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Office of Research and Economic Development, University of Nebraska-Lincoln

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RESEARCH

Office of Research and Economic Development

RESEARCH AND CREATIVE ACTIVITY

July 1, 2020 – June 30, 2021

**Major Sponsored Programs and Faculty Accomplishments
in Research and Creative Activity**

University of Nebraska–Lincoln



Bob Wilhelm

Vice Chancellor for Research
and Economic Development

This booklet highlights successes in research, scholarship and creative activity by University of Nebraska–Lincoln faculty during the fiscal year running July 1, 2020, to June 30, 2021.

It lists investigators, project titles and funding sources on major grants and sponsored awards received during the year; fellowships and other recognitions and honors bestowed on our faculty; books and chapters published by faculty; performances, exhibitions and other examples of creative activity; patents and licensing agreements issued; National Science Foundation I-CORPS teams; and peer-reviewed journal articles and conference presentations. In recognition of the important role faculty have 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.

While metrics cannot convey the full impact of our work, they are tangible measures of growth. A few achievements of note:

- UNL achieved a record \$320 million in total research expenditures in FY 2020, a 43% increase over the past decade.
- Our faculty earned 1,508 sponsored research awards in FY 2020.

University-sponsored industry activity also spurred economic growth for Nebraska.

- Nebraska Innovation Campus created 1,948 jobs statewide and had a total economic impact of \$372 million.
- Industry sponsorship supported \$19.2 million in research expenditures.
- NUtech Ventures brought in \$6.48 million in licensing income.

I applaud the Nebraska Research community for its determination and commitment during a challenging year. Your hard work has made it possible for our momentum to continue growing.

Our university is poised for even greater success. The Grand Challenges initiative provides a framework for developing bold ideas to solve society's greatest issues, which is how we will have the greatest impact as an institution. Please visit research.unl.edu/grandchallenges to learn more. We're also renewing our campus commitment to a journey of anti-racism and racial equity, which is among the most important work we'll do.

I am pleased to present this record of accomplishments.

Bob Wilhelm

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I applaud the Nebraska Research community for its determination and commitment during a challenging year. Your hard work has made it possible for our momentum to continue growing.

Awards of \$5 Million or More

Active awards, July 1, 2020–June 30, 2021

* Indicates new in 2020–2021

Bevins, Rick

Psychology/ Rural Drug Addiction Research Center

Rural Drug Addiction Research Center

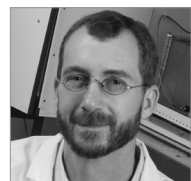
\$11,854,178 NIH-NIGMS

4/5/19 – 2/29/24

Khan, Bilal 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

\$6,257,263 NSF through Princeton University

1/1/12 – 12/31/21



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

Luminosity LHC (HL-LHC) upgrade project.

Brank, Eve

Center on Children, Families and the Law

Training on Family and Policy Services

\$11,268,815 DHHS-ACF through

Nebraska Department of Health and Human Services

1/1/18 – 12/31/21

Olson, Kathryn Center on Children, Families and the Law



Eve Brank, professor of psychology and director of the Center on Children, Families and the Law (CCFL), and Kathryn Olson, research assistant professor and assistant director of CCFL, lead this effort to develop and deliver 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

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

\$10,062,433 NSF-EPSCoR

6/15/16 – 5/31/21

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

Schachtman, Daniel	Agronomy and Horticulture/ Center for Biotechnology/ Center for Plant Science Innovation/ Nebraska Center for Redox Biology
Schnable, James	Agronomy and Horticulture/ Center for Biotechnology/ Center for Plant Science Innovation/ Nebraska Center for Redox Biology
van Dijk, Karin	Biochemistry/Center for Biotechnology/ Center for Plant Science Innovation/ Nebraska Center for Redox Biology
Walia, Harkamal	Agronomy and Horticulture/ Center for Biotechnology/ Center for Plant Science Innovation/ Nebraska Center for Redox Biology
Weber, Karrie	Biological Sciences/ Earth and Atmospheric Sciences/ Center for Biotechnology/ Center for Plant Science Innovation/ Nebraska Center for Redox Biology
Yu, Bin	Biological Sciences/Center for Biotechnology/ Center for Plant Science Innovation/ Nebraska Center for Redox Biology
Zhang, Chi	Biological Sciences/Center for Biotechnology/ Center for Plant Science Innovation/ Nebraska Center for Redox Biology



