation  
*Single Cell Characterization of the Transcriptional 
Programs Controlling Plant Root Organ Initiation  
$626,827  
USDA-NIFA  

Limpert, George  
Natural Resources  
Ensemble Sensitivity Analysis to Investigate Mesoscale Heterogeneity 
in Southeast U.S. Tornado Events  
$260,822  
DOC-NOAA  
Houston, Adam  
Earth and Atmospheric Sciences  

Lindquist, John  
Agronomy and Horticulture  
A Risk-assessment Model and Population Genomics Tools for 
Monitoring Herbicide-resistance Evolution in Weedy Sorghum  
$499,998  
USDA-NIFA  
Jhala, Amit  
Agronomy and Horticulture  
Sigmon, Brandi  
Agronomy and Horticulture  
Tenhumberg, Brigitte  
Mathematics/Biological Sciences  

Little, Andrew  
Natural Resources  
Identifying and Prioritizing Habitat for Pheasant Conservation and 
Management in Agriculturally Dominated Landscapes  
$699,940  
Nebraska Game and Parks Commission  
Carroll, John  
Natural Resources  
Powell, Larkin  
Natural Resources  
Qi, Yi  
Natural Resources  
Twidwell, Dirac Jr.  
Agronomy and Horticulture  
Tyre, Drew  
Natural Resources  
Uden, Daniel  
Natural Resources  

Louis, Joe  
Entomology/Biochemistry  
Characterizing the Interplay Between Sorghum and Fall Armyworm  
$429,248  
USDA-NIFA
Loveall-Hague, Susan  
Special Education and Communication Disorders
Designing and Providing Academic Interventions
$955,034 ........................................ ED

Lambert, Matthew ................................ Special Education and Communication Disorders
Savaiano, Mackenzie .......................... Special Education and Communication Disorders

Lu, Yongfeng  
Electrical and Computer Engineering
Multifunctional Laser Processing for Repair and Mitigation of Pitting and Cracks in Welded Stainless Steel Dry Storage Canisters
$800,000 ........................................ DOE

Cui, Bai ........................................ Mechanical & Materials Engineering

Luck, Joe  
Biological Systems Engineering
*Nitrogen Research for Agriculture Transformation and Enhancement
$442,800 ........................................ USDA-ARS
Awada, Tala ................................ Natural Resources
Basche, Andrea ............................... Agronomy and Horticulture
Blanco, Humberto ............................ Agronomy and Horticulture
Drijber, Rhae ................................ Agronomy and Horticulture
Ge, Yufeng .................................... Biological Systems Engineering
Iqbal, Javed .................................... Agronomy and Horticulture
Kaiser, Michael ............................... Agronomy and Horticulture
Little, Andrew ................................ Natural Resources
Mahmood, Rezaul ............................ Natural Resources
Mieno, Taro ................................. Agricultural Economics
Neale, Christopher ........................ Daugherty Water for Food Global Institute
Pitla, Santosh ................................. Biological Systems Engineering
Puntel, Laila .................................. Agronomy and Horticulture
Shi, Yeyin ..................................... Biological Systems Engineering
Snow, Daniel .................................. Nebraska Water Center
Suyker, Andy ................................. Natural Resources
Thompson, Laura ........................... Eastern Nebraska Research and Extension Center
Weber, Karrie ................................ Biological Sciences

Initiation of Nitrogen and Cover Crop Application Technology Demonstration
$452,540 .................................. EPA through Nebraska Department of Environment and Energy
Koehler-Cole, Katja .......................... Agronomy and Horticulture
Pekarek, Katie ................................ Natural Resources
Proctor, Christopher ........................ Agronomy and Horticulture
Puntel, Laila .................................. Agronomy and Horticulture
Thompson, Laura .......................... Eastern Nebraska Research and Extension Center

Reducing Field Worker Exposure to Pesticides Via Agricultural Data Connectivity and Mobile Apps
$299,529 ........................................ USDA-NIFA
Thompson, Laura .......................... Eastern Nebraska Research and Extension Center
Thorson, Nathan ........................... Eastern Nebraska Research and Extension Center

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

Lyons, Kate  
Biological Sciences
RCN: Ecological and Evolutionary Effects of Extinction and Ecosystem Engineers (E6)
$500,131 ........................................ NSF
Wagner, Peter ............................... Earth and Atmospheric Sciences/Biological Sciences

MacDonald, James  
Animal Science
Characterizing Digestion Aspects of Bran
$365,864 ........................................ Cargill
Erickson, Galen ............................. Animal Science

Mahmood, Rezaul  
Natural Resources
The Great Plains Irrigation Experiment (GRAINEX) for Understanding the Influence of Irrigation on the Planetary Boundary Layer and Weather Events
$287,636 ........................................ NSF

Malakar, Arindam  
Nebraska Water Center
*Identifying Reactive Nitrogen Dynamics in the Deep Vadose Zone to Protect Groundwater Quality
$749,861 ........................................ USDA-NIFA
Haacker, Erin ............................. Earth and Atmospheric Sciences
Ray, Chittaranjan .......................... Nebraska Water Center
Snow, Daniel ............................... Nebraska Water Center

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
Markvicka, Eric  Mechanical & Materials Engineering
*Additive Manufacturing of Functional Emulsions: Materials and Printing for Designer Microstructures
$354,293..................................................NSF

McChargue, Dennis  Psychology/Rural Drug Addiction Research Center
*Mapping the Co-evolution of Craving, Affect, Stressors, and Access to Alcohol (CASA) Using Responsive EMA
$408,187..................................................NIH-NIAAA
Andrews, Trey ..................................Psychology/Rural Drug Addiction Research Center
Tyler, Kimberly ..................................Sociology/Rural Drug Addiction Research Center

McMechan, Justin  Entomology
Soybean Gall Midge: Surveying the North Central Region, Adult Monitoring and Host Plant Resistance
$507,953..............................................North Central Soybean Research Program
Graef, George ..................................Agronomy and Horticulture
Hunt, Thomas ..................................Entomology
Wright, Robert ..................................Entomology

Menon, Deepika  Center for Science, Mathematics and Computer Education/Teaching, Learning and Teacher Education
*Research on Integrated STEM Efficacy (RISE): A Study of Elementary Preservice Teachers and Noyce Scholars
$481,065..................................................NSF

Montooth, Kristi  Biological Sciences
RoL: FELS: EAGER: A Predictive Framework of Metabolism as an Engine of Functional Environmental Responses across Levels of Biological Organization
$354,998..................................................NSF
DeLong, John ..............................Biological Sciences

Moon, Alena  Chemistry
Developing Educational Measurement Competency to Support Investigations of Students’ Conceptions of Light
$300,112..................................................NSF

Mulliniks, Travis  West Central Research and Extension Center
Improving Livestock Production through the Development of Precision Rangeland Management Technologies
$450,000..............................................USDA-ARS
Shi, Yeyin ..................................Biological Systems Engineering
Stephenson, Mitchell ..................Panhandle Research and Extension Center
Xiong, Yijie..............................Animal Science

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

Neale, Christopher  Biological Systems Engineering/Daugherty Water for Food Global Institute
Improving Agricultural Water Use and Nutrient Management to Sustain Food and Energy Crops Production in the Corn Belt
$847,117..............................................USDA-NIFA through University of Maryland
Luck, Joe ..................................Biological Systems Engineering
Masih, Ashish ..........................Daugherty Water for Food Global Institute
Puntel, Laila.................................Agronomy and Horticulture
Thompson, Laura .............Eastern Nebraska Research and Extension Center

Irrigation Innovation Consortium-Base Funding
$343,000..................Foundation for Food and Agriculture Research through Colorado State University
Garcia Nascimento, Jessica ..........Daugherty Water for Food Global Institute
Masih, Ashish ..................Daugherty Water for Food Global Institute
Rudnick, Daran ..................Daugherty Water for Food Global Institute
Improving Variable Rate Irrigation Efficiency Using a Real-time Soil Water Adaptive Control Model Informed by Sensors Deployed on Unmanned Aircraft Systems

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

Heeren, Derek .................................. Biological Systems Engineering

Luck, Joe ........................................ 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

Olson, Kristen .................................. Sociology

Nelson, Carl .................................... Mechanical & Materials Engineering

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

Ngoko Djiokap, Jean Marcel .................. Physics and Astronomy

Nguyen, Lim ..................................... Electrical and Computer Engineering

Niu, Wei ......................................... Chemical and Biomolecular Engineering/Nebraska Center for Energy Sciences Research

Obata, Toshihiro ................................ Biochemistry/Center for Plant Science Innovation

Pajouh, Mojdeh A. ............................. Midwest Roadside Safety Facility

Pannier, Angela ................................ Biological Systems Engineering

Park, Jae Sung .................................. Mechanical & Materials Engineering

Pedrigi, Ryan ................................... Mechanical & Materials Engineering

Potential Health Remedies for Kernels of Maize Relatives Digested in the Human Gastrointestinal Tract

Majumder, Kaustav ............................. Food Science and Technology/Center for Plant Science Innovation

Yang, Jinliang .................................. Agronomy and Horticulture/Center for Plant Science Innovation

AASHTO Guidelines for Implementation of MASH Sign Supports, Breakaway Poles, and Work Zone Traffic Control Devices

Faller, Ronald ................................. Midwest Roadside Safety Facility

Reid, John ....................................... Mechanical & Materials Safety Facility

Influence of Maternal and Embryonic-Derived Extracellular Vesicles on the Initiation of Porcine Conceptus Elongation

Understanding Molecular Factors that Regulate Initiation of Porcine Embryo Elongation

*Exploring Flow Enhancements of Hydrophobic Particles in Confined Fluid Flow

Nonlinear Electrokinetics at Polarizable Soft Interfaces: Implications for Cell Membrane Characterization and Nanopore Transport

Ultrasound as a Mechanotherapy for Endothelial Cell Dysfunction

Understanding Molecular Factors that Regulate Initiation of Porcine Embryo Elongation

Exploring Flow Enhancements of Hydrophobic Particles in Confined Fluid Flow

Nonlinear Electrokinetics at Polarizable Soft Interfaces: Implications for Cell Membrane Characterization and Nanopore Transport

Ultrasound as a Mechanotherapy for Endothelial Cell Dysfunction

Understanding Molecular Factors that Regulate Initiation of Porcine Embryo Elongation
Pegg, Mark  
Natural Resources  
Spatial Distribution and Population Demographics of Asian Carp in the Missouri River Basin, Nebraska  
$333,994  
DOI-FWS through Nebraska Game and Parks Commission

Pérez, Lance  
Electrical and Computer Engineering  
Spatial Visualization Skills and Engineering Problem Solving  
$645,943  
NSF

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

Peterson, Julie  
West Central Research and Extension Center  
*Insect Resistance Management: Evaluating the Impact of Blended Refuges and the VIP3A Bacillus thuringiensis Toxin on Western Bean Cutworm  
$500,000  
USDA-NIFA

Pierobon, Massimiliano  
Computing  
CIF: Small: WetComm: Foundations of Wet Communication Theory  
$515,528  
NSF

Pitla, Santosh  
Biological Systems Engineering  
UGV and UAV Collaboration for Automated Seed Refilling in Row Crops (U2AGV Refill)  
$452,783  
USDA-NIFA

Pope, Kevin  
Natural Resources  
Monitoring, Mapping, Risk Assessment and Management of Invasive Species in Nebraska  
$453,662  
Nebraska Game and Parks Commission

Powers, Robert  
Chemistry  
The Molecular Mechanism Linking Respiratory NADH Oxidation and Virulence in Staphylococcus aureus  
$837,706  
NIH-NIAID through University of Illinois-Urbana/Champaign

Proctor, Christopher  
Agronomy and Horticulture  
Development of Research and Demonstration Sites in the BGMA for Nitrate Reduction  
$272,574  
Nebraska Environmental Trust through Lower Elkhorn NRD

Qu, Liyan  
Electrical and Computer Engineering  
*Learning to Adapt and Control for Complex Power Systems  
$300,000  
DOE through Battelle-Pacific NW National Laboratory

Ray, Chittaranjan  
Civil and Environmental Engineering/Nebraska Water Center
Qiao, Xin  Panhandle Research and Extension Center
Beneficial Impact of Injected Air Into a Subsurface Drip Irrigation System on Plant Growth and Uptake of Emerging Antibiotics Using Runoff From a Feedlot
$287,605 ............................................. Nebraska Environmental Trust

Biswas, Saptashati .................................. Nebraska Water Center
D’Alessio, Matteo ..................................... Nebraska Water Center
Ray, Chittaranjan .......................... Civil and Environmental Engineering/Nebraska Water 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

Qu, Liyan  Electrical and Computer Engineering
*A Hot-Swappable, Fault-Tolerant, Modular Power Converter System for Solar Photovoltaic Plants
$300,000 ........................................ DOE
Qiao, Wei ............................ Electrical and Computer Engineering

Radu, Petronela  Mathematics
*Nonlocality in Continuum Mechanics, Population Dynamics, and Neural Networks
$343,085 ........................................ NSF
Foss, Mikil ..................................... Mathematics
Higher Order Nonlocal Models in Continuum Mechanics
$418,805 ........................................ NSF
Foss, Mikil ..................................... Mathematics

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
Nitrogen-Centered Radicals
$510,000 ........................................ NSF

Ramamurthy, Byravamurthy  Computing
NeTS: Small: Intelligent Optical Networks Using Virtualization and Software-Defined Control
$515,999 ........................................ NSF

Rasby, Rick  Nebraska Extension Implementation Program
$836,596 .............................................. USDA-NIFA
Bradshaw, Jeffrey .......................... Panhandle Research and Extension Center
Green, Jody .......................... Southeast Research and Extension Center
Jackson-Ziems, Tamra .......................... Plant Pathology
Jhala, Amitkumar .......................... Agronomy and Horticulture
McMechan, Justin .......................... Entomology
Nygren, Aaron .......................... Extension
Proctor, Christopher .......................... Agronomy and Horticulture
Stine, Emily .......................... Panhandle Research and Extension Center
Weisbrod, Jennifer .......................... Agronomy and Horticulture
Wright, Robert .......................... Entomology
Wu-Smart, Judy .......................... Entomology

Ray, Chittaranjan  Nebraska Water Center/Civil and Environmental Engineering/Daugherty Water for Food Global Institute
Development of Data Bases for Model Development and Field Testing of Crop Models in Midwest Farms
$750,000 ........................................ USDA-ARS

Reddy, N.R. Jayagopala  Veterinary Medicine and Biomedical Sciences
*Trained Immunity in the Prevention of Viral Myocarditis and Pancreatitis
$398,306 ........................................ NIH-NIAID
Barletta, Raul .......................... Veterinary Medicine and Biomedical Sciences
Seravalli, Javier .......................... Biochemistry
Steffen, David .......................... Veterinary Medicine and Biomedical Sciences

TCR Transgenic Models for Dilated Cardiomyopathy
$402,906 ........................................ NIH-NIAID
Kidambi, Srivatsan .......................... Chemical and Biomolecular Engineering
Kievit, Forrest .......................... Biological Systems Engineering
Steffen, David .......................... Veterinary Medicine and Biomedical Sciences

Redfearn, Daren  Agronomy and Horticulture
Developing Adaptive Grazing Management Strategies for Optimizing Corn Residue Use
$300,000 ........................................ USDA-NIFA
Drewnoski, Mary .......................... Animal Science
Parsons, Jay .......................... Agricultural Economics
VanderPlas, Susan .......................... Statistics
Reiling, Bryan  Animal Science  
Enhancement of Agricultural Literacy Through Inquiry-Based Professional Development  
$291,000 ....................................... USDA-NIFA

Ciobanu, Daniel  Animal Science  
Conner, Nathan  Agricultural Leadership, Education and Communication  
Cupp, Andrea  Animal Science  
Ruth, Taylor  Agricultural Leadership, Education and Communication  
Stowell, Rick  Biological Systems Engineering  
Sullivan, Gary  Animal Science

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 and Environmental Engineering/Nebraska Transportation Center  
Rural Rail Safety Center  
$535,500 .................................. DOT-FRA through Kansas State University

Sharif-Kashani, Hamid  Electrical and Computer Engineering/Nebraska Transportation Center

Turner, Joseph  Mechanical & Materials Engineering/Nebraska Transportation Center

Rosenbaugh, Scott  Midwest Roadside Safety Facility  
31-in. Midwest Guardrail System (MGS) and Curb Combination Guidelines for MASH TL-3  
$600,000 ........................................... DOT-FHWA through National Academy of Sciences-NCHRP-TRB

Bielenberg, Robert  Midwest Roadside Safety Facility  
Faller, Ronald  Midwest Roadside Safety Facility  
Lechtenberg, Karla  Midwest Roadside Safety Facility  
Linzell, Daniel  Civil and Environmental Engineering  
Song, Chung  Civil and Environmental Engineering  
Steelman, Joshua  Civil and Environmental Engineering  
Stolle, Cody  Midwest Roadside Safety Facility

Roston, Rebecca  Biochemistry/Center for Plant Science Innovation  
Membrane Contact Site Components Enabling Biogenesis of the Photosynthetic Membrane  
$400,000 ..................................... DOE

Rudnick, Daran  West Central Research and Extension Center  
Accelerating Adoption of Water Conservation Technologies and Management Practices Through Innovative Engagement Programming  
$850,000 ...................................... USDA-NRCS

Burr, Chuck  West Central Research and Extension Center  
Caswell, Katherine  West Central Research and Extension Center  
Ingram, Troy  Northeast Research and Extension Center  
Ray, Chittaranjan  Civil and Environmental Engineering/Nebraska Water Center  
Rees, Jennifer  Southeast Extension Center  
Stockton, Matt  West Central Research and Extension Center  
Tigner, Robert  West Central Research and Extension Center  
Whitney, Todd  West Central Research and Extension Center

Ryherd, Erica  Durham School of Architectural Engineering and Construction  
*Improving Engineering Student Engagement, Self-efficacy, Diversity Awareness and Retention Using Visualization and Virtual/Augmented Reality Technologies  
$493,001 .................................. NSF through Georgia Institute of Technology

Diefes-Dux, Heidi  Biological Systems Engineering  
Kim, Kyungki  Durham School of Architectural Engineering and Construction  
Konstantzos, Iason  Durham School of Architectural Engineering and Construction  
Lather, Jennifer  Durham School of Architectural Engineering and Construction  
Lau, Josephine  Durham School of Architectural Engineering and Construction

Saha, Rajib  Chemical and Biomolecular Engineering  
*PlantSynBio: Deciphering the Roles of Genetics and Biochemical Redundancy and Pathway Regulation Via Refactoring the Protective Plant Cuticle  
$313,425 ....................................... NSF

Scalora, Mario  Public Policy Center/Psychology  
*Incidence of Ideologically Influenced Threatening and Violent Activity in Rural Communities  
$772,955 ........................................ DOJ-NIJ

Bulling, Denise  Public Policy Center  
Hoffman, Stacey  Public Policy Center
The Role of Leadership Identity in Developing Noncommissioned Officers for the Future Force (B4)
$719,589 ............................................ DoD-ARI
Bulling, Denise ............................. Public Policy Center
McElravy, L.J. ................................. Public Policy Center

Schachter, Rachel  Child, Youth and Family Studies/ Nebraska Center for Research on Children, Youth, Families and Schools
Language Gains During Early Childhood:
Prediction of Later Outcomes and Multiple Methods
Exploration of Relevant Classroom Factors
$417,183 ...................... ED-IES through Ohio State University
Gabas, Ma Clariebelle ............. Child, Youth and Family Studies/ Nebraska Center for Research on Children, Youth, Families and Schools

Schachtman, Daniel  Agronomy and Horticulture/ Center for Biotechnology/ Center for Plant Science Innovation
The Role of Plant Root Exudates in Shaping Soil Microbial Community Composition and the Influence that has on Nutrient Cycling and Nitrogen Use
$749,812 ........................................... USDA-NIFA

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

Schnable, James  Agronomy and Horticulture/ Center for Plant Science Innovation
*CPS: Medium: Field-scale, Single Plant Resolution Agricultural Management Using Coupled Molecular and Macro Sensing and Multi-scale Data Fusion and Modeling
$264,581 ........................................... USDA-NIFA
Shi, Yeyin ..................... Biological Systems Engineering/ Center for Plant Science Innovation

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

High Intensity Phenotyping Sites: A Multi-Scale, Multi-Modal Sensing and Sense Making Cyber-Ecosystem for Genomes to Fields
$389,320 ............................. USDA-NIFA through Iowa State University
Crops in Silico: Increasing Crop Production by Connecting Models from the Microscale to the Macroscale
$387,960 .... Foundation for Food and Agricultural Research through University of Illinois Urbana-Champaign

RoL: FELS: EAGER: Genetic Constraints on the Increase of Organismal Complexity Over Time
$299,801 ........................................ NSF
Secord, Ross  
Earth and Atmospheric Sciences/ 
University of Nebraska State Museum

*Paleoenvironmental and Paleoecological Responses to 
Climate Change in the Early Eocene Climatic Optimum

$337,950 ........................................... NSF

Diamond, Judy  
University Libraries/ 
University of Nebraska State Museum

Shadwick, Bradley  
Physics and Astronomy

*High Fidelity Fluid-Kinetic Hybrid Modeling of Intense, 
Short Pulse Laser Plasma Interactions

$480,000 ........................................ NSF

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

Sharif-Kashani, Hamid  
Electrical and Computer Engineering

CYVET: A Cyber-Physical Security Assurance Framework 
Based on a Semi-Supervised Vetting Approach

$806,529 .................................. DOE-NETL through UT-Battelle LLC-Oak Ridge

Alahmad, Moe  Durham School of Architectural 
Engineering and Construction

Hempel, Michael Electrical and Computer Engineering

Peng, Dongming Electrical and Computer Engineering

Shen, Zhigang  
Durham School of Architectural 
Engineering and Construction

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

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

Shi, Yeyin  
Biological Systems Engineering

CPS: Medium: CPS-Enabled Variable Rate Technology

$935,756 ....................................... USDA-NIFA

Ge, Yufeng Electrical and Computer Engineering

Heeren, Derek Electrical and Computer Engineering

Puntel, Laila Agronomy and Horticulture

Rudnick, Daran Electrical and Computer Engineering

Zhang, Kuan Electrical and Computer Engineering

Zhou, Yuzhen Statistics

FACT-AI: Cyberinformatic Tools for Exploring and 
Validating Sow Posture and Piglet Activity