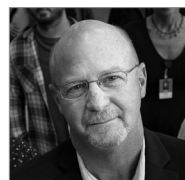
The University of Nebraska–Lincoln is leading a \$20 million, Nebraska-based research effort to improve crop productivity. Funded with a five-year award from the National Science Foundation’s Established Program to Stimulate Competitive Research, or EPSCoR, this project draws upon a range of expertise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

The university is teaming with scientists at the

University of Nebraska Medical Center, University of Nebraska at Kearney and Doane University on the Center for Root and Rhizobiome Innovation. Project 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.

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

Anania, Katie Art, Art History and Design
Clarke, Jennifer Food Science and Technology
Thomas, Steven Natural Resources



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.

Graef, Michelle **Center on Children, Families and the Law**
 Quality Improvement Center for Workforce Development
 \$15,235,500 DHHS-ACF
 9/30/16 – 9/29/21
 Ells, Mark Center on Children, Families and the Law
 Paul, Megan Center on Children, Families and the Law
 Stephenson, Kate Center on Children, Families and the Law



The University of Nebraska–Lincoln established the Quality Improvement Center for Workforce Development with a five-year, \$15 million grant to the Center on Children, Families and the Law from the U.S. Department of Health and Human Services Administration for Children and Families-Children’s Bureau. Under the leadership of Michelle Graef, research 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
 \$13,000,900 DOT
 12/5/16 – 9/30/22



The Mid-America Transportation Center, a consortium of academic institutions led by the University of Nebraska–Lincoln, leads a five-year, \$13 million research center, funded by the U.S. Department of Transportation through the Fixing America’s Surface Transportation Act, to improve transportation safety in Nebraska and neighboring states. The center, which emphasizes challenges facing rural areas and underserved communities, was designated the University Transportation Center of its four-state region after a competitive review. Aemal Khattak, MATC interim 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

highly collaborative project that takes a comprehensive approach to understanding how plants and microbes interact and to learn which sorghum germplasm can grow with less water and nitrogen. The University of Nebraska–Lincoln is collaborating with scientists at Danforth Plant Science Center, Washington State University, University of North Carolina–Chapel Hill, Boyce Thompson Institute, Clemson University, Iowa State University, Colorado State University and the DOE Joint Genome Institute.

Takacs, James

Chemistry/Nebraska Center for Integrated Biomolecular Communication

Nebraska Center for Integrated Biomolecular Communication (NCIBC)

\$11,288,324 NIH-NIGMS
8/15/16 – 7/31/22
Checco, James Chemistry/NCIBC
Clarke, Jennifer Statistics/Food Science and Technology/NCIBC
Eichhorn, Catherine Chemistry/NCIBC
Guo, Jiantao Chemistry/NCIBC
Morton, Martha Chemistry/NCIBC
Piepenbrink, Kurt Food Science and Technology/NCIBC
Riethoven, Jean-Jack Center for Biotechnology/ NCIBC
Wilson, Mark Biochemistry/NCIBC
Yesselman, Joseph Chemistry/NCIBC
Zhou, You Center for Biotechnology/NCIBC



With a five-year, \$11 million grant from the National Institutes of Health, the University of Nebraska–Lincoln has established a research center focused on investigating cellular-level miscommunications that contribute to complex diseases like cancer, diabetes and chronic liver disease. The NCIBC serves as a hub for interdisciplinary collaborations among

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

Tsymbal, Evgeny

Physics and Astronomy/ Nebraska Center for Materials and Nanoscience

Materials Research Science 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

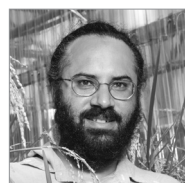
fabricating and studying new magnetic structures and materials at the nanometer scale. The research has applications in advanced computing and data storage, handheld electronic devices, advanced sensors and future medical technologies.