$500,000 ..................................... USDA-NIFA

Brown-Brandl, Tami Biological Systems Engineering

An Intelligent Unmanned Aerial Application System for 
Site-Specific Weed Management

$453,775 .................................. USDA-NIFA

Jhala, Amit Agronomy and Horticulture

Knezevic, Stevan Agronomy and Horticulture

Luck, Joe Biological Systems Engineering

Riggen, Benjamin Electrical and Computer Engineering

Zhang, Kuan Electrical and Computer Engineering

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

Understanding the Thermal Physics and Metallurgy of 
Metal Big Area Additive Manufacturing

$670,000 .................................. DOE

Cole, Kevin Mechanical & Materials Engineering

Sim, Chungwook  
Civil and Environmental Engineering

Spokes: MEDIUM: MIDWEST: Smart Big Data Pipeline for 
Aging Rural Bridge Transportation Infrastructure (SMARTI)

$476,933 .................................. NSF through University of Nebraska at Omaha

Detweiler, Carrick Computing

Faller, Ronald Midwest Roadside Safety Facility

Linzell, Daniel Civil and Environmental Engineering

Sharif-Kashani, Hamid Electrical and Computer Engineering

Song, Chung Civil and Environmental Engineering

Wittich, Christine Civil and Environmental Engineering

Wood, Richard Civil and Environmental Engineering

Zhu, Jinying Civil and Environmental Engineering

Sinitskii, Alexander  
Chemistry

*Topological Spin Qubits Based on Graphene Nanoribbons

$627,324 .................................. DoD-ONR through University of Pittsburgh
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
Teacher Leadership (T-LEAD): Investigating the Persistence and Trajectories of Noyce Master Teaching Fellows
$701,004 .................................................. NSF
Funk, Rachel ............................... Center for Science, Mathematics and Computer Education

Song, Hyun-Seob  Biological Systems Engineering/ Food Science and Technology
*MIM: Microbial Division of Labor in Polysaccharide-degrading Communities
$648,819 ............................................ NSF through Purdue University

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

Spurgeon, Jonathan  Natural Resources
*Assessment of Silver Carp and Bighead Carp in the Platte River, Nebraska: Emphasis on Population Distribution, Population Demographics and Reproduction
$301,498 ...................................... DOI-FWS through Nebraska Game and Parks Commission
Pegg, Mark ................................. Nebraska Water Center

Snow, Daniel  Nebraska Water Center
Vadose Zone Nitrate Accumulation Upper Big Blue Natural Resources District, Relation to Fertilizer Management and Groundwater Nitrate Concentrations
$297,104 ......................................... Upper Big Blue NRD
Malakar, Arindam .............................. Nebraska Water Center

Soh, Leen-Kiat  Computing
Anticipating Social Unrest Using Integrated Model- and Data-Driven Approaches: The Impact of Socio-Demographic and Environmental Factors in Post-Colonial Nations
$804,412 .... DoD-National Geospatial Intelligence Agency through Citadel University
Hayes, Michael ...................... Natural Resources
Samal, Ashok .............................. Natural Resources
Werum, Regina ......................... Sociology
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

Steelman, Joshua  Midwest Roadside Safety Facility/ Civil and Environmental Engineering
MASH Railing Load Requirements for Bridge Deck Overhang
$440,000 ................................... DOT-FHWA through National Academy of Sciences-NCHRP-TRB
Faller, Ronald ......................... Midwest Roadside Safety Facility
MASH Testing of Single Sign Supports (Florida)
$750,000 ................................... DOT-FL DOT through Nebraska Department of Transportation
Bielenberg, Robert ..................... Midwest Roadside Safety Facility
Faller, Ronald ......................... Midwest Roadside Safety Facility
Fang, Chen ................................. Midwest Roadside Safety Facility
Lechtenberg, Karla ...................... Midwest Roadside Safety Facility
Pajouh, Mojdeh A. ...................... Midwest Roadside Safety Facility

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 ........................................ Computing/Center for Brain, Biology and Behavior

Stevens-Liska, Maegan  Global Strategies
U.S.-Rwanda Training Program and Mentorship Exchange on University Advancement and International Partnerships
$250,000 ........................................ U.S. Department of State
Sharpe, Blayne ........................................ Global Strategies
Van Hoosen, Courtney ........................................ Global Strategies

Stolle, Cody  Midwest Roadside Safety Facility
Determination of Zone of Intrusion Envelopes Under MASH Impact Conditions for Rigid Barrier
$400,000 ........................................ National Academy of Sciences-NCHRP
Bielenberg, Robert ........................................ Midwest Roadside Safety Facility
Faller, Ronald ........................................ Midwest Roadside Safety Facility
Pajouh, Mojdeh A. ........................................ Midwest Roadside Safety Facility

Storz, Jay  Biological Sciences
*Physiology of Hypoxia Adaptation in the World’s Highest-Dwelling Mammal
$827,312 ........................................ NSF

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

Streubel, Robert  Physics and Astronomy/Nebraska Center for Materials and Nanoscience
*Magnetic Order in Disordered Dipolar Nanostructures
$517,069 ........................................ NSF

Sutter, Peter  Electrical and Computer Engineering
Nanowires from Layered van der Waals Crystals: Opportunities for Tuning Structure and Function in 1D-2D Hybrid Nanostructures
$520,000 ........................................ NSF
Sutter, Eli ........................................ Mechanical & Materials Engineering
Riemann Surfaces in Layered Van der Waals Nanowires: Precision Twist Moires, Nanoscale Solenoids, and Screw Dislocation Spin Orbit Coupling
$496,037 ........................................ DoD-ONR
Sutter, Eli ........................................ Mechanical & Materials Engineering

Suyker, Andy  Natural Resources
Long-Term Maize-Based Agro-Ecosystem Core Sites as Part of the AmeriFlux Management Project Network
$565,000 ........................................ DOE through University of California-Berkeley National Laboratory
Blanco, Humberto ........................................ Agronomy and Horticulture
Franz, Trenton ........................................ Natural Resources
Gamon, John ........................................ Natural Resources
Liska, Adam ........................................ Agronomy and Horticulture/Biological Systems Engineering
Yang, Haishun ........................................ Agronomy and Horticulture

Svoboda, Mark  Natural Resources
*Building a Global Composite Drought Indicator (GCDI) Hot Spot Early Warning and Information System
$998,218 ........................................ DoD-Air Force
Bathke, Deborah ........................................ Natural Resources
Fuchs, Brian ........................................ Natural Resources
Haigh, Tonya ........................................ Natural Resources
Knutson, Cody ........................................ Natural Resources
Roy, Tirthankar ........................................ Civil and Environmental Engineering
Smith, Kelly ........................................ Natural Resources
Tadesse, Tsegaye ........................................ Natural Resources
Wardlow, Brian ........................................ Natural Resources

Thomas, Steven  Natural Resources
*MTM 2: Discovering in Reverse Using Isotopic Translation of Omics to Reveal Ecological Interactions in Microbiomes
$267,094 ........................................ NSF through Northern Arizona University
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<tr>
<th>Name</th>
<th>Department</th>
<th>Project Description</th>
<th>Funding</th>
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<tr>
<td>Tsymbol, Evgeny</td>
<td>Physics and Astronomy/Nebraska Center for Materials and Nanoscience</td>
<td>Partnership for Research and Education in Multiferroic Polymer Nanocomposites between Tuskegee University and University of Nebraska–Lincoln</td>
<td>$627,217 NSF through Tuskegee University</td>
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<td>Turner, Joseph</td>
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<td>MRI: Acquisition of an X-Ray Computed Tomography System at the University of Nebraska–Lincoln for Advancing Multidisciplinary Research and Education in the Great Plains Region</td>
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<td>Zhu, Jinying</td>
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<td>Twidwell, Dirac Jr.</td>
<td>Agronomy and Horticulture</td>
<td>Enhancing Livestock Production from Rangelands in the Great Plains</td>
<td>$745,202 USDA-NIFA through Texas A &amp; M Univ-Texas AgriLife</td>
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<td>Velez Arango, Ana Maria</td>
<td>Entomology</td>
<td>*Exosomes as Intercellular Delivery Vehicles in Insects</td>
<td>$340,270 USDA-NIFA through Kansas State University</td>
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<td>VanderPlas, Susan</td>
<td>Statistics</td>
<td>Center for Statistics and Forensic Evidence</td>
<td>$456,930 DOC-NIST through Iowa State University</td>
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<td>Varriam, Vinod</td>
<td>Computing</td>
<td>*AF: Small: Weak Derandomizations in Time and Space Complexity</td>
<td>$279,995 NSF</td>
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<td>Uiterwaal, Kees</td>
<td>Physics and Astronomy</td>
<td>REU Site: Lasers and Optics</td>
<td>$310,555 NSF</td>
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<td>Umstadter, Donald</td>
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<td>Novel Approach to Imaging through Dense Shielding with Penetrating Radiation</td>
<td>$621,875 DoD-DTRA</td>
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<td>Van Den Broeke, Matthew</td>
<td>Earth and Atmospheric Sciences</td>
<td>Aeroecology as a Test-Bed for Interdisciplinary STEM Training</td>
<td>$332,708 NSF through University of Oklahoma</td>
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<td>van Dijk, Karin</td>
<td>Biochemistry</td>
<td>Engaging the Next Generation of Biochemists</td>
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<td>Velez Arango, Ana Maria</td>
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<td>Animal Science/Nebraska Center for Virology</td>
<td>*Partnership: Systemic Screening of ASFV Proteome for Identification of Immunogenic Antigens</td>
<td>$770,000</td>
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<td>McVey, Scott</td>
<td>Veterinary Medicine and Biomedical Sciences/Nebraska Center for Virology</td>
<td>Development of a Broadly Protective Vaccine Against Swine Influenza Virus</td>
<td>$500,000</td>
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<td>Agricultural Economics</td>
<td>Development of a Broadly Protective Diva Marker Vaccine Against Porcine Reproductive and Respiratory Syndrome Virus</td>
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<td>SWIFT: LARGE: DYNAmmWIC: Dynamic mmWave Spectrum Sharing Techniques for Public Safety Communications</td>
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<td><strong>Wagner, Peter</strong></td>
<td>Earth and Atmospheric Sciences/Biological Sciences</td>
<td>*Associations Between Climate Shifts and Ammonoid Turnover Across Second-Tier Extinctions During the Early Late Cretaceous Greenhouse</td>
<td>$296,242</td>
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<td><strong>Walia, Harkamal</strong></td>
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<td>UNL-VBC Collaboration: Using Plant Phenomics to Capture Dynamic Growth Responses in Maize</td>
<td>$599,009</td>
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<td><strong>Wang, Jian</strong></td>
<td>Mechanical &amp; Materials Engineering</td>
<td>*A Metamodelling Framework for Multiscale Mechanical Modeling of Nano Architectural Crystalline-amorphous Composites</td>
<td>$333,267</td>
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<td>Batur, Demet</td>
<td>Supply Chain Management and Analytics</td>
<td>Bridging Microscale to Macroscale Mechanical Property Measurements and Predication of Performance Limitation for FeCrAl Alloys under Extreme Reactor Applications</td>
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<td><strong>Wang, Yingying</strong></td>
<td>Special Education and Communication Disorders/Center for Brain, Biology and Behavior/Nebraska Center for Research on Children, Youth, Families and Schools</td>
<td>Neural Predictors of Speech Perception Outcomes in Adults with Cochlear Implants</td>
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<td><strong>Weaver, Eric</strong></td>
<td>Biological Sciences/Nebraska Center for Virology</td>
<td>One Health Universal Swine Influenza Vaccines</td>
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<td>Van Etten, James</td>
<td>Comparative Virology Research Training Program</td>
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<td>CC* Team: Great Plains Regional CyberTeam</td>
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<td>Wiebe, Matthew</td>
<td>Veterinary Medicine and Biomedical Sciences/Nebraska Center for Virology</td>
<td>*Engagement of Cellular Mitotic and Antiviral Signaling by Poxviral Kinases</td>
<td>NIH-NIAID</td>
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<td>Niu, Wei</td>
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<td>*On the Nature and Regulation of the Plant-Fungal Biotrophic Interface</td>
<td>NSF</td>
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<td>Witte, Amanda</td>
<td>Nebraska Center for Research on Children, Youth, Families and Schools</td>
<td>Nebraska Multi-Tiered System of Support Implementation Support Team</td>
<td>ED through Nebraska Department of Education</td>
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<td>Wortman, Samuel</td>
<td>Agronomy and Horticulture</td>
<td>A Bio-based Mulch Innovation for Organic Spinach and Carrots</td>
<td>USDA-NIFA</td>
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</table>

| Wragge, Annette    | Special Education and Communication Disorders    | Nebraska Autism Spectrum Disorders Network, State Coordinator Project          | ED through Nebraska Department of Education | $357,995       |
| Wu-Smart, Judy     | Entomology                                       | *Great Plains Master Beekeeping Farmer Open Apiaries and Educational Training Kits | USDA-NIFA    | $453,486       |
| Xu, Changmou       | Food Science and Technology                      | Improving Aronia Berry Sustainability and Fruit Quality                      | USDA-AMS through Nebraska Department of Agriculture | $461,983       |
| Xu, Lisong         | Computing                                       | *FMitF: Track 1: Flow Modeling Meets Software Verification: Redesign Internet Congestion Control for Performance and Verifiability | NSF            | $766,000       |
Xu, Xiaoshan  
Physics and Astronomy/Nebraska Center for Materials and Nanoscience  
Non-Volatile Active Control of Spin Transport Using Interfaces with Molecular Ferroelectrics  
$750,000  
DOE

Gruverman, Alexei  
Physics and Astronomy/Nebraska Center for Materials and Nanoscience  
Microstructure and Strain Effects on Ferroelectric and Transport Properties of HfO2-based Thin Films  
$519,740  
NSF

Tsymbal, Evgeny  
Physics and Astronomy/Nebraska Center for Materials and Nanoscience  
$750,000  
DOE

Yang, Jinliang  
Agronomy and Horticulture  
*Leveraging the Naturally Occurring Maize-Microbe Symbiotic Partnership to Improve Maize NUE  
$849,000  
USDA-NIFA

Schachtman, Daniel  
Agronomy and Horticulture  
Rescuing the Fixed Deleterious Alleles for Genome-Enabled Micronutrients Improvement in Maize  
$500,000  
USDA-NIFA

Yang, Ruiguo  
Mechanical & Materials Engineering  
Cell-Cell Adhesion Mechanics and Mechanotransduction at the Single Cell Level  
$439,584  
NSF

Lim, Jung Yul  
Mechanical & Materials Engineering  
$464,434  
USDA-NIFA

Yang, Yiqi  
Textiles, Merchandising and Fashion Design/Biological Systems Engineering  
Protein Fibers from Chicken Feathers for Textile Applications Via Engineered Pilot-Scale Production  
$464,434  
USDA-NIFA

Yates, Dustin  
Animal Science  
Abatement of Inflammation as a Means to Combat Heat Stress in Finishing Livestock  
$500,000  
USDA-NIFA

Petersen, Jessica  
Animal Science  
$500,000  
USDA-NIFA

Schmidt, Ty  
Animal Science  
Recovering Performance and Quality in IUGR-born Low-birthweight Livestock  
$500,000  
USDA-NIFA

Yin, Yanbin  
Food Science and Technology/Nebraska Food for Health Center  
*Bioinformatics Discovery of Anti-CRISPR Operons in Human Gut Microbiome  
$400,833  
NIH-NIAID

Zhou, Yuzhen  
Statistics  
*Developing Genomics Resources for Tropical Perennial Crops Economically Important to the United States  
$271,112  
USDA-ARS

Yoder, Aaron  
Biological Systems Engineering  
Nebraska AgrAbility  
$723,840  
USDA-NIFA

Freck, Nancy  
West Central Research and Extension Center  
$682,608  
NSF

Riley, Mark  
Biological Systems Engineering  
Yu, Bin  
Biological Sciences/Center for Plant Science Innovation  
Understand the Functional Mechanism of the DSP1 Complex in the 3' Maturation of Plant Small Nuclear RNAs  
$682,608  
NSF

Zhang, Chi  
Biological Sciences/Center for Plant Science Innovation  
Yu, Jiuju  
Nutrition and Health Sciences/Nebraska Center for the Prevention of Obesity Diseases  
Dietary Exosome-Like Nanoparticles and Their Impact on the Gut Microbiome in Obesity  
$500,000  
USDA-NIFA

Auchtung, Jennifer  
Food Science and Technology/Nebraska Center for the Prevention of Obesity Diseases  
Yuill, David  
Durham School of Architectural Engineering and Construction  
A Field Study to Characterize Fault Prevalence in Residential Comfort Systems  
$824,792  
DOE
Zempleni, Janos  Nutrition and Health Sciences/ Nebraska Center for the Prevention of Obesity Diseases
*Biopharming: Engineering Nanoparticles in Milk for Use in Drug Delivery
$630,000 ........................................ USDA-NIFA
Guo, Jiantao ................................ Chemistry/Nebraska Center for the Prevention of Obesity Diseases
Kievit, Forrest ............................ Biological Systems Engineering/ Nebraska Center for the Prevention of Obesity Diseases
Milk Exosome-Driven Evolution of Antibiotic-Resistant Gut Pathogens
$500,000 ......................................... USDA-NIFA
Auchtung, Jennifer .................... Food Science and Technology/ Nebraska Center for the Prevention of Obesity Diseases
Development of an Exosome and Cargo Tracking Mouse
$408,375 ....................................... DHHS-NIH

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

Zhu, Jinying  Civil and Environmental Engineering
*Dual External Leak Sensing and Monitoring for Dry Storage Canister
$800,000 ....................................... DOE
ALSaleem, Fadi  Durham School of Architectural Engineering and Construction
Nondestructive Diagnosis and Probabilistic Prognosis of Aging Plastic Pipe
$250,000 ....................................... DOT-PHMSA
Jin, Congrui ................................ Civil and Environmental Engineering
Online Monitoring System for Concrete Structures Affected by Alkali-Silica Reaction (ASR)
$800,000 ....................................... Hu, Jiong  Civil and Environmental Engineering

Zuhlke, Craig  Electrical and Computer Engineering
Laser Forensics Attribution and Geolocation Studies Using 16 Elements of the Mueller Matrix as the Fingerprint
$368,496 ................................. U.S. Department of State
Femtosecond Streak Camera for Studying the Role of Laser-Induced Plasmas in Ultrafast Light-Matter Interactions
$385,240 ................................. DoD-ONR-DURIP
Argyropoulos, Christos  Electrical and Computer Engineering
Gogos, George  Mechanical & Materials Engineering
Ianno, Natale  Electrical and Computer Engineering
Shield, Jeffrey  Mechanical & Materials Engineering

Zupan, Alexander  Mathematics
Interactions of 3- and 4-Dimensional Topology
$273,741 ................................. NSF
Early Career Awards
Active awards, July 1, 2021–June 30, 2022
* Indicates new in 2021–2022

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.

Alexandrov, Vitali
Chemical and Biomolecular Engineering
CAREER: Advancing Mechanistic Understanding of Nanocrystal Dissolution in Aqueous Environments
$520,244 ......................... .NSF

Bao, Wei
Electrical and Computer Engineering
*CAREER: Towards Room-temperature Quantum Simulators Enabled by Halide Perovskites
$756,713 ......................... .NSF

Bradley, Justin
Computing
CAREER: Foundations for a Resource-Aware, Cyber-Physical Vehicle Autonomy
$499,968 ......................... .NSF

Dishari, Shudipto
Chemical and Biomolecular Engineering
CAREER: Confined Ionomeric Systems and Imaging of Ionic Distribution
$609,949 ......................... .NSF

Duncan, Brittany
Computing
CAREER: Drones in Public: Foundational Interaction Research
$599,647 ......................... .NSF

Eichhorn, Catherine
Chemistry
CAREER: Molecular Mechanisms of Ribonucleoprotein Assembly
$1,048,975 ......................... .NSF

Elkins, Lynne
Earth and Atmospheric Sciences
CAREER: Modeling Two-Phase Flow, Multi-Lithologic Melting, and Chemical Disequilibrium with Uranium-Series Isotopes
$696,573 ......................... .NSF

Glowacka, Katarzyna
Biochemistry/Center for Plant Science Innovation
*CAREER: Understanding Non-photochemical Quenching Under Chilling in the Warm Season C4 Grasses
$1,375,334 ......................... .NSF

Guo, Jiantao
Chemistry
CAREER: Quadruplet Codon Decoding: Mechanistic Studies and Application in Cellular Genetic Code Expansion
$634,205 ......................... .NSF

Holland, Kathryn
Psychology
*CAREER: The Efficacy of Sexual Assault Mandatory Reporting Policies
$502,113 ......................... .NSF

Iverson, Nicole
Biological Systems Engineering
*CAREER: Extracellular Hydrogen Peroxide and Nitric Oxide Detection and Quantification Via Biocompatible Carbon Nanotubes
$550,000 ......................... .NSF

Jeffries, Jack
Mathematics
CAREER: Differential Operators and p-Derivations in Commutative Algebra
$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

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

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

Nejati, Siamak
Chemical and Biomolecular Engineering
CAREER: Molecular Layer Deposition of Porous Organic Frameworks
$593,240 ............................................ NSF

Neta, Maital
Psychology
CAREER: Functional Brain Networks Mediating Positivity Bias in Healthy Aging
$766,508 ............................................ NSF

Obata, Toshihiro
Biochemistry/Center for Plant Science Innovation
CAREER: Establishing the Roles of Multi-Enzyme Complexes in Metabolic Network Regulation
$746,955 ............................................ NSF

Park, Jae Sung
Mechanical & Materials Engineering
*CAREER: Unraveling Predictive Dynamics and Multiscale Linkage in Turbulence for Flow Control
$506,780 ............................................ NSF

Pedrigi, Ryan
Mechanical & Materials Engineering
CAREER: Characterizing the Mechanobiological Response of Endothelial Cells to Ultrasound
$543,020 ............................................ NSF

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

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 ............................................ NSF

Saha, Rajib
Chemical and Biomolecular Engineering
CAREER: Dissecting a Metabolically Versatile Non-Model Bacteriums Lignin-Derived Compound Catabolism
$747,855 ............................................ NSF

Sharif, Bonita
Computing
CAREER: Empowering Software Engineering with Eye Tracking
$257,331 ............................................ NSF
Shizuka, Dai  
Biological Sciences  
CAREER: Structure and Resilience of Social Networks under Population Turnover  
$742,304 .............................................. NSF

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

Wachs, Rebecca  
Biological Systems Engineering  
CAREER: Alternative Non-Opioid Therapies for Low Back Pain  
$510,389 .............................................. NSF

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

Yang, Ruiguo  
Mechanical & Materials Engineering  
*CAREER: Characterization of the Rate-Dependent Mechanical Behavior of the Cell-Cell Adhesion Interface  
$536,907 .............................................. NSF

Yesselman, Joseph  
Chemistry  
*CAREER: Determining the Fundamental Rules of RNA Tertiary Contact Formation  
$1,235,574 .............................................. NSF

Yin, Yanbin  
Nebraska Food for Health Center  
CAREER: Evolutionary Genomics of Enzymes for Complex Carbohydrate Metabolism  
$656,429 .............................................. NSF
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.

**Dishari, Shudipto**
Chemical and Biomolecular Engineering
EARLY CAREER: Porin Inspired Ionomers with Sub-NM Gated Ion Channels for High Ion Conductivity and Selectivity
$750,000 .................. DOE

**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

**Moore, Keegan**
Mechanical & Materials Engineering
*YIP: Digital Engineering the Test and Modeling Process: Autonomous Methods for Reconciling Test and Model Results
$404,621 .................. DoD-AFOSR
Cohen, Matt

English/Center for Digital Research in the Humanities

Walt Whitman Archive Infrastructure Revitalization
$349,856 ............................................. NEH
6/1/20 – 5/31/23

Barney, Brett ................. University Libraries/Center for Digital Research in the Humanities

Dalziel, Karin .................. Center for Digital Research in the Humanities

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

With a nearly $350,000 grant from the National Endowment for the Humanities, Matt Cohen, professor of English, and Kenneth Price, Hillegass University Professor of American literature, are rebuilding the Walt Whitman Archive website, implementing a modern framework and repackaging site content for easier reuse. The long-term goal is to enhance the archive’s accessibility and sustainability by making it easier for users to search and organize materials on the site, which, at nearly 25 years old, is the leading resource for Walt Whitman scholars. The team is improving the website’s digital architecture by changing the programming framework; developing a machine-readable interface for the website’s code, images and metadata; revising files to improve the metadata; and strengthening existing metadata through a new search engine. The archive is published by the Center for Digital Research in the Humanities.

Dawes, Kwame

*The African Poetry Book Distribution Project

$343,750 ................................................ Poetry Foundation
5/15/22 – 5/31/25

Under the leadership of Kwame Dawes, George W. Holmes University Professor of English and Glenna Luschei Editor of Prairie Schooner, the African Poetry Book Fund is using a nearly $350,000 grant from the Poetry Foundation to study poetry book distribution in Africa. The project team’s goal is to better understand the complexities of poetry and poetry publishing on the African continent. The researchers are examining bookseller networks, international trade, literary venues, programming and more to develop a more comprehensive picture of Africa’s book distribution landscape. The project advances the African Poetry Book Fund’s larger goal of making its titles available to a wider audience in Africa. The fund, which Dawes established in 2012, promotes and advances the development and publication of the poetic arts.

African Poetry Digital Portal

$750,000 ........................................ Andrew W. Mellon Foundation
6/23/21 – 6/30/24

Dawes, Lorna ......................... University Libraries

Professor Dawes and Lorna Dawes, associate professor of University Libraries, are leading an international team in expanding the African Poetry Digital Portal. This online tool documents the work of African poets and provides digital access to related creative and intellectual artifacts, materials and research. The team is using a $750,000 grant from the Andrew W. Mellon Foundation to launch the portal into its next phase to expand research and scholarship related to African poetry. They also are collaborating with other institutions to create a digital collections hub that provides access to materials held by institutions worldwide. The initiative is aimed at bringing to light the rich and sophisticated poetic practices and traditions that have long existed in African societies but are not always well understood.
## American Life in Poetry Project
### $575,739
Poetry Foundation
1/1/05 – 12/31/22

The Poetry Foundation, in partnership with the Library of Congress, supports the American Life in Poetry Project, an initiative established by Ted Kooser, the 2004-2006 Poet Laureate Consultant in Poetry to the Library of Congress. Now edited by Kwame Dawes, “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 Professor Dawes, with a brief introduction written by Dawes. 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.

### Jacobs, Margaret

| Center for Great Plains Studies/History/Center for Digital Research in the Humanities |
| Genoa Indian School Digital Reconciliation Project |
| $349,899 | NEH |
| 6/1/19 – 5/30/23 |

With funding from the National Endowment for the Humanities and the Council on Library and Information Resources, Margaret Jacobs, Charles J. Mach Professor of history and director of the Center for Great Plains Studies, 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.

### Jagodinsky, Katrina

| History/Center for Digital Research in the Humanities |
| Petitioning for Freedom: Habeas Corpus and Liberty in the American West |
| $529,410 | NSF |
| 6/1/20 – 8/31/23 |

With a grant from the National Science Foundation, historian Katrina Jagodinsky is exploring how various marginalized groups – immigrants, women, and indigenous and enslaved people, for example – used habeas corpus, a longstanding legal principle enabling prisoners to challenge the legality of their detentions, to claim freedom and establish their rights between 1812 and 1924. In collaboration with the Center for Digital Research in the Humanities, Jagodinsky, the Susan J. Rosowski Associate Professor of history, is developing a first-of-its-kind digital database archiving roughly 6,000 previously unpublished habeas petitions, which will be searchable by demographic.

### Jewell, Andrew

| Center for Digital Research in the Humanities |
| Complete Letters of Willa Cather: Stage 2 |
| $278,000 | NEH |
| 1/1/19 – 12/31/21 |

With funding from the National Endowment for the Humanities and the Council on Library and Information Resources, Andrew Jewell, professor of University Libraries in the Center for Digital Research in the Humanities, is digitally publishing 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.
Michelle Krehbiel, professor in 4-H Youth Development, is leading a university contingent in partnering with the Nebraska Library Commission to bring portable makerspaces to rural public libraries. With help from Nebraska Innovation Studio, the program brings high-tech electronic and computerized tools and equipment to libraries for periods of up to five months. Patrons can use them to learn, explore and create in forward-thinking ways. The program also fosters economic development and entrepreneurship in these communities. In total, approximately 40 communities in Nebraska host makerspaces in their public libraries.
<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>Field</th>
<th>Project Title</th>
<th>Amount</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dalziel, Karin</td>
<td>University Libraries/Center for Digital Research in the Humanities</td>
<td>Arts and Humanities</td>
<td><em>Getting the Latest Scoop: A New Tool to Expand Access to Online Newspaper Collections</em></td>
<td>$115,653</td>
<td>NEH through University of Oregon</td>
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<tr>
<td>Tunink, Greg</td>
<td>Center for Digital Research in the Humanities</td>
<td>Arts and Humanities</td>
<td><em>Center for Digital Research in the Humanities</em></td>
<td>$150,000</td>
<td>Ford Foundation</td>
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<td>Weakly, Laura</td>
<td>University Libraries/Center for Digital Research in the Humanities</td>
<td>Arts and Humanities</td>
<td><em>University Libraries/Center for Digital Research in the Humanities</em></td>
<td>$145,119</td>
<td>Merops Foundation</td>
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<td>Dawes, Kwame</td>
<td>English</td>
<td>English</td>
<td><em>American Life in Poetry</em></td>
<td>$80,470</td>
<td>Poetry Foundation</td>
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<td></td>
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<td>African Poetry Digital Project</td>
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<td>Dawes, Lorna</td>
<td>$150,000</td>
<td>University Libraries</td>
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<tr>
<td>Hoff, Michael</td>
<td>Art, Art History and Design</td>
<td>Art, Art History and Design</td>
<td>Antiochia ad Cragum Excavations: 2019 Season</td>
<td>$145,119</td>
<td>Merops Foundation</td>
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<tr>
<td>Jones, Jeannette</td>
<td>Ethnic Studies/History/Center for Digital Research in the Humanities</td>
<td>Ethnic Studies/History</td>
<td>To Enter Africa from America: The United States, Africa and the New Imperialism, 1862-1919</td>
<td>$216,106</td>
<td>NEH</td>
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<tr>
<td>Price, Kenneth</td>
<td>English/Center for Digital Research in the Humanities</td>
<td>English</td>
<td><em>A Life in Letters: Walt Whitman’s Complete Correspondence</em></td>
<td>$130,544</td>
<td>NEH</td>
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<tr>
<td>McMullen, Kevin</td>
<td>English/Center for Digital Research in the Humanities</td>
<td>English</td>
<td>The Complete Correspondence of Charles W. Chesnutt</td>
<td>$152,648</td>
<td>National Archives and Records Administration</td>
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<tr>
<td>Cohen, Matt</td>
<td>English/Center for Digital Research in the Humanities</td>
<td>English</td>
<td>Fame and Infamy: Walt Whitman’s Old-Age Correspondence</td>
<td>$92,111</td>
<td>University of Iowa</td>
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<tr>
<td>Seger, Casey</td>
<td>Center for Great Plains Studies</td>
<td>Center for Great Plains Studies</td>
<td><em>Enhancing Access and Preservation at the Great Plains Art Museum</em></td>
<td>$177,000</td>
<td>NEH</td>
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<tr>
<td>Thomas, William</td>
<td>History/Center for Digital Research in the Humanities</td>
<td>History</td>
<td>The Bell Affair: A Film Reframing American Slavery and Freedom</td>
<td>$200,000</td>
<td>NEH</td>
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<td>Burton, Michael</td>
<td>Textiles, Merchandising and Fashion Design/Center for Digital Research in the Humanities</td>
<td>Textiles, Merchandising and Fashion Design</td>
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<td>NEH</td>
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<td>Dreher, Kwakiutl</td>
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Arts and Humanities Awards
$5,000 to $49,999
Active awards, July 1, 2021–June 30, 2022
* Indicates new in 2021–2022

**Castro, Mary Alice**  Textiles, Merchandising and Fashion Design
*Global Textiles Storage Assessment in University of Nebraska–Lincoln’s Historic Costume and Textile Collection*
$10,000 ................................................ NEH

**Starkey, Sandra** .................. Textiles, Merchandising and Fashion Design

**Dawes, Kwame**  English
*Literary Arts Emergency Fund: APBF Publication Subvention*
$10,000 .................................... Andrew W. Mellon Foundation through Academy of American Poets/National Book Foundation-Literary Arts Emergency Fund

Literary Arts Emergency Fund for *Prairie Schooner* Production
$5,000 .................................... Andrew W. Mellon Foundation through Academy of American Poets/National Book Foundation-Literary Arts Emergency Fund

**Engen-Wedin, Nancy**  Lied Center for Performing Arts
*SLSO Comes to Nebraska*
$5,000 ....................................... Mid-America Arts Alliance

Ajijaak on Turtle Island - Arts for ALL
$20,000 ............................................... NEA

**Ganser, Timothy**  Johnny Carson School of Theatre and Film
*Shubert Foundation Theatre Grant*
$15,000 ........................................ Shubert Foundation

*Nebraska Repertory Theatre Application to Pace Woods Foundation*
$25,000 ....................................... Pace Woods Foundation

**Heitman, Carrie C.**  Center for Digital Research in the Humanities
*Humanities Without Walls Pass-through Grants*
$20,000 ........................................ Andrew W. Mellon Foundation through University of Illinois

**Homestead, Melissa**  English/Center for Digital Research in the Humanities
*Society for the Study of American Women Writers Digital Recovery Hub*
$8,369 ................................................ NEH

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

**Jacobs, Margaret**  Center for Great Plains Studies
*Reckoning and Reconciliation on the Great Plains Conference*
$10,000 ........................................ Humanities Nebraska

**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

**Kirk, Christina**  Johnny Carson School of Theatre and Film
*Nebraska Rep and The Black Rep Outreach for #realchange*
$20,000 ....................................... Woods Charitable Foundation

**Kohen, Ari**  Political Science/Center for Digital Research in the Humanities
*The Nebraska Stories of Humanity: Holocaust Survivors and WWII Veterans Educational Portal*
$9,500 ........................................ Humanities Nebraska

Dotan, Beth .................. Teaching, Learning and Teacher Education/Center for Digital Research in the Humanities

*NE Stories of Humanity - Nebraska Holocaust Survivor and WWII Veteran Web Portal*

$8,000 ................................... Jewish Federation of Omaha Foundation

Dotan, Beth .................. Teaching, Learning and Teacher Education/Center for Digital Research in the Humanities

**Le Sueur, James**  History
*Four Seasons of COVID Pandemic on the Plains: A Feature Documentary Film*
$5,000 ........................................ Humanities Nebraska

**Michl, Bob**  Education and Human Sciences
*The Fragile Future of Democracy*
$6,000 ........................................ Humanities Nebraska
Muchiri, Nganga  
**English/Center for Digital Research in the Humanities**

*Recovering the Histories of Land Treaties in East and Southern Africa*

$25,000. .......................... American Council of Learned Societies

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

*Recovering BIPOC Voices from the Victorian Periodical Press*

$8,400. .......................... Research Society for Victorian Proposals through Purdue University

Ramsay, Stephen  
**English/Center for Digital Research in the Humanities**

**Digital Notation Across the Movement-Based Arts**

$15,800. .......................... NEH

Pytlik Zillig, Brian  
**Center for Digital Research in the Humanities**

Riehle, Catherine  
**University Libraries**

**Academic Librarian Curriculum Developers: Building Capacity to Integrate Information Literacy Across the University (ALCD)**

$34,355. .......................... Institute of Museum and Library Services through Purdue University

Weller, Susan  
**University of Nebraska State Museum**

**Exploring a Square Meter of Prairie Exhibit**

$7,500 ............................ Humanities Nebraska

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

*Recovering BIPOC Voices from the Victorian Periodical Press*
NUtech Ventures’ mission is to facilitate the commercialization and practical use of innovations generated through the research activities at the University of Nebraska–Lincoln. NUtech does 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 2021-2022
Recognition for faculty and other Nebraska researchers and other personnel who received patents for their inventions
July 1, 2021-June 30, 2022
(patents are listed by issue date)

Jason Dumpert, Shane Farritor, Mechanical & Materials Engineering; Yutaka Tsutano, Computing; Erik Mumm, Nishant Kumar, Philip Chu
Title: Robotic Surgical Devices, Systems, and Related Methods
Date: 7/6/2021
Number: 11051895
Country: United States

Joe Bartels, Shane Farritor, Thomas Frederick, Mechanical & Materials Engineering
Title: Methods, Systems, and Devices Relating to Surgical End Effectors
Date: 7/20/2021
Number: 11065050
Country: United States

Forrest Kievit, Biological Systems Engineering; Anthony Convertine, Donghoon Lee, Joshua Sang Hun Park, Julia Mengyun Xu, Menko Ypma, Patrick Stayton, Peter Chiarelli, Pierre Mourad, Richard Ellenbogen
Title: Oxygen Reactive Polymers for Treatment of Traumatic Brain Injury
Date: 7/20/2021
Number: 11065272
Country: United States

Eric Markvicka, Shane Farritor, Thomas Frederick, Mechanical & Materials Engineering
Title: Local Control Robotic Surgical Devices
Date: 9/1/2021
Number: 3680071
Countries: France, Germany, United Kingdom

Amy Lehman, Jeff Hawks, Shane Farritor, Stephen Platt, Mechanical & Materials Engineering; Mark Rentschler
Title: Systems of Actuation in Robotic Devices
Date: 9/8/2021
Number: 3673855
Countries: France, Germany, United Kingdom

Benjamin Pavlik, Kevin Van Cott, Chemical and Biomolecular Engineering; Paul Blum, Biological Sciences
Title: Engineered Clostridium Botulinum Toxin Adapted to Deliver Molecules into Selected Cells
Date: 9/14/2021
Number: 11118170
Country: United States

Eric Markvicka, Jack Mondry, Joe Bartels, Shane Farritor, Thomas Frederick, Mechanical & Materials Engineering
Title: Single Site Robotic Device
Date: 9/27/2021
Number: 6949894
Country: Japan
Asit Pattnaik, Fernando Osorio, Hiep Vu, Veterinary Medicine and Biomedical Sciences; Fangrui Ma, Biological Sciences; William Laegreid

Title: A Non-naturally Occuring Porcine Reproductive and Respiratory Syndrome Virus (PRRSV) and Methods of Using
Date: 10/5/2021
Number: 11136355
Country: United States

Edgar Cahoon, Biochemistry; Chunyu Zhang, Diana Berman, Kent Chapman, Robert Minto, Trevor Romsdahl

Title: Liquid and Semisolid Lubricant Compositions, Methods of Making, and Uses Thereof
Date: 10/5/2021
Number: 11136525
Country: United States

Ali Tamayol, Carina Russell, Zack Bonick, Mechanical & Materials Engineering; Bahar Aliakbarian

Title: Medication Bottle with Anti-Tampering Features
Date: 10/5/2021
Number: 11135131
Country: United States

Hendrik Viljoen, Chemical and Biomolecular Engineering

Title: Expedited PCR with Stirring
Date: 10/26/2021
Number: 11155773
Country: United States

Barry Cheung, Mark Helle, Chemistry

Title: Methods of Making and Using Lignin Derivatives
Date: 10/26/2021
Number: 11155568
Country: United States

Shane Farritor, Thomas Frederick, Eric Markvicka, Mechanical & Materials Engineering; Dmitry Oleynikov, Surgery

Title: Methods, Systems, and Devices for Surgical Access and Insertion
Date: 10/27/2021
Number: 2806941
Countries: France, Germany, United Kingdom

Shane Farritor, Thomas Frederick, Mechanical & Materials Engineering

Title: Quick-Release End Effector Tool Interface
Date: 11/16/2021
Number: 11173617
Country: United States

Daniel Ciobanu, Lianna Walker, Taylor Engle, Animal Science; Hiep Vu, Veterinary Medicine and Biomedical Sciences

Title: Biomarkers for Resistance to Porcine Circovirus 2 Associated Disease
Date: 11/23/2021
Number: 11178859
Country: United States

Carrick Detweiler, Evan Beachly, Sebastian Elbaum, Computing; Christian Laney, James Higgins, Mechanical & Materials Engineering; Craig Allen, Natural Resources; Dirac Twidwell Jr., Agronomy and Horticulture

Title: Fire Suppression and Ignition with Unmanned Aerial Vehicles
Date: 12/2/2021
Number: 2016337531
Country: Australia

Jacob Greenwood, Biological Systems Engineering; Steven Barlow, Special Education and Communication Disorders

Title: Muscle Assessment System and Method
Date: 12/21/2021
Number: 11202595
Country: United States
Srivatsan Kidambi, Stephen Hayward, Chemical and Biomolecular Engineering

Title: Substrate Delivery of Embedded Liposomes
Date: 12/21/2021
Number: 11202838
Country: United States

Wei Qiao, Yue Zhao, Electrical and Computer Engineering; Long Wu

Title: Methods of Estimating a Position of a Rotor in a Motor Under Transient and Systems Thereof
Date: 12/22/2021
Number: GB2592166
Country: United Kingdom

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

Title: Plants with Useful Traits and Related Methods
Date: 12/28/2021
Number: 2834679
Country: Canada

Eric Markvicka, Shane Farritor, Thomas Frederick, Mechanical & Materials Engineering; Dmitry Oleynikov, Surgery

Title: Robotic Devices with Small Joint Design and Related Systems and Methods
Date: 1/7/2022
Number: 7005572 B2
Country: Japan

Nikhil Salvi, Shane Farritor, Thomas Frederick, Mechanical & Materials Engineering

Title: Methods, Systems, and Devices Related to Robotic Surgical Devices, End Effectors and Controllers
Date: 1/11/2022
Number: 2906672
Country: Canada

Ather Mahmood, Christian Binek, Will Echtenkamp, Physics and Astronomy

Title: Hall Bar Device for Memory and Logic Applications
Date: 1/25/2022
Number: 11233192
Country: United States

Andrew Olson, Patrick Dussault, Chemistry

Title: Decomposition of Organic Peroxides and Hydrogen Peroxide by the Iron Thiolates and Related Complexes
Date: 2/8/2022
Number: 11242296
Country: United States

Jennifer Rasmussen (Schmidt), Jim Holloway, John Reid, Karla Lechtenberg, Robert Bieleenberg, Ronald Faller, Scott Rosenbaugh, Midwest Roadside Safety Facility

Title: Barrier System
Date: 2/15/2022
Number: GB2579509A
Country: United Kingdom

Jacob Greenburg, Joe Bartels, Kearney Lackas, Shane Farritor, Thomas Frederick, Mechanical & Materials Engineering

Title: Methods, Systems and Devices Relating to Force Control Surgical Systems
Date: 3/15/2022
Number: 2906672
Country: Canada

Fadi Alsaleem, Durham School of Architectural Engineering and Construction

Title: Neuromorphic Computing Using Electrostatic Mems Devices
Date: 4/26/2022
Number: 11314210
Country: United States
Edward Harris, Biochemistry; Jian Liu, Robert Linhardt, Yongmei Xu

Title: Reversible Heparin Molecules
Date: 5/11/2022
Number: EP3011043B1
Countries: France, Italy, Spain, United Kingdom
Country: Germany

Derrick White, Paul Blum, Raghuveer Singh, Biological Sciences

Title: Mutant Microorganisms and Methods of Making and Using
Date: 5/17/2022
Number: 11332763
Country: United States

Jinsong Huang, Xiaopeng Zheng, Mechanical & Materials Engineering

Title: Passivation of Defects in Perovskite Materials for Improved Solar Cell Efficiency and Stability
Date: 5/17/2022
Number: 11335513
Country: United States

Peter Dowben, Physics and Astronomy; Andrew Marshall, Dmitri Nikonov, Nishtha Sharma

Title: Circuits Based on Magnetoelectric Transistor Devices
Date: 5/31/2022
Number: 11349480
Country: United States

Jinsong Huang, Mechanical & Materials Engineering; Wei Wei

Title: Monolithic Integration of Hybrid Perovskite Single Crystals with Silicon for Highly Sensitive X-Ray Detectors
Date: 5/31/2022
Number: 11345123
Country: United States

Liyan Qu, Taesic Kim, Wei Qiao, Electrical and Computer Engineering

Title: Rechargeable Multi-Cell Battery
Date: 5/31/2022
Number: 11349144
Country: United States

David Anthony, Mehmet Vuran, Xin Dong, Computing

Title: Antenna for Wireless Underground Communication
Date: 6/14/2022
Number: 2684
Country: Brazil