Walia, Harkamal

Agronomy and Horticulture

R11 Track-2 FEC: Comparative Genomics and Phenomics Approach
to Discover Genes Underlying Heat Stress Resilience in Cereals
\$5,783,738 NSF-EPSCoR
8/1/17 – 7/31/22

Morota, Gota Animal Science
Obata, Toshihiro Biochemistry
Yu, Hongfeng Computer Science and Engineering
Zhang, Chi Biological Sciences
Zhang, Qi Statistics



Harkamal Walia, associate professor of agronomy and horticulture, leads a project to explore the effects of high nighttime temperatures on wheat and rice. Temperature stress can lead to severe losses in the yield and quality of crops, especially wheat and rice, two major cereal crops worldwide. With the support of a \$5.78 million grant from the

National Science Foundation’s Established Program to Stimulate Competitive Research (EPSCoR), Walia’s team is investigating genes and genetic variants in wheat and rice to identify genetic markers and physiological characteristics tied to heat tolerance. The team also collaborates with researchers from Arkansas State University and Kansas State University.

Wilhelm, Bob **Office of Research and Economic Development**
Nebraska Center for Energy Sciences Research
\$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, wind and solar energy), as well as opportunities for energy conservation.

Yoder, Ron **Institute of Agriculture and Natural Resources**
Rwandan Institute of Conservation Agriculture (RICA)
\$17,210,366 Various Sources
10/13/17 – 9/30/22
Davis, Josh Global Affairs
Heng-Moss, Tiffany College of Agricultural Sciences
and Natural Resources



The Rwanda Institute for Conservation Agriculture (RICA) is a unique and innovative English language institution dedicated to preparing the next generation of agricultural leaders of Rwanda and East Africa. Under the leadership of Ron Yoder, senior associate vice chancellor for IANR, the University of Nebraska is serving as a critical academic partner, helping to design and implement the curriculum and campus operations. 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.

Zempleni, Janos **Nutrition and Health Sciences/
Nebraska Center for the Prevention of
Obesity Diseases through Dietary Molecules**
COBRE: Nebraska Center for the Prevention of
Obesity Diseases through Dietary Molecules
\$11,961,736 NIH-NIGMS
8/5/14 – 5/31/24
Lim, Jung Yul Mechanical & Materials Engineering
Sukumaran, Sunil Nutrition and Health Sciences
Wang, Yongjun Nebraska Center for the Prevention of
Obesity Diseases through Dietary Molecules



With the support of an \$11.6 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, 2020–June 30, 2021

* Indicates new in 2020–2021

Allen, Craig

Natural Resources

RII Track-2 FEC: Resilience Informatics for the Convergence of Critical Capacities to Address Regional-Scale Environmental Change
\$3,953,265 NSF-EPSCoR
Banerjee, Simanti Agricultural Economics
Uden, Daniel Agronomy and Horticulture

NRT-INFEWS: Training in Theory and Application of Cross-scale Resilience in Agriculturally Dominated Social Ecological Systems
\$2,998,886 NSF
Munoz-Arriola, Francisco Biological Systems Engineering
Soh, Leen-Kiat Computer Science and Engineering
Twidwell, Dirac Jr. Agronomy and Horticulture

Allmand, Matthew

Extension/Biological Systems Engineering/ Food Science and Technology

Manufacturing Extension Partnership Center for Nebraska
\$2,107,938 DOC-NIST

Balkir, Sina

Electrical and Computer Engineering

Low-Power Signal-Processing Electronics
for Unattended Radiation Monitoring Sensors
\$1,060,772 DoD-DTRA
Hoffman, Michael Electrical and Computer Engineering

Barlow, Steven

Special Education and Communication Disorders

Somatosensory Modulation of Salivary Gene Expression
and Oral Feeding in Preterm Infants
\$2,797,503 NIH-NICHD

Becker, Donald

Biochemistry/ Nebraska Center for Redox Biology

Molecular Mechanisms of Disease
\$1,141,760 NIH-NIGMS
Harris, Edward Biochemistry

Bellows, Laurie

Graduate Studies

TRIO – Ronald E. McNair Postbaccalaureate Achievement Program
\$1,251,209 ED

Benson, John

Natural Resources

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

Berkowitz, David

Chemistry

Medical Countermeasure Drug Discovery and Development
\$3,278,464 DoD-Offutt Air Force Base-STRATCOM through
National Strategic Research Institute
Dussault, Patrick Chemistry
Helikar, Tomas Biochemistry
Powers, Robert Chemistry