Mark Reichenbach, Shane Farritor, Mechanical & Materials Engineering

Title: Improved Gross Positioning Device and Related Systems and Methods
Date: 6/14/2022
Number: 11357595
Country: United States

Carl Nelson, Nicholas Nelson, Mechanical & Materials Engineering

Title: Modular Cable-Driven Surgical Robots
Date: 6/28/2022
Number: 11369449
Country: United States

Ozan Ciftci, Food Science and Technology

Title: Nanoporous Starch Aerogels Impregnated with Phytosterols and Methods of Preparing the Nanoporous Starch Aerogels
Date: 6/28/2022
Number: 11369895
Country: United States
2021-2022 License Agreements

Recognition for faculty and other Nebraska researchers whose technologies formed the basis of licensing agreements with industry partners
July 1, 2021–June 30, 2022

Gary Anderson, Clayton Kelling
Veterinary Medicine and Biomedical Sciences
Agreement Number: 2022-0035A
Technology: Hybridoma Cell Line

P. Stephen Baenziger, Carol Speth, Mitchell Montgomery, Greg Dorn
Agronomy and Horticulture
Agreement Number: 2022-0055A
Technology: Winter Barley

P. Stephen Baenziger, Mitchell Montgomery, Greg Dorn
Agronomy and Horticulture
Agreement Number: 2022-0085A
Technology: Wheat
Agreement Number: 2022-0093A
Technology: Barley
Agreement Number: 2022-0101A
Technology: Barley
Agreement Number: 2022-0102A
Technology: Wheat
Agreement Number: 2022-0109A
Technology: Wheat
Agreement Number: 2022-0110A
Technology: Wheat
Agreement Number: 2022-0116A
Technology: Wheat

P. Stephen Baenziger, Mitchell Montgomery, Greg Dorn, Richard Little
Agronomy and Horticulture
Agreement Number: 2022-0086A
Technology: Wheat
Agreement Number: 2022-0100A
Technology: Wheat
Agreement Number: 2022-0117A
Technology: Wheat

P. Stephen Baenziger, Mitchell Montgomery, Greg Dorn, Richard Little, Chris Hoagland
Agronomy and Horticulture
Agreement Number: 2022-0126A
Technology: Triticale

Greg Bashford
Biological Systems Engineering
Agreement Number: 2022-0016A
Technology: Ultrasound Technology

Paul Blum, Raghuveer Singh, Derrick White
Biological Sciences
Agreement Number: 2022-0161A
Technology: Microbial Strains Producing Higher Amounts of Hydrogen
Agreement Number: 2022-0394A
Technology: Microbial Strains Producing Higher Amounts of Hydrogen

Nicole Buan, Jennifer Catlett
Biochemistry
Agreement Number: 2022-0162A
Technology: Microbial Strains Producing Higher Amounts of Methane

Nicole Buan, Jared T. Aldridge, Sean R. Carr, Karrie A. Weber
Biochemistry; Biological Sciences
Agreement Number: 2022-0472A
Technology: Production of Isoprene

Ed Cahoon, Tara J. Nazarenus
Biochemistry; Center for Plant Science Innovation
Agreement Number: 2022-0328A
Technology: Camelina Technology

Bai Cui, Yongfeng Lu, Michael Nastasi, Fei Wang, Nathan Snyder, Kevin Zhao
Mechanical & Materials Engineering; Center for Energy Sciences Research
Agreement Number: 2022-0159A
Technology: Ceramic Dental Crown Technology
Ismail Dweikat, John Rajewski
Agronomy and Horticulture
Agreement Number: 2022-0065A
Technology: Seedless Sweet Sorghum

George Graef
Agronomy and Horticulture
Agreement Number: 2022-0031A
Technology: Soybean Varieties
Agreement Number: 2022-0141A
Technology: Soybean Varieties
Agreement Number: 2022-0378A
Technology: Soybean Varieties

George Graef, Leslie Korte, Orlando Zapata, Rebecca Ott, Aaron Clark Hoagland, Luis Posadas
Agronomy and Horticulture
Agreement Number: 2022-0432A
Technology: Soybean Varieties

Patricio Grassini, Kenneth Cassman, Juan Ignacio Rattallino Edreira, Justin Van Wart
Agronomy and Horticulture
Agreement Number: 2022-0218A
Technology: Farming Software

Megan Hopkins, Linda Major, Duane Shell, Ian Newman, Dennis McChargue, Robert Schroeder
Educational Psychology; Student Affairs; Psychology
Agreement Number: 2022-0087A
Technology: Software
Agreement Number: 2022-0231A
Technology: Software

Gus Hurwitz, Elsbeth Magilton, Lysandra Marquez
Law
Agreement Number: 2022-0078A
Technology: Educational Tool

James D. La Sueur
History
Agreement Number: 2022-0042A
Technology: Art of Dissent Movie

Kevin Lee, Christopher Siedell
Physics and Astronomy; Center for Science, Mathematics and Computer Education
Agreement Number: 2022-0151A
Technology: Astronomy Smartphone Software

Yuguo Lei, Hendrik Viljoen, Qiang Li, Ou Wang
Chemical and Biomolecular Engineering
Agreement Number: 2022-0190A
Technology: Cell Manufacturing System

Joe Luck, Jackson Stansell, Daran Rudnick, Brian Krienke, Tyler Smith, Samantha Teten
Biological Systems Engineering
Agreement Number: 2022-0384A
Technology: Fertigation Management

Eric Markvicka, Evan Hailey
Mechanical & Materials Engineering; Electrical and Computer Engineering
Agreement Number: 2022-0144A
Technology: Development of a Multi-Energy Haptic Generator

Scott Rosenbaugh, Robert W. Bielenberg, Ronald K. Faller, Jennifer D. Rasmussen, Cody Stolle, Brock David Schroder, Wyatt Gregory Fallet, Karla A. Lechtenberg
Midwest Roadside Safety Facility; Civil and Environmental Engineering
Agreement Number: 2022-0165A
Technology: Roadside Barrier Technology
Michael Sealy, Guru Charan Reddy Madireddy, Haitham Hadidi, Cody Kanger, Mehrdad Negahban
Mechanical & Materials Engineering
Agreement Number: 2021-0360A
Technology: Stainless Steel Additive Manufacturing

Patricia Sollars, Gary Pickard
Veterinary Medicine and Biomedical Sciences
Agreement Number: 2022-0366A
Technology: Vaccine
Agreement Number: 2022-0368A
Technology: Vaccine

Li Tan, Yifan Huang, Xuejing Shen, Tao Sun, Gordon Chou
Mechanical & Materials Engineering
Agreement Number: 2022-0124A
Technology: Additive Manufacturing

Stephen Taylor, Joseph Baumert
Food Science and Technology
Agreement Number: 2022-0063A
Technology: Peanut Allergen Testing Kit

Chris Tuan, Bing Chen, Lim Nguyen
Civil and Environmental Engineering; Electrical and Computer Engineering
Agreement Number: 2021-0190A
Technology: Concrete Technology
Agreement Number: 2021-0439A
Technology: Concrete Technology

Hiep Vu
Veterinary Medicine and Biomedical Sciences
Agreement Number: 2022-0226A
Technology: Animal Vaccine

Changmou Xu, Rui Huang, Xiaoquing Xie
Food Science and Technology
Agreement Number: 2022-0037A
Technology: Aronia Berry Technology

Yiqi Yang, Bingnan Mu, Faqrul Hassan
Textiles, Merchandising and Fashion Design
Agreement Number: 2021-0424A
Technology: Method for Fiber Production
National Science Foundation Innovation Corps Teams

The National Science Foundation’s Innovation Core (I-Corps) Program is designed to spur translation of fundamental research to the marketplace, spark collaboration between academia and industry and train NSF-funded faculty, students and other researchers in innovation and entrepreneurship skills. NUtech Ventures, the university’s intellectual property and commercialization unit, supports Husker researchers in learning about and preparing to apply for the program. I-Corps awards are worth $50,000 and enable recipients to participate in real-world, hands-on learning focused on how to evaluate commercial opportunity around an innovation.

Daniel Schachtman
Agronomy and Horticulture; Center for Plant Science Innovation; Center for Biotechnology

I-Corps: Combinatorial Phage Display for the Development of Specific, Single Target Biopesticides Against Invasive Plant Pathogens

Li Tan
Mechanical & Materials Engineering

I-Corps: Room Temperature Titanium Extraction from Low-Cost Pigments
Marco Abel  English
Curator and author of program notes. Retrospective of 21 short, medium-length and feature-length films by the New Munich Group. May 7-27, 2022, Zeughauskino Cinema, Deutsches Historisches Museum (German Historical Museum). Berlin, Germany.

Katie Anania  Art, Art History and Design

Hamid Bagheri  Computing
Software designer. “FLACK: Localizing Faults in Alloy Models.” Lincoln, NE.

John R. Bailey  Glenn Korff School of Music
Flautist, solo performance. “Concertino for Flute and Orchestra” by Daniel Dorff. Lincoln Symphony Orchestra concert (plus livestream feed). Lied Center for Performing Arts, Lincoln, NE.

Carolyn Barber  Glenn Korff School of Music

Conductor, UNL Wind Ensemble, group performance. “Perspective.” College Band Directors National Association North Central Division Conference. University of Wisconsin, Mead Witter School of Music, Madison, WI.

Diane Barger  Glenn Korff School of Music

Paul E. Barnes  Glenn Korff School of Music

Stephen Behrendt  English

Michael H. Burton  Textiles, Merchandising and Fashion Design
Co-producer and art director, animated feature film. “Bell Affair.” World premiere, June 2, 2022, Publick Playhouse, Prince George’s County, MD.


Joy Castro  Ethnic Studies/English


Eddie Dominguez  Art, Art History and Design
Visual artist, ceramics/mosaic. Community art project (three pillars, planter and bench) celebrating first responders. Bryan Medical Center East and Bryan Medical Center West, Lincoln, NE.

Kwakiutl Dreher  English
Co-writer and director, animated film. “Bell Affair.” World premiere, June 2, 2022, Publick Playhouse, Prince George’s County, MD.

Ben Evjen  Art, Art History and Design

Graphic designer, group exhibition. “Allay Series.” Evolving Graphic Design. Art Loft Gallery and Backspace Gallery, University of Wisconsin, Madison, WI.
Jesse R. Fleming  Johnny Carson Center for Emerging Media Arts
Digital creativity director, mobile application, mixed reality/ augmented reality. “Quantum Sight.”

Digital creativity director, mobile application, mixed reality/ augmented reality. “Wall Gazing.”

Digital creativity director, mobile application, mixed reality/ augmented reality. “See Seeing.”

Digital creativity director, mobile application, mixed reality/ augmented reality. “Wall Gazing.”


Dana Fritz  Art, Art History and Design


Marques L.A. Garrett  Glenn Korff School of Music

Composer and conductor, vocal score for choir. “Cantate Domino” (premiere). Eileen Southern Celebration, Harvard University, Cambridge, MA.

Composer for choir, soloists and chamber orchestra. “Dreamland.” Turtle Creek Chorale, Dallas, TX.

Jason Griffiths  Architecture
Interior designer, architect, architectural installation. “XX-LAM.” XX-LAM exhibition. Omaha by Design, Omaha, NE.

Michelle Harvey  Johnny Carson School of Theatre and Film
Lighting designer, theatrical production. “Presto! @ The Magic Parlor.” Presto!. The Magic Parlor, Destin, FL.

Lighting director, theatrical production. “Coal + Ice.” Asia Society presents Coal + Ice. REACH at the Kennedy Center, Washington, D.C.

Anna Henson  Johnny Carson Center for Emerging Media Arts

Hye-Won Hwang  Glenn Korff School of Music

Dance choreographer. “Namoo.” Dancing Uphill. University of Vermont, Burlington, VT.

Dancer. “La Muszette à Deux” (c.1713) and “Musette for Dancing” (2022). A Celebration: Music and Prose by Byron Adams. University of California, Riverside, Riverside, CA.

Christina M. Kirk  Johnny Carson School of Theatre and Film
Director, theatrical production. “A Midsummer Night’s Dream” by William Shakespeare. Nebraska Repertory Theatre, Lincoln, NE.

Ari Kohen  Political Science
Producer, with Beth Dotan, online digital website. “Nebraska Stories of Humanity: Holocaust Survivors & WWII Veterans, Network Portal and Educational Website.”

David Long  Johnny Carson School of Theatre and Film
Producer, writer, director, performer, short film. “Betty Lou Had a Son.” “TOP 20” films for public screening, Louisiana Film Prize Festival, Shreveport, LA.

Barney McCoy  Broadcasting
Digital creativity producer, radio broadcast and digital story. “Ukrainian Refugees Find Refuge in Lincoln but Need Housing Options.” Nebraska Public Media, Lincoln, NE.

Digital creativity producer, radio broadcast and digital story. “For Sale: A Blast from the Past that’s Built to Last.” Nebraska Public Media, Lincoln, NE.

Traci Robison  University Libraries
Ash Eliza Smith  Johnny Carson Center for Emerging Media Arts/Art, Art History and Design
Director, radio play. “Radio Play: Live Participatory Worldbuilding with GPT-3.” Centre de Cultura Contemporània de Barcelona, Barcelona, Spain.
Film performer. “The New Inflation” by Liv Shulman. Bemis Center for Contemporary Art, curated by Sylvie Fortin, Omaha, NE.
Curator, visual arts exhibition. “Talk” by Jean-Charles de Quillacq. I Don’t Know You Like That: The Bodywork of Hospitality curated by Sylvie Fortin. Bemis Center for the Arts, Omaha, NE.

Matthew S. Sontheimer  Art, Art History and Design

Francisco Souto  Art, Art History and Design
Visual artist, drawing and print exhibition. “Diaspora II.” Kiechel Fine Art gallery, Lincoln, NE.

Hans Sturm  Glenn Korff School of Music
Bassist, double bass, solo recording. “Voyage: Hommage à François Rabbath.” Avant Bass, Lincoln, NE.

William G. Thomas  History
Co-writer and historian, animated film. “Bell Affair.” World premiere, June 2, 2022, Publick Playhouse, Prince George’s County, MD.

Robert Twomey  Johnny Carson Center for Emerging Media Arts

Rafael Untalan  Johnny Carson School of Theatre and Film
Actor, theatrical production. Oberon/Theseus in “A Midsummer Night’s Dream” by William Shakespeare. Nebraska Repertory Theatre, Lincoln, NE.
Actor, theatrical production. Leonato in “What Happened While Hero Was Dead” by Meghan Brown. Ashland New Plays Festival (Zoom production), Ashland, OR.

David von Kampen  Glenn Korff School of Music
Composer. “12 More Very Short Pieces for Solo Piano.” Recording released on all streaming platforms; musical score published at MusicSpoke, Kansas City, MO.

Tyler Goodrich White  Glenn Korff School of Music
Composer for tuba and orchestra, group performance. “Resilience: Fantasy for Tuba and Orchestra” (world premiere). UNL Symphony Orchestra (Bo Atlas, tuba). Lied Center for Performing Arts, Lincoln, NE.
Composer for chamber music (violin, viola, cello, double bass and piano), group performance. “DivertimentoVero.” Across Five Decades: A Retrospective of Solo and Chamber Music by Tyler Goodrich White. Kimball Recital Hall, Lincoln, NE.
Composer for voice and piano, group performance. “Set Me as a Seal (Wedding Cantata)” for soprano and piano (Nebraska premiere). “Across Five Decades: A Retrospective of Solo and Chamber Music by Tyler Goodrich White. Kimball Recital Hall, Lincoln, NE.

Composer for chamber music (violin and piano), group performance. “Revelationes Juventutis,” sonata for violin and piano, Yoon/Beaver/Savage Trio: Guest Artist Recital. Kimball Recital Hall, Lincoln, NE.

Composer for chamber music (cello and piano), group performance. “A Summer Sonata for cello and piano” (world premiere). Yoon/Beaver/Savage Trio: Guest Artist Recital. Kimball Recital Hall, Lincoln, NE.

Composer for chamber music (violin, cello and piano), group performance. “Three Views from the Mountain” (world premiere). Yoon/Beaver/Savage Trio: Guest Artist Recital. Kimball Recital Hall, Lincoln, NE.

**Sandra M. Williams**  
*Art, Art History and Design*  
Carolyn Barber  
Glenn Korff School of Music  

Raul G. Barletta  
Veterinary Medicine and Biomedical Sciences  

Steven M. Barlow  
Special Education and Communication Disorders/ Biological Systems Engineering/ Center for Brain, Biology and Behavior  

Carolyn Barber  
Glenn Korff School of Music  

Raul G. Barletta  
Veterinary Medicine and Biomedical Sciences  

Steven M. Barlow  
Special Education and Communication Disorders/ Biological Systems Engineering/ Center for Brain, Biology and Behavior  

Erin C. Bauer  
Entomology  
Author, with Larry E. Barksdale, Emma Sidel. Death Scene Insect Succession in Nebraska: A Guidebook. Lincoln, NE: University of Nebraska–Lincoln.

Stephen Behrendt  
English  

Dawn O. Braithwaite  
Communication Studies  

Dawn O. Braithwaite  
Communication Studies  

Kathleen Brazeal  
Biological Sciences  
|------------|-----------------------|------------------------------------------------|


Nicholas Monk  English/Center for Transformative Teaching  Chapter author. Cormac McCarthy made me do it. In Stacey Peebles, Benjamin West (Eds.), Approaches to Teaching the Works of Cormac McCarthy. New York, NY: Modern Language Association.
Nicholas J. Pace  Educational Administration

Nora Peterson  Modern Languages and Literatures

Yi Qian  Electrical and Computer Engineering

Chittaranjan Ray  Nebraska Water Center/ Civil and Environmental Engineering

Heather Richards-Rissetto  Global Integrative Studies/ Center for Digital Research in the Humanities


Khalid Sayood  Electrical and Computer Engineering

Timothy Schaffert  English

Julia Schleck  English
Author. Dirty Knowledge: Academic Freedom in the Age of Neoliberalism. Lincoln, NE: University of Nebraska Press.

Mardi Schmeichel  Teaching, Learning and Teacher Education

Katherine Schmid Henson  English

Anne R. Schutte  Psychology

Susan M. Sheridan  Education and Human Sciences/ Center for Research on Children, Youth, Families and Schools


Patricia A. Simpson  Modern Languages and Literatures


Wendy M. Smith  Center for Science, Mathematics and Computer Education/Mathematics

Daniel D. Snow  Nebraska Water Center/Natural Resources
Editor, with Paromita Chakraborty. *Legacy and Emerging Contaminants in Water and Wastewater - Monitoring, Risk Assessment and Remediation Techniques.* Cham, Switzerland: Springer.

Kelly Stage  English/Medieval and Renaissance Studies

Jason Stamm  Sports Media and Communication

Hans Sturm  Glenn Korff School of Music
Author. *75 Years on 4 Strings: The Life and Music of François Rabbath.* Lincoln, NE: Avant Bass.

Sonya Grace Türkman  Interior Design
Recognitions and Honors
Faculty who have been elected to honor academies or who have received national or international honors or awards
July 1, 2021–June 30, 2022
Submitted by faculty, chairs/heads or deans

<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
<th>Academic/Professional Recognition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Donald Cox</td>
<td>Electrical and Computer Engineering</td>
<td>National Academy of Engineering</td>
</tr>
<tr>
<td>Raymond Hames</td>
<td>Anthropology</td>
<td>National Academy of Sciences</td>
</tr>
<tr>
<td>Margaret Jacobs</td>
<td>History</td>
<td>American Academy of Arts and Sciences</td>
</tr>
<tr>
<td>James Van Etten</td>
<td>Plant Pathology</td>
<td>National Academy of Sciences</td>
</tr>
<tr>
<td>Jonis Agee</td>
<td>English</td>
<td>2022 One Book One Nebraska Selection: <em>The Bones of Paradise</em>, Nebraska Center for the Book</td>
</tr>
<tr>
<td>Christos Argyropoulos</td>
<td>Electrical and Computer Engineering</td>
<td>Senior Member (2021), Society of Photo-Optical Instrumentation Engineers</td>
</tr>
<tr>
<td>Jena Asgarpoor</td>
<td>Engineering</td>
<td>Keating Award for Innovation and Leadership in Lifelong Learning in Graduate Engineering Education, American Society for Engineering Education (Graduate Studies Division)</td>
</tr>
<tr>
<td>Paul Barnes</td>
<td>Glenn Korff School of Music</td>
<td>Fellow, Nebraska Music Teachers Association Foundation</td>
</tr>
<tr>
<td>Tim Borstelmann</td>
<td>History</td>
<td>Tonous and Warda Johns Family Book Award, Pacific Coast Branch of the American Historical Association</td>
</tr>
<tr>
<td>Dawn O. Braithwaite</td>
<td>Communication Studies</td>
<td>Namesake of the Dawn O. Braithwaite Distinguished Book Award, National Communication Association Family Communication Division</td>
</tr>
<tr>
<td>Nicole Buan</td>
<td>Biochemistry</td>
<td>Outstanding Editor, <em>Frontiers in Microbiology Journal</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Associate Editor, American Society for Microbiology</td>
</tr>
<tr>
<td>Chuck A. Burr</td>
<td>West Central Research and Extension Center</td>
<td>Superior Paper Award, American Society of Agricultural and Biological Engineers (with D. Rudnick, M. Stockton and X. Qiao)</td>
</tr>
<tr>
<td>Chris Calkins</td>
<td>Animal Science</td>
<td>Fellow, American Society of Animal Science</td>
</tr>
<tr>
<td>Matt Cohen</td>
<td>English</td>
<td>President, Society for Textual Scholarship</td>
</tr>
<tr>
<td>Heidi Diefes-Dux</td>
<td>Biological Systems Engineering</td>
<td>Fellow, American Society for Engineering Education</td>
</tr>
<tr>
<td>Angela M. Dietsch</td>
<td>Special Education and Communication Disorders/Center for Brain, Biology, and Behavior</td>
<td>Editor’s Award, Teaching and Learning in Communication Sciences and Disorders</td>
</tr>
<tr>
<td>Katie Edwards</td>
<td>Educational Psychology</td>
<td>Fellow, American Psychological Association</td>
</tr>
<tr>
<td>Richard D. Endacott</td>
<td>Johnny Carson School of Theatre and Film/Johnny Carson Center for Emerging Media Arts</td>
<td>Best Short Screenplay - Drama, Cowpokes Film Festival, Harrah, OK</td>
</tr>
<tr>
<td>Dennis Ferraro</td>
<td>Natural Resources</td>
<td>2021 Conservation Education Award, Wildlife Society</td>
</tr>
<tr>
<td>Catherine Fraser Riehle</td>
<td>University Libraries</td>
<td>Open Education Leadership Fellowship, SPARC</td>
</tr>
<tr>
<td>Sheri Fritz</td>
<td>Earth and Atmospheric Sciences/Biological Sciences</td>
<td>Distinguished Fellow Award, International Biogeography Society</td>
</tr>
<tr>
<td>Matthias Fuchs</td>
<td>Physics and Astronomy</td>
<td>Kavli Fellow, National Academy of Sciences</td>
</tr>
<tr>
<td>Name</td>
<td>Department/Program</td>
<td>Award</td>
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<tr>
<td>Crystal Garcia</td>
<td>Educational Administration</td>
<td>Early Career Award, Student Affairs Administrators in Higher Education</td>
</tr>
<tr>
<td>Doug Golick</td>
<td>Entomology</td>
<td>Distinguished Achievement Award in Teaching, Entomological Society of America’s North Central Branch</td>
</tr>
<tr>
<td>Patricio Grassini</td>
<td>Agronomy and Horticulture</td>
<td>Gamma Sigma Delta Research Award, Gamma Sigma Delta Nebraska Chapter</td>
</tr>
<tr>
<td>Frauke Hachtmann</td>
<td>Advertising and Public Relations/Sports Media and Communication</td>
<td>Distinguished Teaching Award - Advertising Division, Association for Education in Journalism and Mass Communication</td>
</tr>
<tr>
<td>David Hage</td>
<td>Chemistry</td>
<td>Outstanding Contributions to Education in Clinical Chemistry Award, American Association for Clinical Chemistry</td>
</tr>
<tr>
<td>Andrew Hamann</td>
<td>Biological Systems Engineering</td>
<td>Career Development Award, American Society of Gene and Cell Therapy</td>
</tr>
<tr>
<td>Brian Harbourne</td>
<td>Mathematics</td>
<td>Fellow, American Mathematical Society</td>
</tr>
<tr>
<td>Robert Harveson</td>
<td>Plant Pathology</td>
<td>Fellow, American Phytopathological Society</td>
</tr>
<tr>
<td>Holly Hatton-Bowers</td>
<td>Child, Youth, and Family Studies/Extension</td>
<td>Emerging Leadership Research Award, Zero to Three</td>
</tr>
<tr>
<td>Gary Hein</td>
<td>Entomology</td>
<td>Fulbright Specialist Award, U.S. Department of State, Bureau of Educational and Cultural Affairs</td>
</tr>
<tr>
<td>Carrie Heitman</td>
<td>Anthropology/Global Integrative Studies</td>
<td>Book Award - Popular Category, Society for American Archaeology</td>
</tr>
<tr>
<td>Melissa J. Homestead</td>
<td>English</td>
<td>Member, American Antiquarian Society</td>
</tr>
<tr>
<td>Margaret Huetti</td>
<td>History and Ethnic Studies</td>
<td>Fellowship, American Council of Learned Societies</td>
</tr>
<tr>
<td>Emira Ibrahimpasic</td>
<td>Global Integrative Studies</td>
<td>Award for Excellence in Education Abroad Curriculum Design, Forum on Education Abroad (with K. Kunzman)</td>
</tr>
<tr>
<td>Margaret Jacobs</td>
<td>History</td>
<td>Gold Winner in the General-Television category, Telly Awards</td>
</tr>
<tr>
<td>Jennifer Johnson Jorgensen</td>
<td>Textiles, Merchandising and Fashion Design</td>
<td>Nancy Rutherford Teaching Innovation Award, International Textile and Apparel Association</td>
</tr>
<tr>
<td>Steven Jones</td>
<td>Animal Science</td>
<td>Signal Service Award, American Meat Science Association</td>
</tr>
<tr>
<td>Valerie Jones</td>
<td>Advertising and Public Relations</td>
<td>Fulbright Global Scholar Award, Council for International Exchange of Scholars (to Melbourne, Australia)</td>
</tr>
<tr>
<td>Alice Kang</td>
<td>Political Science/Ethnic Studies</td>
<td>C. Herman Pritchett Book Award, American Political Science Association (Law and Courts Section)</td>
</tr>
<tr>
<td>David Karle</td>
<td>Architecture</td>
<td>2021 Architectural</td>
</tr>
<tr>
<td>Casey Ryan Kelly</td>
<td>Communication Studies</td>
<td>Outstanding Academic Titles for 2021, <em>Choice</em> Magazine</td>
</tr>
<tr>
<td>Taeyeon Kim</td>
<td>Educational Administration</td>
<td>Outstanding Research Paper Award, Korean-American Educational Researchers Association</td>
</tr>
<tr>
<td>Eric Knoll</td>
<td>Agricultural Leadership, Education and Communication</td>
<td>Post-Secondary Teacher of the Year, Association for Career and Technical Education</td>
</tr>
<tr>
<td>Name</td>
<td>Department</td>
<td>Award Description</td>
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<tr>
<td>Katie Kunzman</td>
<td>Education Abroad Program</td>
<td>Award for Excellence in Education Abroad Curriculum Design, Forum on Education Abroad (with E. Ibrahimpasic)</td>
</tr>
<tr>
<td>Yingchao Lan</td>
<td>Supply Chain Management and Analytics</td>
<td>Chan Hahn Best Paper Award - Operations and Supply Management Division, Academy of Management</td>
</tr>
<tr>
<td>Neal Lewis</td>
<td>Engineering</td>
<td>Best Paper Award, American Society for Engineering Education (Management Division)</td>
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<td>Best Paper Award, American Society for Engineering Education (Engineering Economy Division)</td>
</tr>
<tr>
<td>Ronald Lewis</td>
<td>Animal Science</td>
<td>Fellow Award for Research, American Society of Animal Science</td>
</tr>
<tr>
<td>Dustin Loy</td>
<td>Veterinary Medicine and Biomedical Sciences</td>
<td>Outstanding Young Alumni Award, Iowa State University Alumni Association</td>
</tr>
<tr>
<td>Maria Marron</td>
<td>Journalism and Mass Communications</td>
<td>Donna Allen Award for Feminist Advocacy, Commission on the Status of Women</td>
</tr>
<tr>
<td>Barney McCoy</td>
<td>Broadcasting</td>
<td>Eric Sevareid Award, First Place: Hard Radio Feature reporting, Midwest Broadcast Journalists Association</td>
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<tr>
<td></td>
<td></td>
<td>Eric Sevareid Award, Award of Merit: Soft Radio Feature reporting, Midwest Broadcast Journalists Association</td>
</tr>
<tr>
<td>Patrice McMahon</td>
<td>Political Science</td>
<td>Fulbright U.S. Scholar Award, Council for International Exchange of Scholars (to Poznań, Poland)</td>
</tr>
<tr>
<td>Julia McQuillan</td>
<td>Sociology</td>
<td>Fellow, American Association for the Advancement of Science</td>
</tr>
<tr>
<td>Jake Messersmith</td>
<td>Management</td>
<td>Best Paper Award for HR-Entrepreneurship Research, Academy of Management (Human Resources Division)</td>
</tr>
<tr>
<td>Phillip Miller</td>
<td>Animal Science</td>
<td>AFIA Award in Nonruminant Nutrition Research, American Society of Animal Science</td>
</tr>
<tr>
<td>George Morcous</td>
<td>Durham School of Architectural Engineering and Construction</td>
<td>Fellow, Precast/Prestressed Concrete Institute</td>
</tr>
<tr>
<td>Christopher Neale</td>
<td>Biological Systems Engineering</td>
<td>Royce J. Tipton Award, American Society of Civil Engineers</td>
</tr>
<tr>
<td>Carl Nelson</td>
<td>Mechanical &amp; Materials Engineering</td>
<td>Senior Member, National Academy of Inventors</td>
</tr>
<tr>
<td>Elizabeth Niehaus</td>
<td>Educational Administration</td>
<td>Senior Fellow, University of California’s National Center for Free Speech and Civic Engagement</td>
</tr>
<tr>
<td>Kendra L. Ordia</td>
<td>Interior Design</td>
<td>Equity Council Member, International Interior Design Association Members Choice Award, Interior Design Educators Council</td>
</tr>
<tr>
<td>Gabrielle (Brie) Owen</td>
<td>English</td>
<td>Honor Book Award, Children’s Literature Association</td>
</tr>
<tr>
<td>Angela Pannier</td>
<td>Biological Systems Engineering</td>
<td>College of Fellows, American Institute for Medical and Biological Engineering</td>
</tr>
<tr>
<td>Julie A. Peterson</td>
<td>Entomology/West Central Research and Extension Center</td>
<td>Conservation Research Award, Soil and Water Conservation Society</td>
</tr>
<tr>
<td>Santosh Pitla</td>
<td>Biological Systems Engineering</td>
<td>A. W. Farrall Young Educator Award, American Society of Agricultural and Biological Engineers</td>
</tr>
<tr>
<td>Ann Marie Pollard</td>
<td>Johnny Carson School of Theatre and Film</td>
<td>Linklater Voice Designation, Kristin Linklater Voice Centre</td>
</tr>
</tbody>
</table>
Larkin Powell
Natural Resources
Fellow, The Wildlife Society

Wei Qiao
Electrical and Computer Engineering
Fellow, Asia-Pacific Artificial Intelligence Association

Xin Qiao
Biological Systems Engineering
Superior Paper Award, American Society of Agricultural and Biological Engineers (with D. Rudnick, M. Stockton and C. Burr)

Daran R. Rudnick
Biological Systems Engineering
Larry W. Turner Young Extension Professional Award, American Society of Agricultural and Biological Engineers
Superior Paper Award, American Society of Agricultural and Biological Engineers (with M. Stockton, X. Qiao and C. Burr)

Erica Ryherd
Durham School of Architectural Engineering and Construction
Fellow, Acoustical Society of America

Walter H. Schacht
Agronomy and Horticulture
Outstanding Paper Award, Crop, Forage and Turfgrass Management Journal (with J. Guretzky, M. Mamo, J.D. Volesky and A.B. Wingeyer)

Timothy Schaffert
English
One World One Book Program Selection: The Perfume Thief, Penguin Random House International

Anthony Schutz
Law
Distinguished Service Award, American Agricultural Law Association

Rachael Shah
English
Outstanding Book in Community Writing Award, Coalition for Community Writing
Publication of the Year Award, International Association for Research on Service-Learning and Community Engagement

Daizaburo Shizuka
Biological Sciences
Fellow, American Ornithological Society

Jessica Shoemaker
Law
Professional Scholarship Award, American Agricultural Law Association

Chungwook Sim
Civil and Environmental Engineering
George D. Nasser Award, Precast/Prestressed Concrete Institute (with M. Tadros, D. Gee and M. Assad)

Ash Eliza Smith
Johnny Carson Center for Emerging Media Arts/Art, Art History and Design
Fellow, Nebraska Governance and Technology Center

Kevin Smith
Political Science
McGuffey Longevity Award, Textbook and Academic Authors Association (with Alan Greenblatt)

Dan Stehlik
Agricultural Production Systems/Agricultural Mechanics
Outstanding Postsecondary Agriculture Program, National Association of Ag Educators

Matt Stockton
Agricultural Economics
Superior Paper Award, American Society of Agricultural and Biological Engineers (with D. Rudnick, C. Burr and X. Qiao)

Rick Stowell
Biological Systems Engineering
G.B. Gunlogson Countryside Engineering Award, American Society of Agricultural and Biological Engineers

Ryan Sullivan
Law
Access to Justice Award, Association of American Law Schools

Pat Tetreault
LGBTQA+ Resource Center/Women’s Resource Center
Voice of Inclusion Award, College Student Educators International

James F. Tierney
Law
Selected for Junior Faculty Forum, Harvard-Yale-Stanford Junior Faculty Forum

Joseph A. Turner
Mechanical & Materials Engineering
Fellow, American Society of Nondestructive Testing

Vinodchandran Variyam
Computing
Research Highlight Award, Association for Computing Machinery’s Special Interest Group on Management of Data

Jerry D. Volesky
Agronomy and Horticulture
Outstanding Paper Award, Crop, Forage and Turfgrass Management Journal (with J. Guretzky, M. Mamo, W.H. Schacht and A.B. Wingeyer)
<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
<th>Recognition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Judy Walker</td>
<td>Mathematics</td>
<td>Fellow, American Association for the Advancement of Science</td>
</tr>
<tr>
<td>Jian Wang</td>
<td>Mechanical &amp; Materials Engineering</td>
<td>Distinguished Scientist/Engineer Award, Materials Processing and Manufacturing Division, Minerals, Metals and Materials Society</td>
</tr>
<tr>
<td>Yanan Wang</td>
<td>Electrical and Computer Engineering</td>
<td>Career Mentoring Fellow, American Physical Society</td>
</tr>
<tr>
<td>Marilyn Wolf</td>
<td>Computing</td>
<td>Leon K. Kirchmayer Graduate Teaching Award, Institute for Electrical and Electronics Engineers</td>
</tr>
<tr>
<td>Julie Wu</td>
<td>Finance</td>
<td>Spängler-IQAM Award for the Best Investments Paper, <em>Review of Finance</em></td>
</tr>
<tr>
<td>Janos Zempleni</td>
<td>Nutrition and Health Sciences</td>
<td>Distinguished Achievement in Agriculture Award of Merit, Gamma Sigma Delta Honor Society of Agriculture</td>
</tr>
<tr>
<td>Tian Zhang</td>
<td>Civil and Environmental Engineering</td>
<td>Distinguished Member, American Society of Civil Engineers</td>
</tr>
</tbody>
</table>
Publications in Scholarly Journals
Faculty who have published in peer-reviewed scholarly journals or publications considered scholarly in their field
July 1, 2021–June 30, 2022
UNL co-authors designated in red
(identified by those who submitted articles for inclusion)
Submitted by faculty, chairs/heads or deans

Dena M. Abbott  Educational Psychology


Mirzokhidjon Abdurakmonov  Management

Herita Akamah  Accountancy


Sam A. Allgood  Economics


Özgür M. Araz  Supply Chain Management and Analytics


Christos Argyropoulos  Electrical and Computer Engineering


Hamid Bagheri  Computing


**Edward J. Balistreri**  
Economics  


**Wei Bao**  
Electrical and Computer Engineering  

**Raul G. Barletta**  
Veterinary Medicine and Biomedical Sciences  


**Steven M. Barlow**  
Special Education and Communication Disorders/ Biological Systems Engineering/ Center for Brain, Biology, and Behavior  


**Amy Bartels**  
Management  


**Brian Baugh**  
Finance  

**Christopher R. Bilder**  
Statistics  

Florin Bobaru  Mechanical & Materials Engineering


Kelli S. Boling  Advertising and Public Relations


Wesley Boyce  Supply Chain Management and Analytics


Dawn O. Braithwaite  Communication Studies


Chad Brassil  Biological Sciences

Kathleen Brazeal  Biological Sciences

Gary J. Brewer  Entomology

Kathleen Brooks  Agricultural Economics

John Brunero  Philosophy


Nicole Buan  Biochemistry

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title</th>
<th>Journal/Conference</th>
<th>Date</th>
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</thead>
<tbody>
<tr>
<td>Theresa Catalano, Uma Ganesan, Alessia Barbici-Wagner, Alison Leonard, Stephanie Wessels, Jenelle Reeves</td>
<td>Dance as dialog: A metaphor analysis of arts and community-based learning with preservice teachers and a local refugee community.</td>
<td>Teaching and Teacher Education</td>
<td>Aug. 1, 2021</td>
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<tr>
<td>Theresa Catalano, Amanda Morales</td>
<td>Dancing across difference: Arts and community-based interventions as intercultural education.</td>
<td>Intercultural Education</td>
<td>Feb. 1, 2022</td>
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<tr>
<td>Terence J. Centner</td>
<td>Reconciling agricultural production and property rights with the use of dicamba herbicides.</td>
<td>Lewis &amp; Clark Law Review</td>
<td>Oct. 28, 2021</td>
</tr>
<tr>
<td>Terence J. Centner</td>
<td>A proposal for insurance to address onsite injuries accompanying dicamba usage.</td>
<td>Cornhusker Economics</td>
<td>Dec. 1, 2021</td>
</tr>
<tr>
<td>Terence J. Centner</td>
<td>A review of registrations for over-the-top dicamba products and liability for state governments for appropriating neighbors’ right to exclude.</td>
<td>Environmental Challenges</td>
<td>Dec. 21, 2021</td>
</tr>
<tr>
<td>Qian Chen</td>
<td>Estimating finite mixtures of ordinal graphical models.</td>
<td>Psychometrika</td>
<td>March 1, 2022</td>
</tr>
<tr>
<td>Bertrand Clarke, Yuepend Sun, Jennifer Clarke, Xu Li</td>
<td>Predicting antibiotic resistance gene abundance in activated sludge using shotgun metagenomics and machine learning.</td>
<td>Water Research</td>
<td>Sept. 1, 2021</td>
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<tr>
<td>Matt Cohen</td>
<td>Printers of the Kosmos: Modeling variation in the 1855 Leaves of Grass.</td>
<td>Textual Cultures</td>
<td>Feb. 2, 2022</td>
</tr>
<tr>
<td>Clay Cressler</td>
<td>Targeted manipulation of abundant and rare taxa in the Daphnia magna microbiota with antibiotics impacts host fitness differentially.</td>
<td>mSystems</td>
<td>Oct. 21, 2021</td>
</tr>
<tr>
<td>Sruti Das Choudhury</td>
<td>Multi-feature data repository development and analytics for image cosegmentation in high-throughput plant phenotyping.</td>
<td>PLOS One</td>
<td>Sept. 2, 2021</td>
</tr>
<tr>
<td>Edward Dawson</td>
<td>Perpetual motion, time, and power: Christoph Ranssymayr’s “Cox” as novel of the Anthropocene.</td>
<td>The German Quarterly</td>
<td>Jan. 31, 2022</td>
</tr>
</tbody>
</table>
John DeLong  Biological Sciences

Heidi A. Diefes-Dux  Biological Systems Engineering

Angela M. Dietsch  Special Education and Communication Disorders/Center for Brain, Biology and Behavior

Shudipto Dishari  Chemical and Biomolecular Engineering

Jimmy Downes  Accountancy

Liangcheng Du  Chemistry


David D. Dunigan  Plant Pathology/Nebraska Center for Virology

Pierce D. Ekstrom  Political Science

Elizabeth Enkin  Modern Languages and Literatures

Kent M. Eskridge  Statistics
Irina Filina  Earth and Atmospheric Sciences

Trenton Franz  Natural Resources

Julia L. Frengs  Modern Languages and Literatures

Danni Gilbert  Glenn Korff School of Music
From the ivory tower to the trenches: Lessons learned from the professor who substitute taught. *Nebraska Music Educator*. Aug. 1, 2021.

Yifan Gong  Economics

Iker González-Allende  Modern Languages and Literatures


Richard E. Goodman  Food Science and Technology


With B. Furey, K. Slingerland, M.R. Bauter et al. Safety evaluation of Fy Protein™ (Nutritional Fungi Protein), a macroingredient for human consumption. *Food and Chemical Toxicology*. May 1, 2022.


Patricio Grassini  Agronomy and Horticuclture


Mark A. Griep  Chemistry


Yawan Guan  Statistics


Ming Guo  Agronomy and Horticulture

Shivam Gupta  Supply Chain Management and Analytics

Christopher R. Gustafson  Agricultural Economics


Frauke Hachtmann  Advertising and Public Relations/Sports Media and Communication


Tonya Haigh  Natural Resources


Andrew Hamann  Biological Systems Engineering

Andrew A. Hanna  Management
Robert M. Harveson  
Plant Pathology/ 
Panhandle Research and Extension Center


David M. Harwood  
Earth and Atmospheric Sciences/ 
Antarctic Science Management Office


Eileen Hebets  
Biological Sciences


Gary L. Hein  
Entomology


Anna Hiatt  
Biological Sciences


Reka Howard  
Statistics


Jiong Hu  
Civil and Environmental Engineering


Qi S. Hu Natural Resources/Earth and Atmospheric Sciences


Michelle Hughes Special Education and Communication Disorders

Jacques Izard Food Science and Technology


Jennifer Johnson Jorgensen Textiles, Merchandising and Fashion Design


Valerie K. Jones Advertising and Public Relations


Jessica L. Jonson Biosurces Center for Testing/Educational Psychology

Ian W. Keesey Biological Sciences


Oleh Khalimonchuk Biochemistry


**Taeyeon Kim**  
**Educational Administration**  


**Ciera E. Kirkpatrick**  
**Advertising and Public Relations**  


**Stanley V. Kleppinger**  
**Glenn Korff School of Music**  

**Jason Konstantzos**  
**Durham School of Architectural Engineering and Construction**  


**Dawn M. Kopacz**  
**Earth and Atmospheric Sciences**  


**Alexey Kovalev**  
**Physics and Astronomy**  


**Thomas R. Kubick**  
**Accountancy**  


**Patty Kuo**  
**Child, Youth and Family Studies**  


**Yingchao Lan**  
**Supply Chain Management and Analytics**  
Laurie Thomas Lee  Broadcasting

Elizabeth B. Lewis  Teaching, Learning and Teacher Education


Ronald M. Lewis  Animal Science


Daniel G. Linzell  Civil and Environmental Engineering


Yanxin (Graham) Liu  Finance

Elizabeth Lorang  University Libraries


Susan Loveall-Hague  Special Education and Communication Disorders

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<thead>
<tr>
<th>Name</th>
<th>College/Major</th>
<th>Journal articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kate Lyons</td>
<td>Biological Sciences</td>
<td>With C.P. Hedberg, F.A. Smith. The hidden legacy of megafaunal extinction: Loss of functional diversity and resilience over the Late Quaternary at Hall’s Cave. <em>Global Ecology and Biogeography</em>. Nov. 18, 2021.</td>
</tr>
</tbody>
</table>
Keegan J. Moore  Mechanical & Materials Engineering

Regis Moreau  Nutrition and Health Sciences

Etsuko Moriyama  Biological Sciences

Sathish Kumar Natarajan  Nutrition and Health Sciences/Nebraska Center for the Prevention of Obesity Diseases

Mehrdad Negahban  Mechanical & Materials Engineering

Stanislava Nikolova  Finance

Lia Nogueira  Agricultural Economics
Hasan Otu  Electrical and Computer Engineering


Jae Sung Park  Mechanical & Materials Engineering


Jessica Petersen  Animal Science


Julie A. Peterson  Entomology/West Central Research and Extension Center

Brian A. Petrotta  Sports Media and Communication


Kevin Pitt  Special Education and Communication Disorders


Wen Qian  Mechanical & Materials Engineering

Falah N. Rashoka  Nutrition and Health Sciences
Leslie C. Rault  
*Entomology*  

Julia Reilly  
*Global Integrative Studies*  

Heather Richards-Rissetto  
*Global Integrative Studies*  

Wayne Riekhof  
*Biological Sciences*  

Sabrina Russo  
*Biological Sciences*  


Sangjin Ryu  
*Mechanical & Materials Engineering*  

Rajib Saha  
*Chemical and Biomolecular Engineering*  


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<tr>
<th>Name</th>
<th>Department/Program</th>
<th>Title</th>
<th>Journal/Publication</th>
</tr>
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<tbody>
<tr>
<td>Doug H. Schultz</td>
<td>Center for Brain, Biology and Behavior/ Psychology</td>
<td>Global connectivity fingerprints predict the domain generality of multiple-demand regions.</td>
<td><em>Cerebral Cortex</em>. Jan. 24, 2022.</td>
</tr>
<tr>
<td>With S.A. Garbacz.</td>
<td></td>
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</tr>
</tbody>
</table>
Troy A. Smith  Management

Wendy M. Smith  Center for Science, Mathematics and Computer Education/Mathematics
With Matthew Voigt, Molly Williams, Rachel Funk, Karina Uhing. Active learning; Advice for starting a movement in your department. AMS Notices. May 1, 2022.