Bevins, Rick

Psychology

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

Bilder, Christopher

Statistics

Group Testing for Infectious Disease Detection:
Multiplex Assays and Back-End Screening
\$1,137,836 NIH-NIAID

Binek, Christian

Physics and Astronomy/Nebraska Center for Materials and Nanoscience

*RII Track-1:
Emergent Quantum Materials and Technologies (EQUATE)
\$2,335,049 NSF-EPSCoR
Argyropoulos, Christos Electrical and Computer Engineering/
Nebraska Center for Materials and Nanoscience
Bao, Wei Electrical and Computer Engineering/
Nebraska Center for Materials and Nanoscience
Dowben, Peter Physics and Astronomy/
Nebraska Center for Materials and Nanoscience
Griep, Mark Chemistry/
Nebraska Center for Materials and Nanoscience
Guo, Yinsheng Chemistry/
Nebraska Center for Materials and Nanoscience
Hong, Xia Physics and Astronomy/
Nebraska Center for Materials and Nanoscience
Kovalev, Alexey Physics and Astronomy/
Nebraska Center for Materials and Nanoscience
Lai, Rebecca Chemistry/
Nebraska Center for Materials and Nanoscience
Laraoui, Abdelghani Mechanical & Materials Engineering/
Nebraska Center for Materials and Nanoscience
Liou, Sy-Hwang Physics and Astronomy/
Nebraska Center for Materials and Nanoscience

Schubert, Eva Electrical and Computer Engineering/
Nebraska Center for Materials and Nanoscience
Schubert, Mathias Electrical and Computer Engineering/
Nebraska Center for Materials and Nanoscience
Skomski, Ralph Physics and Astronomy/
Nebraska Center for Materials and Nanoscience
Streubel, Robert Physics and Astronomy/
Nebraska Center for Materials and Nanoscience
Tsymbal, Evgeny Physics and Astronomy/
Nebraska Center for Materials and Nanoscience
Xu, Xiaoshan Physics and Astronomy/
Nebraska Center for Materials and Nanoscience

Nebraska Nanoscale Facility of NNCI

\$3,500,000 NSF
Ducharme, StephenPhysics and Astronomy/Nebraska Center for
Materials and Nanoscience
Hong, Xia. Physics and Astronomy/Nebraska Center for
Materials and Nanoscience
Lai, RebeccaChemistry/Nebraska Center for
Materials and Nanoscience
Lu, YongfengMechanical & Materials Engineering/
Nebraska Center for Materials and Nanoscience
Shield, JeffreyMechanical & Materials Engineering/
Nebraska Center for Materials and Nanoscience

Bloom, Kenneth **Physics and Astronomy**

Open Science Grid Consortium
\$2,306,642 NSF through University of Wisconsin-Madison

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

Brozovic, Nicholas **Robert B. Daugherty Water for Food Institute**

*Promoting Sustainability and Resilience of
Smallholder Irrigation Impacts in Sub-Saharan Africa
\$1,000,000 International Fund for Agricultural Development

Bulling, Denise **Public Policy Center**

Nebraska Youth Suicide Prevention 2019-2024
\$3,610,121 DHHS-SAMHSA
Hoffman, Stacey Public Policy Center
Lewandowski, Quinn Public Policy Center

Centurion, Martin **Physics and Astronomy**

Nuclear and Electronic Dynamics in
Ultrafast Ring-Conversion Molecular Reactions
\$2,000,000 DOE

Ultrafast Electron Diffraction from Aligned Molecules
\$1,566,385 DOE

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

R11 Track-2 FEC: Functional Analysis
of Nitrogen Responsive Networks in Sorghum
\$1,337,633 NSF-EPSCoR through
HudsonAlpha Institute for Biotechnology
Ge, Yufeng Biological Sciences/
Center for Plant Science Innovation
Schnable, James Agronomy and Horticulture/
Center for Plant Science Innovation
Yang, Jinliang Agronomy and Horticulture/
Center for Plant Science Innovation

Center for Advanced Bioenergy and Bioproducts Innovation
\$3,886,388 DOE through
University of Illinois-Urbana-Champaign
Cahoon, Edgar Biochemistry/
Center for Plant Science Innovation