With Brett Criswell, Gregory Rushton, Jan Yow et al. Seeing as to become as: Professional vision evolution as part of teacher leader development. AAAS ARISE. Sept. 1, 2021.

With Molly Williams, Rachel Funk, Nathan Wakefield et al. In the driver’s seat: Course coordinators as change agents for active learning in university precalculus to calculus 2. International Journal of Research in Undergraduate Mathematics Education. April 1, 2022.

Jason Stamm  Sports Media and Communication
With Brandon Boatwright. We love you, we hate you: Fan Twitter response to top college football recruits’ decisions. International Journal of Sport Communication. Aug. 27, 2021.


Gary A. Sullivan  Animal Science


Ryan Sullivan  Law

Laura Thompson  Eastern Nebraska Research and Extension Center

Todd Thornock  Accountancy


James F. Tierney  Law

Brenden Timpe  Economics

Silvana Trimi  Supply Chain Management and Analytics


Judith K. Turk  Natural Resources
Robert Twomey  Johnny Carson Center for Emerging Media Arts
With Tommy Sharkey, Amy Eguchi, Ying Wu. Need finding for an embodied coding platform: Educators’ practices and perspectives.  
*Proceedings of the 14th International Conference on Computer Supported Education* - Volume 1. April 22, 2022.

Donald P. Umstadter  Physics and Astronomy
With Qiang Chen, Junzhi Wang, Shao Xian Lee et al. Transient, relativistic plasma grating for tailoring high-power laser fields, wakefield plasma waves, and electron injection.  

Emre Unlu  Finance
With Geoffrey C. Friesen, Noel Pavel Jeutang. The effect of unsuccessful past repurchases on future repurchasing decisions.  

With Paul Brockman, Jan Hanousek, Jiri Tresl. Dividend smoothing and firm valuation.  

With Zhe Li, Julie Wu. Are social connections of independent directors all the same? Evidence from corporate monitoring.  

James L. Van Etten  Plant Pathology
With S.L. Rose, M. Khasin, J.E. Markham, W.R. Riekhof, K.W. Nickerson et al. Sterol biosynthesis in four green algae: A bioinformatic analysis of the ergosterol versus phytosterol decision point.  


With I. Speciale, F. Di Lorenzo, E.A. Noel, I.V. Agarkova et al. N-glycan from *Paramecium bursaria* chlorella virus MA-1D: Re-evaluation of the oligosaccharide common core structure.  

With T.M. Petro, I.V. Agarkova, D.D. Dunigan et al. The chlorovirus types detected in ALS patients through serum antibodies also accelerate motor deterioration in SODG93A transgenic mice.  


Alex J. Vecchio  Biochemistry
With Chinemerem P. Ogbu, Sourav Roy. Disruption of claudin-mode tight junction barriers by *Clostridium perfringens* enterotoxin: Insights from structural biology.  

*ACS nano*. Nov. 8, 2021.

Shari R. Veil  Advertising and Public Relations
With Damion Waymer. Crisis narrative and the paradox of erasure: Making room for dialectic tension in a cancel culture.  

Mark P. Vrtiska  Natural Resources

Peter Wagner  Biological Sciences
With C.R. Congreve, M.E. Patzkowsky. An early burst in brachiopod evolution corresponding with significant climatic shifts during the Great Ordovician Biodiversification Event.  

Jessica Fargen Walsh  Journalism
With Gregory Perreault, Ruth Moon, Mildred Perreault. “It’s not hate but...”: Marginal categories in rural journalism.  
*Journalism Practice*. May 16, 2022.

Cory G. Walters  Agricultural Economics
With Azzeddine Azzam, Taylor Kaus. Does subsidized crop insurance affect farm industry structure?  

Liyang Wang  Finance
Lifting the veil: Price formation of corporate bond offerings.  

With Jean Helwege. Liquidity and price pressure in the corporate bond market: Evidence from mega-bonds.  
Yanan Wang  Electrical and Computer Engineering

Yingying Wang  Special Education and Communication Disorders/Center for Brain, Biology and Behavior


Brian D. Wardlow  Natural Resources

Lorey A. Wheeler  Center for Research on Children, Youth, Families and Schools

Matt Wiebe  Veterinary Medicine and Biomedical Sciences

Richard A. Wilson  Plant Pathology


With Ziwen Gong, Na Ning, Zhiqiang Li et al. Two *Magnaporthe* appressoria-specific (MAS) proteins, MoMas3 and MoMas5, are required for suppressing host innate immunity and promoting biotrophic growth in rice cells. *Molecular Plant Pathology*. May 8, 2022.


Richard L. Wood  Civil and Environmental Engineering


Robert H. Woody  Glenn Korff School of Music

Biyu Wu  Accountancy


J. (Julie) Wu  Finance


Liang Xu  Supply Chain Management and Analytics
Xiaoshan Xu  
**Physics and Astronomy**  

Changmin Yan  
**Advising and Public Relations**  

Yiqi Yang  
**Textiles, Merchandising and Fashion Design/Biological Systems Engineering**  


Janos Zempleni  
**Nutrition and Health Sciences**  


Chi Zhang  
**Biological Sciences**  


Jinying Zhu  
**Civil and Environmental Engineering**  


Shengchao Zhuang  Finance


Federico Zincenko  Economics

Robert Zink  Biological Sciences

Sarah J. Zuckerman  Educational Administration

The CMS Collaboration comprises more than 4,000 particle physicists, engineers, computer scientists, technicians and students from around 200 institutes and universities from more than 40 countries.

The collaboration operates and collects data from the Compact Muon Solenoid, one of the general-purpose particle detectors at CERN’s Large Hadron Collider in Geneva, Switzerland.

In keeping with CERN’s commitment to open access for high-energy physics, the scientific results from CMS are shared openly with the world. A number of faculty members in UNL’s Department of Physics and Astronomy are part of the CMS Collaboration and have contributed to an impressive body of literature over the past year.

Search for nonresonant Higgs boson pair production in final state with two bottom quarks and two tau leptons in proton-proton collisions at √s = 13 TeV. *Physics Letters B*. June 19, 2022.


Observation of τ lepton pair production in ultraperipheral lead-lead collisions at √s_{NN} = 5.02 TeV. *Physical Review Letters*. June 10, 2022.


Combination of inclusive top-quark pair production cross-section measurements using ATLAS and CMS data at √s = 7 and 8 TeV. *Journal of High Energy Physics*. May 25, 2022.


Search for long-lived particles decaying to a pair of muons in proton-proton collisions at √s = 13 TeV. *Journal of High Energy Physics*. May 17, 2022.


Measurements of Higgs boson production in the decay channel with a pair of ττ leptons in proton-proton collisions at √s = 13 TeV. *European Physical Journal C*. April 27, 2022.


Search for new particles in an extended Higgs sector with four b quarks in the final state at √s = 13 TeV. *Physics Letters B*. March 1, 2022.

Search for a W’ boson decaying to a vector-like quark and a top or bottom quark in the all-jets final state at √s = 13 TeV. *Journal of High Energy Physics*. Feb. 25, 2022.


Measurement of the inclusive $t\bar{t}$ production cross section in proton-proton collisions at $\sqrt{s} = 5.02$ TeV. *Journal of High Energy Physics*. Dec. 16, 2021.

Evidence for WW/WZ vector boson scattering in the decay channel $\ell\nu q\bar{q}$ produced in association with two jets in proton-proton collisions at $\sqrt{s} = 13$ TeV. *Physics Letters B*. Dec. 9, 2021.


Search for heavy resonances decaying to a pair of Lorentz-boosted Higgs bosons in final states with leptons and a bottom quark pair at $\sqrt{s} = 13$ TeV. *Journal of High Energy Physics*. Dec. 6, 2021.


Search for heavy resonances decaying to ZZ or ZW and axion-like particles mediating nonresonant ZZ or ZH production at $\sqrt{s} = 13$ TeV. *Journal of High Energy Physics*. Nov. 27, 2021.


Search for a heavy resonance decaying into a top quark and a W boson in the lepton+jets final state at $\sqrt{s} = 13$ TeV. *Journal of High Energy Physics*. Nov. 19, 2021.


Search for supersymmetry in final states with two or three soft leptons and missing transverse momentum in proton-proton collisions at $\sqrt{s} = 13$ TeV. *Journal of High Energy Physics*. Nov. 11, 2021.

Observation of triple $J/\psi\psi$ meson production in proton-proton collisions at $\sqrt{s} = 13$ TeV. *Nature Physics*. Nov. 9, 2021.

Study of dijet events with large rapidity separation in proton-proton collisions at $\sqrt{s} = 2.76$ TeV. *Journal of High Energy Physics*. Nov. 8, 2021.


Search for flavor-changing neutral current interactions of the top quark and Higgs boson in final states with two photons in proton-proton collisions at $\sqrt{s} = 13$ TeV. *European Physical Journal C*. Nov. 1, 2021.


Analysis of the CP structure of the Yukawa coupling between the Higgs boson and $t\bar{t}$ leptons in proton-proton collisions at $\sqrt{s} = 13$ TeV. *Journal of High Energy Physics*. Oct. 10, 2021.


Search for heavy resonances decaying to $Z(\nu\bar{\nu})W(q\bar{q})$ in proton-proton collisions at $\sqrt{s} = 13$ TeV. *Physical Review D*. Sept. 17, 2021.

Search for heavy resonances decaying to $WW, WZ, or WH$ boson pairs in the lepton plus merged jet final state in proton-proton collisions at $\sqrt{s} = 13$ TeV. *Physical Review D*. Sept. 13, 2021.

Observation of $B^0_s$ mesons and measurement of the $B^0_s/B^+$ yield ratio in PbPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV. *Physics Letters B*. Sept. 4, 2021.


Measurement of differential $t\bar{t}$ production cross sections in the full kinematic range using lepton+jets events from proton-proton collisions at $\sqrt{s} = 13$ TeV. *Physical Review D*. Aug. 5, 2021.


Measurement of the inclusive and differential $t\bar{t}\gamma$ cross sections in the single-lepton channel and EFT interpretation at $\sqrt{s} = 13$ TeV. *Journal of High Energy Physics*. July 3, 2021.


Presentations at Professional Conferences
Faculty who have presented at professional conferences
July 1, 2021–June 30, 2022
UNL co-presenters designated in red
(Identified by those who submitted items for inclusion)
Submitted by faculty, chairs/heads or deans

Dena M. Abbott  Educational Psychology

Marco Abel  English

Blessing F. Ademokoya  Entomology

John E. Anderson  Economics

Hamid Bagheri  Computing

Carolyn Barber  Glenn Korff School of Music

Raul G. Barletta  Veterinary Medicine and Biomedical Sciences

Steven M. Barlow  Special Education and Communication Disorders/ Biological Systems Engineering/ Center for Brain, Biology, and Behavior

Christopher R. Bilder  Statistics
Anita Breckbill
University Libraries

Kelli Britten
Advertising and Public Relations

John Brunero
Philosophy


Presenter/speaker. Practical reasons, theoretical reasons, and underdetermination. St. Louis Annual Conference on Reasons and Rationality. University of Missouri-St. Louis/St. Louis University/Washington University, St. Louis, MO. Aug. 10-13, 2021.

Anthony Bushard
Glenn Korff School of Music

Theresa Catalano
Teaching, Learning and Teacher Education/
Modern Languages and Literatures


Katelyn Coburn
Child, Youth and Family Studies


Matt Cohen
English


Edward Dawson
Modern Languages and Literatures
Kiyomi D. Deards


Presenter/speaker, with Casey Hoeve. Creating a popular science collection to support interest, research, and curriculum support at the University of Nebraska–Lincoln Libraries. Pop Culture Association National Conference. Online. April 13-16, 2022.

Heidi A. Dieffes-Dux

Thomas Dotzel
Presenter/speaker, with Venkatesh Shankar. The differential effects of goods, services, and software innovations on firm value and firm risk for technology firms. Theory and Practice in Marketing Conference. Emory University, Atlanta, GA. May 10-12, 2022.

David D. Dunigan


Pierce D. Ekstrom

Julia L. Frengs


Sue Ann Gardner

Marques Garrett


Danni Gilbert  
**Glenn Korff School of Music**

Presenter/speaker, with Briana Nannen, Susan Vollbrecht. Faculty opportunities for advancement in higher education music settings. Florida Music Educators Association Conference. Tampa, FL. Jan. 11-15, 2021.


Iker González-Allende  
**Modern Languages and Literatures**


Patricio Grassini  
**Agronomy and Horticulture**


Jason Griffiths  
**Architecture**

Presenter/speaker, with Caroline Goertz and Jacob Urban. XX-LAM. The International Mass Timber Conference. Portland, OR. March 27-29, 2022.

Yawen Guan  
**Statistics**


Frauke Hachtmann  
**Advertising and Public Relations/Sports Media and Communication**
Presenter/speaker, with Brandon Nutting. The impact of top college football teams’ social media value on institutions’ admissions and persistence rates. International Association for Communication and Sport Summit. Glassboro, NJ. March 3-6, 2022.


Andrew Hamann  
**Biological Systems Engineering**


Edmund ‘Ted’ Hamann  Teaching, Learning and Teacher Education


Andrew A. Hanna  Management


Jillian Harpster  Teaching, Learning and Teacher Education

Presenter/speaker, with Katherine Hill, Alexis Gardner. Dynamic leadership: Inspiring literacy leaders. Plum Creek Literacy Festival. Concordia University, Seward, NE. Sept. 25, 2021.

Ling L. Harris  Accountancy

Robert M. Harveson  Plant Pathology/ Panhandle Research and Extension Center


Abla Hasan  Modern Languages and Literatures


Jiong Hu  Civil and Environmental Engineering
Presenter/speaker. Eco-efficient self consolidating concrete (Eco-SCC) with low powder content and recycled concrete aggregate. American Concrete Institute Spring Convention. Orlando, FL. March 27-30, 2022.


Qi S. Hu  Natural Resources/Earth and Atmospheric Sciences


Michelle Hughes  Special Education and Communication Disorders


Tom E. Hunt  Entomology


Hye-Won Hwang  Glenn Korff School of Music

Danielle C. Jefferis  Law

Jennifer Johnson Jorgensen  Textiles, Merchandising and Fashion Design


Valerie K. Jones  Advertising and Public Relations
Presenter/speaker, with Jessica Fargen Walsh. “The only woman I can tell to shut up”: Exploring continued personal voice assistant use among older, socially isolated adults during the pandemic. Association for Education in Journalism and Mass Communication Midwinter Conference. Gaylord, OK. March 4-5, 2022.

David Karle  Architecture/Landscape Architecture


Dane Kiambi  Public Relations and Advertising

Jinku Kim  Johnny Carson Center for Emerging Media Arts

Ciera E. Kirkpatrick  Advertising and Public Relations


Stanley V. Kleppinger  Glenn Korff School of Music

Iason Konstantzos  Durham School of Architectural Engineering and Construction

Alexey Kovalev  Physics and Astronomy


Alok Kumar  Marketing
Yingchao Lan  
Supply Chain Management and Analytics

Tom Larson  
Glenn Korff School of Music/
Johnny Carson Center for Emerging Media Arts
Presenter/speaker. Trilateral. International Society of Jazz Arrangers and Composers. Butler School of Music, University of Texas at Austin, Austin, TX. May 12-14, 2022.

Ronald M. Lewis  
Animal Science

Yijia Lin  
Finance

Daniel Linzell  
Civil and Environmental Engineering


Susan Loveall-Hague  
Special Education and Communication Disorders


Andre Maciel  
Marketing

Keeley MacNeill  
Natural Resources

Izuchukwu Mbaraonye  
Management

Anthony Justin McMechan  
Entomology

**Lance J. Meinke**  
**Entomology**  


**Kendra L. Ordia**  
**Interior Design**  


**Morgan E. Palmer**  
**Classics and Religious Studies/Women’s and Gender Studies**  


**Logan A. Perry**  
**Civil and Environmental Engineering**  

**Julie A. Peterson**  
**West Central Research and Extension Center**  


**Nora M. Peterson**  
**Modern Languages and Literatures**  


**Brian A. Petrozza**  
**Sports Media and Communication**  

**Kenneth M. Price**  
**English**  


Leslie C. Rault  
**Entomology**


Arman Roohi  
**Computing**


Blake Runnalls  
**Marketing**


Sangjin Ryu  
**Mechanical & Materials Engineering**


Rajib Saha  
**Chemical and Biomolecular Engineering**

Presenter/speaker, with Niaz Bahar Chowdhury, Wheaton Lane Schroeder, Dongdong Zhang et al. Integrated computational and experimental study to dissect the stress response of maize root. American Institute of Chemical Engineers Annual Meeting. Boston, MA. Nov. 7-12, 2021.


Presenter/speaker, with Mohammad Mazharul Islam, Andrea Goertzen. Metabolic modeling to explore the landscape of pancreatic ductal adenocarcinoma cells in diverse physiological conditions. American Institute of Chemical Engineers Annual Meeting. Boston, MA. Nov. 7-12, 2021.

Presenter/speaker, with Mohammad Mazharul Islam. Omics-informed metabolic modeling identifies regulatory mechanisms in *Staphylococcus aureus* mutants. American Institute of Chemical Engineers Annual Meeting. Boston, MA. Nov. 7-12, 2021.


**Amit Saini**  Marketing

**Sajeesh Sajeesh**  Marketing

**Susan M. Sheridan**  Education and Human Sciences/Center for Research on Children, Youth, Families and Schools


**Patricia A. Simpson**  Modern Languages and Literatures


**Sunil K. Singh**  Marketing
Ash Eliza Smith  Johnny Carson Center for Emerging Media Arts/Art, Art History and Design

Ravipreet S. Sohi  Marketing

Jason Stamm  Sports Media and Communication

Roberto Stein  Finance

Hideo Suzuki  Educational Psychology


James F. Tierney  Law

Varkey Titus Jr.  Management

Sonya Grace Türkman  Interior Design

Robert Twomey  Johnny Carson Center for Emerging Media Arts


Mark van Roojen
Philosophy

Alex J. Vecchio
Biochemistry
Presenter/speaker. Natural and synthetic molecules that enable structure determination of claudins reveal mechanisms of and strategies to treat Clostridium perfringens enterotoxin-based gastrointestinal disorders. Membrane Proteins in Health and Disease, Canadian Society for Molecular Biosciences. Banff, Alberta, Canada. April 6-10, 2022.


Jessica Fargen Walsh
Journalism

Presenter/speaker, with Valerie Jones. “The only woman I can tell to shut up”: Exploring continued PVA use among older, socially isolated adults during the pandemic. Association for Education in Journalism and Mass Communication MidWinter Conference. Norman, OK. March 4-5, 2022.


Liying Wang
Finance


Yanan Wang
Electrical and Computer Engineering
Yingying Wang  Special Education and Communication Disorders/  
Center for Brain, Biology and Behavior
Presenter/speaker, with Yinbo Wu. Hemodynamics of speech-evoked  
networks in adults: An fNIRS study. 30th Anniversary Meeting of the  
Cognitive Neuroscience Society. San Francisco, CA. March 25-28,  
2022.

Presenter/speaker. Dynamic causal modeling of neural responses  
to an orofacial pneumatotactile velocity array. Annual Meeting of the  
Organization for Human Brain Mapping. Glasgow, UK. June 19-23,  
2022.

Sandra Williams  Art, Art History and Design
Presenter/speaker. Magic and loss: Images of indigeneity in Latin  
American street art. Southwest Popular and American Culture  

Janos Zempleni  Nutrition and Health Sciences
Presenter/speaker, with S. Wang, J. Auchtung. Milk exosomes select  
mutations that decrease the toxicity of *Clostridioides difficile*.  

Presenter/speaker, with A. Ngu. Genetically altered bovine milk  
exosomes (BMEs) evade elimination by murine bone marrow-derived  
macrophages (BMDMs). American Society for Nutrition Conference  

Invited speaker. The use of milk exosomes to increase the expression  

Invited speaker. Novel bioactive compounds in milk: Exosomes.  
Harold Hamm Diabetes Center, University of Oklahoma, Oklahoma  
City, OK. Via Zoom. March 21, 2022.

Invited speaker. Milk exosomes and the gut brain axis. Extracellular  
Vesicles in GI Physiology and Beyond Symposium. American  

Invited speaker, with A. Ngu. Bovine mammary alveolar MAC-T cells  
afford a tool for designing milk exosomes optimized for drug delivery.  
Gordon Research Conference: Nanoscale Science and Engineering for  
Agriculture and Food Systems. Southern New Hampshire University,  

Invited speaker, with A. Khanam, J. Adamec. Time courses of milk- 
derived extracellular vesicles in murine plasma. Nebraska Research  
Days. University of Nebraska–Lincoln, Lincoln, NE. April 12, 2022.

Invited speaker, with P.T. Mumtaz. Extracellular vesicles from  
*Bifidobacterium infantis* are bioavailable in C57BL/6J mice and  
human intestinal Caco-2 cells. Nebraska Center for the Prevention  
of Obesity Diseases Annual Spring Research Retreat. University of  
Nebraska–Lincoln, Lincoln, NE. April 19, 2022.

Invited speaker, with A. Ngu. Genetically altered bovine milk  
exosomes (BMEs) evade elimination by murine bone marrow-derived  
macrophages (BMDMs). NPOD Annual Spring Research Retreat.  
University of Nebraska–Lincoln, Lincoln, NE. April 19, 2022.

Invited speaker. Milk exosomes select mutations that decrease the  
toxicity of *Clostridioides difficile*. NPOD Annual Spring Research  

Sarah J. Zuckerman  Educational Administration
Presenter/speaker. Rural superintendent turnover in challenging  
Columbus, OH. Nov. 11-14, 2021.

Presenter/speaker, with Jeff Walls. Rural superintendents critical  
leadership of place: Creating caring during the COVID-19 pandemic.  
American Educational Research Association Annual Meeting. San  
Diego, CA. April 21-26, 2022.
Mentorship: UCARE and FYRE Programs

The Undergraduate Creative Activities and Research Experience program and the First Year Research Experience program enable Husker undergraduate students to work one-on-one with a faculty member on a research or creative project in the mentor’s field of scholarship. The following faculty members mentored students during the summer of 2021 and/or the 2021-2022 academic year. Student UCARE researchers are identified by name, major, and project title. FYRE students, who are assigned to laboratories rather than specific projects, are identified by name and major.

Compiled by the Office of Undergraduate Research and Fellowships

Jiri Adamec
Biochemistry
Samuel Aguilera Robledo, biochemistry. Metabolic Profiling of Selected Crop Genotypes

Heather Akin
Agricultural Leadership, Education and Communication
Divine Mbabazi, integrated science. Mental Health in Rwanda

Vitali Alexandrov
Chemical and Biomolecular Engineering
Adam Eddy, chemical engineering. Role of Electrical Double Layer in Alkaline Hydrogen Electrocatalysis

Katie Anania
Art, Art History and Design
Aster Canady, art history and criticism/art. Art and Design Database on Food Water and Ecological Disaster

Troy Anderson
Entomology
Skylor Gubbels, insect science/biological sciences. Ticks and Tick-borne Pathogens in Pollinator Gardens of Nebraska

Faith Podzimek, anthropology (FYRE)

Matthew Andrews
Natural Resources
Ashley McMurchie, Spanish/microbiology. Adapting Hibernation to Rat Hepatic Ischemia to Solve Donor Organ Shortage

Kevin Rugira, integrated science. Project title unknown

Byron Anway
Art, Art History and Design
Adriana Catalan, art. Pictorial Representations of Memory, Watercolor on Paper

Noah Giron, graphic design. Studio Assistant in Textile Research

Enrique Martinez, art. Drawing from Memory, Wood-cut Relief Printing

Jennie Wang, graphic design. Gatherings: Drawings of Spirituality, Memory, and Dreams

Effie Athanassopoulos
Anthropology
Aryca King, geology. UNL Campus Archaeology Project - 3D Modeling of Artifacts

Grant Neuverth, pre-health. UNL Campus Medical Archaeology Project

Ayla Volante, anthropology. UNL Campus Archaeology Project - 3D Modeling of Artifacts

Audrey Atkin
Agricultural Leadership, Education and Communication
Ester Uwamahoro, integrated science. Mental Health in Rwanda

Jennifer Auchtung
Food Science and Technology
Himanshu Gandhi, microbiology/English (FYRE)

Makenzie Maroney, biological sciences/psychology. The Effects of Mucosal Sugars on Clostridioides Difficile Colonization Resistance

Raul Barletta
Veterinary Medicine and Biomedical Sciences
Evan Anderson, biochemistry. Functional Analysis of Mycobacterial Enzymes Involved in Peptidoglycan Biosynthesis

Alexander Belashchenko, microbiology/biochemistry. Functional Analysis of Mycobacterial Enzymes Involved in Peptidoglycan Biosynthesis

Misha Gansvind, computer science. Functional Analysis of Mycobacterial Enzymes Involved in Peptidoglycan Biosynthesis

Shannon Bartelt-Hunt
Civil and Environmental Engineering
Seth Caines, biological systems engineering. Textiles as a Source of Microplastic Fibers to Nebraska Streams
### UCARE/FYRE Projects

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<thead>
<tr>
<th>Name</th>
<th>Department</th>
<th>Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andrea Basche</td>
<td>Agronomy and Horticulture</td>
<td>Frazier Kaelin, grassland systems/animal science (FYRE)</td>
</tr>
<tr>
<td>Aime Christian Tuyishime</td>
<td>Integrated Science</td>
<td>Comparing Decomposition and Measuring Amount of Nitrogen and Carbon Released from Cereal Rye and Hairy Vetch</td>
</tr>
<tr>
<td>Yvon Ukwishaka</td>
<td>Integrated Science</td>
<td>Using Artificial Intelligence to Introduce Cover Crops in Sub-Saharan Africa</td>
</tr>
<tr>
<td>Greg Bashford</td>
<td>Biological Systems Engineering</td>
<td>Nate Brandyberry, biological systems engineering. A Low-cost, Portable Transcranial Doppler Instrument</td>
</tr>
<tr>
<td>Theo Joseph</td>
<td>Biological Systems Engineering</td>
<td>Validating a Novel Index for Spatial Frequency Analysis of Human Tendons Using Ultrasound</td>
</tr>
<tr>
<td>Mona Bavarian</td>
<td>Chemical and Biomolecular Engineering</td>
<td>Jarod Harris, chemical engineering. CO2 Sorption Properties of Supported Ionic Liquid Membranes</td>
</tr>
<tr>
<td>Rick Bevins</td>
<td>Psychology</td>
<td>Eli Grabin, biochemistry. Effect of Methylphenidate on Ethanol Reward Enhancement</td>
</tr>
<tr>
<td>Sydney Houser</td>
<td>Biological Sciences/Psychology</td>
<td>Investigation of Cotinine as a Positive Allosteric Modulator</td>
</tr>
<tr>
<td>Patrick White</td>
<td>Biological Sciences</td>
<td>Effects of Methylphenidate on Ethanol Reward Enhancement</td>
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<tr>
<td>Margaret Bohls</td>
<td>Art, Art History and Design</td>
<td>Rayetta Benson-Redinbaugh, art. Glaze Research and Testing</td>
</tr>
<tr>
<td>Humberto Blanco</td>
<td>Agronomy and Horticulture</td>
<td>Emaud Hossaini, undeclared (FYRE)</td>
</tr>
<tr>
<td>Page Nippert</td>
<td>Applied Climate Science</td>
<td>Inducing Mutations in Mitochondrial and Chloroplast Genomes (FYRE)</td>
</tr>
<tr>
<td>Berthe Choueiry</td>
<td>Computing</td>
<td>Simreen Kaur, computer science. Visualizations to Explain the Behavior of Search</td>
</tr>
<tr>
<td>Caleb Koranda</td>
<td>Computing</td>
<td>Ryan Lampe, computer engineering. Intervention on Schelling’s Models of Segregation</td>
</tr>
<tr>
<td>Chase Resio</td>
<td>Computing</td>
<td>Ryan Lampe, computer engineering. Intervention on Schelling’s Models of Segregation</td>
</tr>
<tr>
<td>Alan Christensen</td>
<td>Biological Sciences</td>
<td>Cambelle Johnson, biochemistry. Inducing Mutations in Mitochondrial and Chloroplast Genomes</td>
</tr>
<tr>
<td>Jacqueline Korth</td>
<td>Biological Sciences</td>
<td>Inducing Mutations in Mitochondrial and Chloroplast Genomes</td>
</tr>
<tr>
<td>Jessica Corman</td>
<td>Natural Resources</td>
<td>Maddie Carpenter, biological systems engineering. Niobrara River Project</td>
</tr>
<tr>
<td>Muzn Mohamed</td>
<td>Biochemistry</td>
<td>Amy Le, microbiology (FYRE)</td>
</tr>
<tr>
<td>Dominic Nath</td>
<td>Psychology</td>
<td>Anh Le, pre-health/pre-nursing (FYRE)</td>
</tr>
<tr>
<td>Nayla Torres Ruiz</td>
<td>Anthropology/Spanish</td>
<td>Validating a Novel Index for Spatial Frequency Analysis of Human Tendons Using Ultrasound</td>
</tr>
<tr>
<td>Allison Ulness</td>
<td>Biological Sciences</td>
<td>Identification of the Anti-SARS-CoV2 Immunoglobulins by a Fluorescence-based Detection Method</td>
</tr>
<tr>
<td>Simreen Kaur</td>
<td>Computer Science</td>
<td>Visualizations to Explain the Behavior of Search</td>
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<tr>
<td>Ryan Lampe</td>
<td>Computer Science</td>
<td>Constraint Processing Applied to the Game of SET</td>
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<td>Chase Resio</td>
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<td>Psychology</td>
<td>Identifying Mutations in Mitochondrial and Chloroplast Genomes (FYRE)</td>
</tr>
<tr>
<td>Malaya Wingert</td>
<td>Biological Systems Engineering</td>
<td>Madison Carpenter, biological systems engineering. Niobrara River Project</td>
</tr>
<tr>
<td>Angela Huebert</td>
<td>Speech-Language Pathology</td>
<td>Effects of Hearing Aid Amplification on the Ability of Individuals with Hearing Loss to Perceive Spectral Information</td>
</tr>
<tr>
<td>Name</td>
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<td>Projects</td>
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</tr>
<tr>
<td>Roberto Cortinas</td>
<td>Veterinary Medicine and Biomedical Sciences</td>
<td>Brittany Horbach, veterinary science/pre-veterinary medicine. Established Tick Species and Risk of Tick-borne Disease Along the Platte River Corridor</td>
</tr>
<tr>
<td>Miranda Kahn</td>
<td>Veterinary Medicine and Biomedical Sciences</td>
<td>Brittany Horbach, veterinary science/pre-veterinary medicine. Established Tick Species and Risk of Tick-borne Disease Along the Platte River Corridor</td>
</tr>
<tr>
<td>Clay Cressler</td>
<td>Biological Sciences</td>
<td>Mason Bruggeman, biological sciences (FYRE) Catherine Veseth, biological sciences. The Effect of <em>Daphnia Magna</em> on Harmful Algae Blooms <em>Microcystis</em> and <em>Anabaena</em></td>
</tr>
<tr>
<td>Andrea Cupp</td>
<td>Animal Science</td>
<td>Brooke Bell (Rudloff), animal science/pre-veterinary medicine. Identification of Small Nucleotide Polymorphisms in FSHR, AMH and AMHR2 That May Predict Heifer Pubertal Attainment Ailenn Castillo, forensic science (FYRE) Josie Ganser, animal science: business and communications (FYRE)</td>
</tr>
<tr>
<td>Lory Dance</td>
<td>Sociology/Ethnic Studies</td>
<td>Batool Ibrahim, global studies/political science. Black Barriers in Higher Education: An Effort to Improve Black Undergraduate Retention at the University of Nebraska–Lincoln</td>
</tr>
<tr>
<td>Joseph Dauer</td>
<td>Natural Resources</td>
<td>McKenna Elliott, biological sciences. Correlation Between Model-based Learning and Student GPA</td>
</tr>
<tr>
<td>Jeffrey Day</td>
<td>Architecture</td>
<td>Ethan Boerner, architectural studies. FACT Omaha Mobile Stage</td>
</tr>
<tr>
<td>Amy Desaulniers</td>
<td>Veterinary Medicine and Biomedical Sciences</td>
<td>Steven Faltas, biological sciences (FYRE) Carlene Nguyen, biological sciences (FYRE)</td>
</tr>
<tr>
<td>Dipti Dev</td>
<td>Child, Youth and Family Studies</td>
<td>Madeline Holland, biochemistry/nutritional science and dietetics. EAT Family Style Adaptations to the Childcare Home Setting</td>
</tr>
<tr>
<td>Sarah Deyong</td>
<td>Architecture</td>
<td>Rianna Gunter, architectural studies. A Speculative Design Proposal for an Inclusive Student Learning Center</td>
</tr>
<tr>
<td>Ross Dixon</td>
<td>Earth and Atmospheric Sciences</td>
<td>Allyson Barry, political science/environmental studies. Extreme Changes in Precipitation Across the Great Plains Using a Regional Climate Model</td>
</tr>
<tr>
<td>Michael Dodd</td>
<td>Psychology/Center for Brain, Biology and Behavior</td>
<td>Audrey Denning, psychology (FYRE) Justin Frandsen, psychology. The Effects of Desk Clutter on Cognitive Processing Joshua Magee, psychology. Objectively Detecting Mind-wandering While Reading Kaitlyn Meier, psychology (FYRE)</td>
</tr>
<tr>
<td>Mary Ellen Ducey</td>
<td>University Libraries</td>
<td>Jake Borgmann, history/ethnic studies. UNL Archives Indigenous History</td>
</tr>
<tr>
<td>Robert Dyer</td>
<td>Computing</td>
<td>Parul Aggarwal, computer science. Investigating the Use of Method Chains in Java and Python Programming Languages Ali Keshk, computer science (FYRE)</td>
</tr>
</tbody>
</table>
Catherine Eichhorn  Chemistry
Luke Buettner, actuarial science. iCLIP Data Analysis of 7SK Related Proteins Using the Holland Computing Center
Amr Mohamed, biochemistry. In Vitro and In Vivo RBM7 Protein Expression Optimization and Purification to Investigate Protein Interactions upon DNA Damage
Jacob Sorensen, biochemistry. Protein-bound RNA Effect on 7SK Secondary Structure

Lynne Elkins  Earth and Atmospheric Sciences
Dana Andersen, English/geology. Analysis of ‘Petit Spot’ Volcanic Samples
Jessica Sorsen, geology. Kane-Atlantis

Dennis Ferraro  Natural Resources
Matthew Klein, fisheries and wildlife. Captive Feeding Regimes on Growth and Development in Colubrid Snake Hatchling: Implications for At-Risk Species Conservation Programs
Nicholas Kowal, fisheries and wildlife. Analyzing Genetic Diversity and Morphology of Nebraska’s Short-horned Lizard Populations (Phrynosoma hernandesi) for Taxonomy and Conservation / Nebraska’s Short-horned Lizard Genetic Diversity, Landscape Occupancy, and Population Status Assessment (Year Two)

Jenna Finch  Psychology
Ali Benda, psychology. Academic Success in Elementary School: An Evaluation of Executive Functions and Motivation
Riley Bittner, psychology/biological sciences. Creation and Validation of a Novel Behavioral Coding Scheme for Parent-Child Interactions Influencing Motivation
Isis Burks, psychology. Associations Between Children’s Executive Functions and Academic Success: The Moderating Role of Parents’ Self-Regulation
Peyton Geiser, psychology/sociology. Associations Between Children’s Executive Functions and Academic Success: The Moderating Role of Parents’ Self-Regulation
Nate McQueen, psychology. Academic Success in Elementary School: An Evaluation of Executive Functions and Motivation
Haley Witthuhn, psychology. Associations Between Children’s Executive Functions and Academic Success: The Moderating Role of Parents’ Self-Regulation

Jesse Fleming  Johnny Carson Center for Emerging Media Arts
Kai Okamoto, film studies (FYRE)

Mikil Foss  Mathematics
Michael Pieper, mathematics/philosophy. Nonlocal Generalizations of the Lavrentiev Gap Phenomenon

Trenton Franz  Natural Resources
Bailey Mullins, environmental studies. Comparing Corporate Greenhouse Gas Responsibility Programs and Methodologies

Lilyan Fulginiti  Agricultural Economics
Drew Havens, natural resources and environmental economics/environmental studies. Carbon Credits for Farming: How Could They Work?

Hernan Garcia Ruiz  Plant Pathology
Katie Tran, pre-health. Engineering a Virus to Activate Immunity in Plants

Mohammad Ghashami  Mechanical & Materials Engineering
Miguel Moreno Tenorio, mechanical engineering. Data-Driven Model for Optimum Design of Passive Radiative Coolers

Katarzyna Glowacka  Center for Plant Science Innovation
Bailey McLean, biological sciences. Verifying the Gene AT4G24680 (MOS1) Regulates Non-photochemical Quenching in Arabidopsis thaliana

Frank Golf  Physics and Astronomy
Nathan Kufner-Rodriguez, environmental science (FYRE)
Alberto Rodriguez, mechanical engineering (FYRE)
Hayden Swanson, physics. Methods to Assemble a Precision Timing Detector Using a Programmable Gantry

Robert Gorman  Classics and Religious Studies
Abigail Hanson, history/communication studies. The Valency Structure of Common Greek Verbs
Ryan Smelley, history/classics/religious studies. The Valency Structure of Common Greek Verbs
Kelly Zach, classics and religious studies/history. The Valency Structure of Common Greek Verbs
Mark Griep  Chemistry
Clarissa Mason, biochemistry/chemistry. Bacterial Inhibition

Ingrid Haas  Political Science
Jessica Stump, political science/psychology. Examining the Impact of Political Identification and Morality on Compliance with COVID-19 Public Health Recommendations

David Hansen  Psychology
Zoe Erickson, psychology. Assessing Project SAFE Effectiveness: Impact of Gender on Symptom Severity for Sexually Abused Youth

Edward Harris  Biochemistry
Reed Rohr, biochemistry. Bacterial Expression and Ligand Binding of Purified Domains of Stabilin-2
Evan Schroder, biochemistry/microbiology. Region-specific Interactions of Stabilin-2 and Electronegative Polymers
Lauren Vatter, biochemistry. Bacterial Expression and Ligand Binding of Purified Domains of Stabilin-2

David Harwood  Earth and Atmospheric Sciences
Rylan Chilcott, chemistry/English. Micro-spherules and the Eltanin Meteor Impact

Eileen Hebets  Biological Sciences
William Cao, business administration (FYRE)
Paul Mai, biochemistry (FYRE)

Michael Herman  Biological Sciences
Betty Dessie, microbiology. ASC-U

David Holding  Agronomy and Horticulture
Cleopatra Babor, plant biology. The Breeding of Novel Colored and High Protein Quality Popcorn and Sweet Corn Varieties

Joseph Holmes  Art, Art History and Design
Robin Tipton, psychology (FYRE)

Xia Hong  Physics and Astronomy
Hailey Anderson, physics. Probing 2D Ferroelectricity in van der Waals CuInP_2S_6 Using Piezoresponse Force Microscopy
Alyssa Simpson, physics. Ferroelectric Domain Studies in Free-standing PbZr0.2Ti0.8O3/ La0.67Sr0.33MnO3 Membranes

Debra Hope  Psychology
Christie Seyl, psychology. Differences in Perception of Resilience Factors of Trans and Gender Diverse People in Different Demographic Groups
Josselyn Telule, psychology. Affirming Psychotherapy for Transgender and Gender Diverse Adults: Understanding Affirming and Marginalizing Experiences in Therapy

Adam Houston  Earth and Atmospheric Sciences
Ryan Martz, meteorology/climatology. Urban Heat Islands and Convection Initiation/Rotor Downwash Effect on Temperature Measurements

Peisi Huang  Physics and Astronomy
Juan Silva, physics. New Method of Constricting the Charm Yukawa

Qing Hui  Electrical and Computer Engineering

Christopher Irvin  Art, Art History and Design
Ceyenna Kanne, psychology/art. The Metamorphosis

Nicole Iverson  Biological Systems Engineering
Carley Conovoer, biological systems engineering. Detection of Nitric Oxide for Each Phase of Breast Cancer Cell Growth and Proliferation

Anna Jaffe  Psychology
Jocelyn Covarrubias, psychology. Recovery of Men and Women Sexual Assault Survivors: An Examination of PTSD and Alcohol Use

Katrina Jagodinsky  History
Ashley Bruha, political science/public policy and analysis (FYRE)
Ethan Czapla, history/political science. Petitioning for Freedom: Habeas Corpus in the American West
Bethany Ham, forensic science. Petitioning for Freedom: Habeas Corpus in the American West
Meyri Ibrahim, journalism. Petitioning for Freedom: Habeas Corpus in the American West
Rosalia Paredes, sociology (FYRE)
Salma Silva, psychology. Habeas Corpus
Anna Synya, criminology and criminal justice (FYRE)
Grace Turner, political science. Petitioning for Freedom: Habeas Corpus in the American West
Andrew Jewell  
Center for Digital Research in the Humanities  
Margaret Rieckman, English/anthropology. The Complete Letters of Willa Cather

Michael Kaiser  
Agronomy and Horticulture  
Andromede Uwase, integrated science. Biochar: Properties and Potential Benefits for Agricultural Soil of Rwanda

David Karle  
Architecture  
Elena Garcia Tapia, architectural studies. Design for Decline  
Anna Miles, architectural studies. Design for Decline

Sarah Karle  
Landscape Architecture  
Sarah Cope, landscape architecture. Prairie States Forestry Archive  
Nikita Mansinghani, architectural studies. Prairie States Forestry Archive

Jenny Keshwani  
Biological Systems Engineering  
Shelly Dinh, individualized program of studies. A Pedagogical Investigation of the Potential Personal and Social Effects of After-school Programming on Lincoln K-5 Student Populations  
Annie Nelson, biochemistry. A Pedagogical Investigation of the Potential Personal and Social Effects of After-school Programming on Lincoln K-12 Student Populations  
Huey-Xian Wang, biochemistry/psychology. A Pedagogical Investigation of the Potential Personal and Social Effects of After-school Programming on Lincoln K-5 Student Populations

Oleh Khalimonchuk  
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Elinor Stanley, biochemistry. Role of the Iron-Sulfur Cluster in Human Ferrochelatase in Sensing Changes in Mitochondrial Physiology

Srivatsan Kidambi  
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Noha Alghahimi, chemical engineering. Gene Expression Analysis in Preeclampsia and Its Association with Substrate Rigidity  
Samantha Harvat, chemical engineering. The Role of Liver Stiffness in Driving Changes in Liver Cell Function During Liver Fibrosis and Cancer  

Lisa Knoche  
Nebraska Center for Research on Children, Youth, Families and Schools  
Evelyn Estrada Gonzalez, psychology/ethnic studies. Parental Stress and Efficacy During Early Childhood: How Does Change Over One Year Relate to Parental Behaviors