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

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

Detweiler, Carrick Computer Science and Engineering

NRI: Enabling Unmanned Aerial Systems (UAS) Fire Ignitions
in Complex Firefighting Contexts

\$1,003,270NSF
Allen, Craig Natural Resources
Bradley, Justin Computer Science and Engineering
Duncan, Brittany Computer Science and Engineering
Pytlík Zillig, Lisa Public Policy Center
Twidwell, Dirac Jr. Agronomy and Horticulture

Dodds, Eric Chemistry

A Research Program on Advancing Biomedical Glycoproteomics
\$1,999,597NIH-NIGMS

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

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

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

Duppong Hurley, Kristin Special Education and Communication Disorders/ Academy for Child and Family Wellbeing

Randomized Clinical Trial of the Boys Town In-Home Program

\$1,009,602 Father Flanagan's Boys' Home
Lambert, Matthew Special Education and
Communication Disorders/
Academy for Child and Family Wellbeing

Engen-Wedin, Nancy Teaching, Learning and Teacher Education

Indigenous Roots Teacher Education Program

\$1,174,067ED

Erixson, John Nebraska State Forest Service

Cooperative Forestry Program

\$2,981,077 USDA-FS

Faller, Ronald

Midwest Roadside Safety Facility/ Nebraska Transportation Center

Crash Testing of Various Bridge Guardrails and Transitions, Phase II
\$2,100,000Hawaii Dept of Transportation
Bielenberg, RobertMidwest Roadside Safety Facility
Holloway, JimMidwest Roadside Safety Facility
Lechtenberg, KarlaMidwest Roadside Safety Facility
Rasmussen, JenniferMidwest Roadside Safety Facility
Reid, John Mechanical & Materials Engineering
Rosenbaugh, ScottMidwest Roadside Safety Facility
Song, ChungCivil and Environmental Engineering
Steelman, JoshuaCivil and Environmental Engineering
Stolle, CodyMidwest Roadside Safety Facility

Low-Cost, Sacrificial, Energy-Absorbing, Crash Cushion
\$1,218,785Traffix Devices Inc.
Bielenberg, RobertMidwest Roadside Safety Facility
Holloway, JimMidwest Roadside Safety Facility
Lechtenberg, KarlaMidwest Roadside Safety Facility
Rasmussen, JenniferMidwest Roadside Safety Facility
Rosenbaugh, ScottMidwest Roadside Safety Facility
Stolle, CodyMidwest Roadside Safety Facility

Fischer, Jean Nutrition and Health Sciences

Supplemental Nutrition Assistance Program (SNAP-ED)

\$1,840,140USDA-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

Forbes, Cory Natural Resources

DRK-12 High School Students Climate Literacy
Through Epistemology of Scientific Modeling

\$1,136,602NSF

Garcia Ruiz, Hernan Plant Pathology/ Nebraska Center for Virology

Recognition and Recruitment of RNA Viruses
into RNA Silencing Pathways

\$1,312,105NIH-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

\$1,429,751 United Soybean Board/Smith/Bucklin
Clemente, Thomas 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

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

SALSA Project Hot Water Drill Operations with

WISSARD Main Drill and Parts of UNL Roving Drill (Prime Mover)
\$1,569,112 NSF through Dartmouth College
McManis, James College of Engineering

Hebert, Michael **Special Education and Communication Disorders/ Nebraska Center for Research on Children, Youth, Families and Schools**

Project VIEW: Visual Impairments Education in Writing

\$1,399,158 ED-IES
Bovaird, James Educational Psychology/
Nebraska Center for Research on
Children, Youth, Families and Schools
Koziol, Natalie Nebraska Center for Research on
Children, Youth, Families and Schools
Savaiano, Mackenzie Special Education and
Communication Disorders/
Nebraska Center for Research on
Children, Youth, Families and Schools

Helikar, Tomas **Biochemistry**

Innovating Life Sciences Education

Through Computational Modeling and Simulations

\$1,896,570 NSF
Dauer, Joseph Natural Resources
Smith, Wendy Center for Science, Mathematics
and Computer Education

A Predictive Multi-Scale Model of the Immune System:

An Integrated Resource for Interdisciplinary Applications

\$2,025,567 NIH-NIGMS

An Innovative Computational Modeling Intervention

to Facilitate Learning of Biology Using

Simulation and Dynamical Systems Approaches

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

Huscroft-D'Angelo, Jacqueline **Special Education and Communication Disorders/ Academy for Child and Family Wellbeing**

Fostering Educational Success:

Reconnecting Families, Empowering Youth

\$3,994,908 ED
Duppung Hurley, Kristin Special Education and
Communication Disorders/
Academy for Child and Family Wellbeing

Iverson, Nicole **Biological Systems Engineering**

*New and Improved Sensor Platforms and Quantification of Nitric Oxide for *in vitro* and *in vivo* Systems

\$1,777,195NIH-NIGMS

Jacobson, Beth **Student Affairs**

UNL Educational Talent Search

\$2,486,871ED

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

R11 Track-2 FEC: Neural Networks Underlying the Integration of Knowledge and Perception

\$1,187,504NSF through University of Delaware
Dodd, MichaelPsychology/
Center for Brain, Biology and Behavior

Khalimonchuk, Oleh **Biochemistry/
Nebraska Center for Redox Biology**

Mitochondrial Fidelity and Homeostasis

\$1,846,766NIH-NIGMS

Mechanisms of Mitochondrial Quality Control and Protection

\$1,421,695NIH-NIGMS

Kievit, Forrest **Biological Systems Engineering**

Nanoparticle-Mediated Reduction of Oxidative Stress for the Treatment of Traumatic Brain Injury

\$2,216,406NIH-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

\$1,599,991ED

Nugent, GwenNebraska Center for Research on
Children, Youth, Families and Schools

Schachter, RachelChild, Youth and Family Studies
Sheridan, SusanNebraska 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

\$2,498,510DHHS-ACF

Bovaird, JimEducational Psychology

Marvin, ChristineSpecial Education and
Communication Disorders/
Nebraska Center for Research on

Children, Youth, Families and Schools

Sheridan, SusanNebraska 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

\$1,500,000NSF

Bloom, KennethPhysics and Astronomy

Claes, DanielPhysics and Astronomy

Particle Physics Research with the CMS Experiment at the LHC

\$2,070,000NSF

Bloom, KennethPhysics and Astronomy

Claes, DanielPhysics and Astronomy

Lechtenberg, Karla **Midwest Roadside Safety Facility**

NYSDOT-MASH-1: MASH 2016 Safety Facility

Hardware Evaluations - Phase I System C1 and C3

\$3,228,715DOT-NYDOT through

Nebraska Department of Transportation

Faller, RonaldMidwest Roadside Safety Facility

Holloway, JimMidwest Roadside Safety Facility

Rasmussen, JenniferMidwest Roadside Safety Facility

Song, ChungCivil and Environmental Engineering

Steelman, JoshuaCivil and Environmental Engineering

Stolle, CodyMidwest Roadside Safety Facility

Lehn, Joyce **Student Affairs**

Student Support Services Program

\$2,952,820ED

Lei, Yuguo **Chemical and Biomolecular Engineering**

A Single Conical Tube Device

for Precision CAR-T Cells Manufacturing

\$1,060,857NIH-NCI

Viljoen, HendrikChemical and Biomolecular Engineering

Xu, ZhengStatistics

Zhang, ChiBiological Sciences

Lewis, Elizabeth**Teaching, Learning and Teacher Education/
Center for Science, Mathematics
and Computer Education**

*Meeting the Needs of Diverse Students through
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
Searls, Mindi Earth and Atmospheric Sciences/
Center for Science, Mathematics
and Computer Education
Smith Wendy Center for Science, Mathematics
and Computer Education

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

Educating Undergraduate Students for STEM
Career Opportunities in Nebraska: Networks,
Experiential Learning, and Computational Thinking
\$3,580,869 NSF
Donsig, Allan Mathematics
Duncan, Brittany Computer Science and Engineering
Goodburn, Amy Executive Vice Chancellor and
Chief Academic Officer
Radu, Petronela Mathematics
Sharif, Bonita Computer Science and Engineering
Smith, Wendy Center for Science, Mathematics
and Computer Education
Soh, Leen-Kiat Computer Science and Engineering