Megan Kobiela  
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Alexus Hansen, biological sciences. Effects of Natural and Anthropogenic High-salt Environments on the Common Milkweed Asclepias syriaca  
Kennedy Whiting, microbiology/biochemistry. Effects of Sodium on the Anatomy and Physiology of Danaus plexippus

Ari Kohen  
Political Science  
Lorenzo Catalano, political science. Nebraska Stories of Holocaust Survivors and WWII Veterans Portal  
Aila Ganic, political science/public policy and analysis. Nebraska Holocaust Survivors and WWII Veteran Network and Educational Portal  
Dylan Patrick, political science/global studies. Nebraska Stories of Holocaust Survivors and WWII Veterans Portal

Michelle Krehbiel  
4-H Youth Development  
Jessie Reed, sociology/anthropology. Raising Community-minded Citizens: 4-H and Students Engaging in Volunteering

Karen Kunc  
Art, Art History and Design  
Joselyn Andreasen, art. Studio Assistant at Constellation Studios 2021-2022

Patty Kuo  
Child, Youth and Family Studies  
Mona (Monique) Miller, child, youth and family studies (FYRE)  
Amy Reisher, speech-language pathology. Cortisol and Salivary Alpha-amylase as Indicators of Stress Reactivity in Preschoolers

Jennifer Lather  
Durham School of Architectural Engineering and Construction  

Rebecca Lai  
Chemistry  
Kate Dvorak, biochemistry. Development of a Salivary Glucose Sensor for Diabetes Management
Jaekwon Lee  Biochemistry
Thomas Hugo, biochemistry. Mineral Deficiency-induced Metabolic Dysfunction in the Liver
Matthew Silver, biological sciences/Russian. Mineral-dependent Nutrient Metabolism in Adipocytes/Nutritional Minerals in Metabolism and Thermogenesis

Marc Libault  Agronomy and Horticulture
Marie Gisele Shimwa Souvenir, integrated science. Soybean Seed Nuclei Extraction

Salvador Lindquist  Architecture
Jake Essink, landscape architecture. Lead Pollution in Omaha: Proactive and Remedial Approaches to Environmental Justice in Landscape Architecture

Michael Lippman  Classics and Religious Studies
Dane Chamberlin, global studies/political science (FYRE)
David Fanta, civil engineering/classics and religious studies. Homerathon 2022
Nathan Hill, history/classics and religious studies (FYRE)
Paige Jennings, psychology/classics and religious studies. Homerathon 2022
Grady Wright, communication studies (FYRE)

Andrew Little  Natural Resources
Zachary Hess, fisheries and wildlife/pre-veterinary medicine. Habitat Selection for Territorial Male Pheasants in Correspondence to Mating Behavior: Qualifying Territorial Male Mapping in the Great Plains

Susan Loveall-Hague  Special Education and Communication Disorders
Kasandra De La Cruz-Gutierrez, athletic training (FYRE)
Claire Kubicek, speech-language pathology. Exploring the Literacy, Language, and Life Skills of Students with Intellectual and Developmental Disabilities
Hannah Newport, child, youth and family studies (FYRE)

Dustin Loy  Veterinary Medicine and Biomedical Sciences
Kaitlyn Lilly, pre-veterinary medicine/veterinary science. Development and Validation of an Immunoassay to Determine Antibody Responses to Animals Infected with or Vaccinated Against Mannheimia haemolytica

Louise Lynch O’Brien  Entomology
Zoe Tomas, environmental studies. Digestion of Polystyrene in the Larvae of Tenebrio molitor

Eric Markvicka  Mechanical & Materials Engineering
Alexander Eisele, mechanical engineering. Wearable Computer
Aaron Haake, mechanical engineering. 3D Printing of Liquid Metal-embedded Elastomer with Programmable Droplet Morphology
Patrick McManigal, computer engineering. Wearable Electronic Bandage for Measuring Knee Joint Angles
Eric Vander Woude, mechanical engineering. Wireless Vital Monitoring for Detection of Changes in Health Status for Chronic Disease and Pandemic Related Events

Martha Mamo  Agronomy and Horticulture
Alexis Finch, biological sciences. Effect on Nitrogen Sources and Grazing Management on Nitrogen Cycling
Marissa Fouraker, agronomy. Effect on Nitrogen Sources and Grazing Management on Nitrogen Cycling

Christopher Mann  Economics
Zack Cheek, music/economics. The Role of Afghan Opium Production in the American Opioid Epidemic
Justin Ho, computer science/economics. Labor Market Dynamics and Human Capital Development
Laurene Lee, global studies/economics/political science. The Effects of the Design of Military Institutions on the Distribution of the Fatality Rates of Soldiers

Omera Matoo  Biological Sciences
Himani Patel, biological sciences. Investigating the Interplay of Mitonuclear Genetic Interaction and Environmental Stress on Energy Metabolism Using Natural Populations of Freshwater Snail, Potamopyrgus antipodarum
L.J. McElravy  Agricultural Leadership, Education and Communication
Nevaeh Lofton, undeclared (FYRE)
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<td>Emily Donnell, secondary English education (7-12). Paraeducator-to-Teacher Partnership Program Designed to Address Educator Workforce Demands in a Large Urban School District</td>
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<td>Jeffrey Mower</td>
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<td>Susan Qudus, biological systems engineering. Transgenic Induction and High-throughput Characterization of Cytoplasmic Male Sterility in Plants</td>
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<td>Chelsea Hanway, anthropology. Wakara’s America: Mapping the Untold Story of the Native American Founding Father of the American West Abbey O’Brien, anthropology/English. Wakara’s America: Mapping the Untold Story of the Indian Founding Father of the American West</td>
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Noah Garcia, architectural studies. Robotic Hands-free Exoskeleton for Hemiparesis Patient Rehabilitation and ADL Assistance
Sarah Omar, psychology (FYRE)
Mo Sbai, mechanical engineering. Rehabilitation Exoskeleton—Wheelchair Robot

ThanhVu Nguyen, Computing
Linhan Li, computer science. SE4JAVA: A Symbolic Execution Tool for Java
Long Nguyen, software engineering. Using Machine Learning and Classification Techniques for Health Assessment

Wei Niu, Chemical and Biomolecular Engineering
Xuan Le, mathematics/chemical engineering. Structure-guided Engineering of Carboxylic Acid Reductases

Gwen Nugent, Nebraska Center for Research on Children, Youth, Families and Schools
Gracyn Green, computer science. The Use of Equitable Instructional Practices in Nebraska K-8 Computer Science Classrooms

Peter Olshavsky, Architecture
Hannah Kettle, architectural studies. Steven Holl Guidebook
Kathleen O’Gara, architectural studies. Digital Agency: The Role of Layer in Architectural History

Angie Pannier, Biological Systems Engineering
Madison Seefeld, biological systems engineering. Development of an Oral Gene Delivery System Using Bacterial Outer Membrane Vesicles

Grace Panther, Civil and Environmental Engineering
Dorian Bobbett, chemical engineering. Faculty Adaptability and Community Engagement When Teaching in a Crisis

Jae Sung Park, Mechanical & Materials Engineering
Mohsin Al Barwani, mechanical engineering. Energy Analysis of Turbulent Flows for Energy Saving Engineering

Ryan Pedrigi, Mechanical & Materials Engineering
Thomas Ripperda, biological systems engineering. Ultrasonic Patch to Reduce the Progression of Atherosclerosis

Walker Pickering, Art, Art History and Design
Daniela Chavez, art/art history and criticism. Borderless

Adrienne Pitt, Special Education and Communication Disorders
Kendra Klopfeinstein, speech-language pathology. Exploring the Impact of Symbol Selection on Word Learning for Children with Autism Spectrum Disorders
Katelyn Lawler, speech-language pathology. Exploring the Impact of Symbol Selection on Word Learning for Children with Autism Spectrum Disorders

Zac Porter, Architecture
Katherine Brashear, architectural studies. Expanding the Canon: A Survey of Nonwestern Approaches to Building and Ground
Caleb Laurence, architectural studies. Architectural Landings: An Investigation of the Relationship Between Building and Ground
Steven Powers, architectural studies. Interior Topographies: An Investigation into the Architectural Potential of Floors

Larkin Powell, Natural Resources/Biological Sciences
Kennadi Griffis, environmental science. The Effect of Seasonality, Species, Sex, and Owner-status on Kenyan Daasanach Livestock Body Condition

Robert Powers, Chemistry
Dignite Ngango, integrated science. Screening a Functional Library of Compounds Against Novel Proteins Using FAST-NMR

Thomas Powers, Plant Pathology
Katie Burton, nutritional science/dietetics. A Look at the Biodiversity Under a Footprint
Cassidy Thomas, animal science. Development of a Field Guide to the Micro Invertebrates of the Antarctic Dry Valleys by Morphological and Molecular Methods

Xin Qiao, Biological Systems Engineering
Joseph Oboamah, computer science. Low-cost Camera System for Recognition of Flow Meter Readings at Irrigation Wells

Petronela Radu, Mathematics
Anjaneshwar Ganesan, mathematics/physics. Analysis of Nonlocal Operators
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<td>Julianne Fay</td>
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<td>Rupine Hamilton</td>
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<td>Dilziba Kizghin</td>
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<td>Andrea Goertzen</td>
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Jacob Stover, agricultural engineering. Soil Effects of Prescribed Burns and Eastern Red Cedar Repurposing

Douglas Schultz  Psychology
Zach Headley, biochemistry/Spanish. Using Functional Brain Connectivity Changes to Determine Biomarkers in Sports-related Concussion

Stephen Scott  Computing
Eylon Caplan, mathematics/computer science. Continuous-layered Dense Artificial Neural Networks
Serigne Toure, computer science. How Does Combining Constraints and Goal Model Affect the Performance of a Reinforcement Learning Agent?

Alexandra Seceleanu  Mathematics
Turner Blick, mathematics/German. Hessian Matrices in 3 Dimensions

Bud Shenefelt  Architecture
Meagan Hollman, architectural studies. Project title unknown
Sophia Swanson, architectural studies. Design for Change: The Health Impacts of Climate on Remote and Rural Populations

Dai Shizuka  Biological Sciences
Furqan Mahdi, biological systems engineering. Investigating Sex Differences in Social Learning by Golden-Crowned Sparrows
Yasmin Worth, biochemistry/pre-veterinary medicine (FYRE)

Brandi Sigmon  Plant Pathology
Alice Guo, microbiology. Elucidating Gene Expression Patterns for Resilient Maize Lines Under Nitrogen Stress

Alexander Sinitskii  Chemistry
Margaret Ramsay, chemistry. Measurements of Partially Oxidized Ti3C2Tx MXenes

Ash Eliza Smith  Johnny Carson Center for Emerging Media Arts/Art, Art History and Design
Samantha Bendix, graphic design. WATER: Worlds of Connection
Amunra Jordan, emerging media arts. Story, Worlds, Speculative Design Lab: Seabreeze Bop City Immersive Storytelling Design
Megan Kortenhof, architectural studies. Story, Worlds and Speculative Design Lab: Seabreeze Bop City Immersive Storytelling Design

Kevin Smith  Political Science
Kelsey Wright, biochemistry. Physiological Response to Political Messages

Leen-Kiat Soh  Computing
Keith Tran, computer science. Assessing the Impact of Online Platforms Integration in Rural and Urban Schools

Cody Stolle  Mechanical & Materials Engineering/Midwest Roadside Safety Facility
Morgan Weis, secondary education (FYRE)

Robert Streubel  Physics and Astronomy
Bryce Herrington, physics/mathematics. Yttrium Iron Garnet Based Ferromagnetic Resonators / How Short-range Order Affects the Local Magnetic Properties of Amorphous Materials
Ruthi Zielenski, physics/mathematics. Yttrium Iron Garnet Based Ferromagnetic Resonators

Sunil Sukumaran  Nutrition and Health Sciences
Pascaline Niyonshuti, integrated science. Role of Aryl Hydrocarbon Receptor in Bitter Taste Signaling

Hannah Sunderman  Agricultural Leadership, Education and Communication
Ethan Carlson, management/civic engagement. Exploring the Influence of Meaning-making on Leader(ship) Identity Development
Tori Pedersen, agricultural education. Exploring the Influence of Meaning-making on Leader(ship) Identity Development
Benjamin Terry  Mechanical & Materials Engineering
Sean Crimmins, mechanical engineering. Construction of a Locking Mechanism to Facilitate Intra-Abdominal Catheter Placement
Anna Levorson, biological systems engineering. Supporting Study to Transform en-Route Care System

Curtis Tomasevicz  Biological Systems Engineering
Sophia Frappier, biological systems engineering. The Effects of Inclined and Declined Surfaces on Gait Patterns and Biomechanics of Long-distance Runners

Judith Turk  Natural Resources
Rachel Clarkson, agronomy. The Effect of Playa Wetlands Hydrological Zones on Decomposition

Robert Twomey  Johnny Carson Center for Emerging Media Arts
Caleb Kirilov, emerging media arts. Exploring the Impossible Landscape of Non-Euclidean Geometry in AR and VR
Abraham Schaecher, emerging media arts. Generative Art Based on the Input of Emotions

Matthew Van Den Broeke  Earth and Atmospheric Sciences
Kyle Kleckner, meteorology-climatology. Characteristics of Cold Front Passages Around Lake Superior

Karin Van Dijk  Biochemistry
Nathan Ottenbacher, biochemistry. The Utilization of Free-living Nitrogen Fixating Bacteria to Increase Zea mays Plant Growth

James Van Etten  Plant Pathology
Fatima Al-Sammak, microbiology. Characterizing the Putative Chlorovirus Glycosyltransferase B618R and Its Role in Major Capsid Protein Glycosylation in NY-2A

Susan VanderPlass  Statistics
Xinyu Liu, actuarial science. Developing Machine Learning Algorithms for Forensic Analysis of Shoes

Alex Vecchio  Biochemistry
Helena Lord, biochemistry. Cell-based Approaches for Studying Bacterial Cytotoxicity and Protein/Protein Interactions in Epithelia

Ashley Votruba  Psychology
Kylee Ellison, political science/global studies (FYRE)

Peter Wagner  Biological Sciences
Lindsey Howard, animal science. Ammonoid Life Modes in the Western Interior Seaway
Blake Lindgren, geology. Invertebrate Fossil Identification

James Wahl  Nebraska Center for Redox Biology
Evan Marsh, biological systems engineering. Study of Mechanisms Controlling Epithelial Cell-to-Cell Adhesion

Hana Waisserova  Modern Languages and Literatures
Emily Trouba, political science. Interslavic as a Foreign Language

Bryan Wang  Advertising and Public Relations
Martin Herz, sports media and communication. Social Media Data Mining and Analysis of Vaccine Information

Laura White  English
Gavin Graves, English/film studies. The Victorian Supernatural in Children’s Literature: The Case of Aunt Judy’s Magazine, 1866-1885

Sandra Williams  Art, Art History and Design
Ceyenna Kanne, psychology/art. Anthropocene Blues 2: Chimeras

Cynthia Willis-Esqueda  Psychology
Daniel Nguyen, psychology/political science. The Impact of the Intersectionality of Race/Ethnicity and LGBTQ+ Identity on Well-being

Chelsea Wit  Psychology
Ivy Marshall, psychology. Crowd Psychology and Crowd Management
Jared Mulder, nutritional science and dietetics. A Second Trial: Past Convictions and the Collapse of Compassion

Christine Wittich  Civil and Environmental Engineering
Trystan Heimes, civil engineering (FYRE)

Richard Wilson  Plant Pathology
Jocelyne Horanituze, integrated science. Uncovering Key Determinants of Pathogenicity and Genes Related to Cell Signaling in Magnaporthe Oryzae

Ruth Woiwode  Animal Science
Lindsay Peters, animal science. Evaluation of Automated Application of Electricity for On-site Mass Depopulation of Swine
**Judy Wu-Smart**
Entomology
Shelby Kittle, agricultural education. Exploring the Use of Different Beeswax Foundation to Promote the Production of Specialty Comb Honey to Yield Higher Economic Gains for Hobbyist Beekeepers

Helen Little, biological systems engineering. Degradation of Clothianidin with Oyster Mushrooms

**Ruiguo Yang**
Mechanical & Materials Engineering
Joseph Broadway, mechanical engineering. Determining the Role of Alpha-Catenin in the Cell’s Resistance to Dissociation Induced by Autoimmune Disease Antibodies

Ikhlaas Ahmud Mungloo, biological systems engineering. Porous Substrate Electroporation for High-throughput and Highly Controllable Intracellular Delivery

**Qiuming Yao**
Computing
Leopoldo Hernandez, computer science (FYRE)

Connor Kildare, software engineering (FYRE)

Simon Schoenbeck, software engineering. Exploring Heterogenous Graph-based Deep Learning Architectures for Dynamic Network Science

Mitra Vajjala, computer science. Large-scale Computational Analyses on Protein Diversity in Microbe Community from De-novo Protein Assembly

**Jiujiu Yu**
Nutrition and Health Sciences
Braden Fink, biochemistry. Identification of Lipophilic Compounds in Dietary Exosome-like Nanoparticles That Are Responsible for NLRP3 Inflammasome Inhibition


**Jung Yul Lim**
Mechanical & Materials Engineering
Shea Thompson, biological systems engineering. The Role of Nesprin in Flow-induced Breast Cancer Migration in Three-dimensional Spaces

**Limei Zhang**
Biochemistry
Amber Gadeken, microbiology/biochemistry. Identification and Characterization of Novel Iron-Sulfur Proteins in *Mycobacterium tuberculosis*

Camden Jones, biochemistry. Identification of Potential Monomeric Transcription Factors in *Mycobacterium tuberculosis*

Huey-Xian Wong, biochemistry/psychology. Delineation of the Co-dependent Nature of WhiB1 in Transcriptional Regulation of *Mycobacterium Tuberculosis*

**Luwen Zhang**
Biological Sciences/Nebraska Center for Virology
Brynn Boes, biological sciences. Virus, Stem Cells, and Human Diseases

Grace Claussen, biological systems engineering. ZIKV Particle and APP Processing In Vitro

Samantha Drury, biochemistry. Combination of Genetic Modification and Induction of iPSCs from Personalized Cells


Dilziba Kizghin, biological systems engineering. The Effect of Zika Virus Peptide and How It Can Be Used to Treat and Prevent Alzheimer’s Disease

Emmerson Putnam, biological sciences (FYRE)

Troy Scheer, nutritional science and dietetics. Epstein-Barr Virus as it Pertains to Cancer Research in Humans

Allison Zetterman, biological sciences. Investigating a Potential Intermediate Host for COVID-19

**Alexander Zupan**
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Gabriel Adams, mathematics/philosophy. Possible Counterexamples to the Slice Ribbon Conjecture
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<td>Department of Health and Human Services</td>
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<td>ACF</td>
<td>Administration for Children and Families</td>
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<tr>
<td>CDC</td>
<td>Centers for Disease Control</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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<td>EDA</td>
<td>Economic Development Administration</td>
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<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>DoD</td>
<td>Department of Defense</td>
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<td>AFOSR</td>
<td>Air Force Office of Scientific Research</td>
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<td>ARO</td>
<td>Army Research Office</td>
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<td>ARI</td>
<td>Aviation Restructuring Initiative</td>
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<td>DTRA</td>
<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>ERDC</td>
<td>Engineer Research and Development Center</td>
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<td>MDA</td>
<td>Missile Defense Agency</td>
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<td>NAVSEA</td>
<td>Naval Sea Systems Command</td>
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<td>Office of Naval Research</td>
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<td>STRATCOM</td>
<td>U.S. Strategic Command</td>
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<td>DOE</td>
<td>Department of Energy</td>
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<td>Advanced Research Projects Agency-Energy</td>
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<td>Energy Efficiency and Renewable Energy</td>
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</tr>
<tr>
<td>BJA</td>
<td>Bureau of Justice Assistance</td>
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<td>NIJ</td>
<td>National Institute of Justice</td>
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<td>DOT</td>
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<td>FHWA</td>
<td>Federal Highway Administration</td>
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<td>PHMSA</td>
<td>Pipeline and Hazardous Materials Safety Administration</td>
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<td>FRA</td>
<td>Federal Railroad Administration</td>
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<td>ED</td>
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<td>IES</td>
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<td>EPA</td>
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<td>IMLS</td>
<td>Institute of Museum and Library Services</td>
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<tr>
<td>NASA</td>
<td>National Aeronautics and Space Administration</td>
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<td>NCHRP</td>
<td>National Cooperative Highway Research Program</td>
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<td>NEA</td>
<td>National Endowment for the Arts</td>
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<td>NIH</td>
<td>National Institutes of Health</td>
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<td>NCI</td>
<td>National Cancer Institute</td>
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<tr>
<td>NHLBI</td>
<td>National Heart, Lung and Blood Institute</td>
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<td>NIAAA</td>
<td>National Institute on Alcohol Abuse and Alcoholism</td>
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<tr>
<td>NIAID</td>
<td>National Institute on Allergy and Infectious Diseases</td>
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<tr>
<td>NIAMS</td>
<td>National Institute of Arthritis and Musculoskeletal and Skin Diseases</td>
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<tr>
<td>NIBIB</td>
<td>National Institute of Biomedical Imaging and Bioengineering</td>
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<tr>
<td>NICHD</td>
<td>National Institute of Child Health and Human Development</td>
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<td>National Institute on Drug Abuse</td>
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<td>NIGMS</td>
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<td>NINDS</td>
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<td>NSF</td>
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<td>EPSCoR</td>
<td>Established Program to Stimulate Competitive Research</td>
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<td>USAID</td>
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<td>AFRI</td>
<td>Agriculture and Food Research Initiative</td>
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<td>NIFA</td>
<td>National Institute for Food and Agriculture</td>
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<td>SARE</td>
<td>Sustainable Agriculture Research and Education Program</td>
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<td>NRCS</td>
<td>Natural Resources Conservation Service</td>
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<tr>
<td>OCE</td>
<td>Office of the Chief Economist</td>
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Every effort has been made to verify the accuracy and completeness of submissions. Faculty, department chairs and heads and the deans were invited to submit entries online regarding the faculty’s published books, national and international recognitions, published journal articles, conference presentations and creative works in the fine and performing arts and architecture. Information on major sponsored program awards was gathered by the Office of Sponsored Programs. Reports on patents and license agreements were produced by NUtech Ventures. Information about UCARE/FYRE projects was provided by the Office of Undergraduate Research.

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