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

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

Li, Xu**Civil and Environmental Engineering**

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

Lu, Yongfeng**Electrical and Computer Engineering**

Fabrication and Verification of Fuel Targets
for Laser Fusion Research
\$1,095,377 DOE through University of Rochester
3D-Printing of Diamond-Composite Structures
using Selective Laser Semi-Melting
\$1,187,483 DoD-MDA
Portable Fiber Laser System and Method to Remove Pits
and Cracks on Sensitized Surfaces of Aluminum Alloys
\$1,975,000 DoD-ONR

Lubben, Bradley**Agricultural Economics**

North Central Risk Management Education Center
\$2,121,750 USDA-NIFA

MacDonald, James**Animal Science**

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

Mahmood, Rezaul**Natural Resources**

High Plains Regional Climate Center
\$3,247,500 DOC-NOAA
Sorensen, William Natural Resources
Stiles, Crystal Natural Resources
Umphlett, Natalie Natural Resources

McQuillan, Julia **Sociology**
 Worlds of Connections: Engaging Youth with Health Research
 Through Network Science and Stories in Augmented Reality
 \$1,235,707NIH-NIGMS
 Diamond, Judy University of Nebraska State Museum
 Spiegel, Amy Social and Behavioral
 Science Research Consortium
 Syron, Colleen Art, Art History and Design
 Wonch Hill, Trish Social and Behavioral
 Science Research Consortium

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

Mendoza-Gorham, Joan **Student Affairs**
 Lincoln Upward Bound
 \$1,532,919ED
 Upward Bound Math/Science Program
 \$1,532,919ED

Namkung, Jessica **Special Education and
 Communication Disorders/
 Nebraska Center for Research on
 Children, Youth, Families and Schools**
 Exploring Cognitive and Foundational Processes
 Underlying Pre-Algebra Among Students With and
 Without Mathematics Learning Difficulties
 \$1,399,534 ED-IES
 Bovaird, James Educational Psychology/
 Nebraska Center for Research on
 Children, Youth, Families and Schools
 Koziol, Natalie Nebraska Center for Research on
 Children, Youth, Families and Schools
 Smith, WendyCenter for Science, Mathematics
 and Computer Education/
 Nebraska Center for Research on
 Children, Youth, Families and Schools

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

Neale, Christopher **Robert B. Daugherty Water for Food Institute**
 *Novel Commercial Farm-Field Network to Quantify Emissions from
 Agricultural Bioenergy Feedstock Production
 \$3,052,157 DOE-ARPA
 Bodnar, Lacey Robert B. Daugherty
 Water for Food Institute
 Dave, Naisargi Nitinkumar Robert B. Daugherty
 Water for Food Institute
 Mekonnen, Mesfin Mergia Robert B. Daugherty
 Water for Food Institute
 Safa, Babak Robert B. Daugherty
 Water for Food Institute
 Zution Goncalves, Ivo Robert B. Daugherty
 Water for Food Institute

Nelson, Timothy **Psychology/
 Center for Brain, Biology and Behavior**
 *Modifiable Predictors of Neural Vulnerabilities for Obesity
 \$3,049,571 NIH-NIDDK
 Brock, BeccaPsychology/Center for Brain, Biology and Behavior
 Nelson, Jennifer Research/Center for Brain, Biology and Behavior
 Savage, CaryPsychology/Center for Brain, Biology and Behavior
 Schultz, Douglas Center for Brain, Biology and Behavior
 Executive Control and Adolescent Weight Trajectories
 \$2,564,739 NIH-NIDDK
 Brock, BeccaPsychology/Center for Brain, Biology and Behavior
 Nelson, JenniferResearch and Economic Development/
 Center for Brain, Biology and Behavior

Neta, Maital **Psychology/
 Center for Brain, Biology and Behavior**
 Functional Brain Networks Mediating
 Individual Differences in Valence Bias
 \$1,826,454NIH-NIMH

Ngoko Djiokap, Jean Marcel	Physics and Astronomy
Dynamics of Few-Body Atomic Processes	
\$2,565,804	DOE
Nugent, Gwen	Nebraska Center for Research on Children, Youth, Families and Schools
Testing the Efficacy of INSIGHTS for Promoting Positive Learning Environments and Academic Achievement in Nebraska: A Replication Study	
\$3,299,957	ED-IES
Bovaird, James	Educational Psychology/Nebraska Center for Research on Children, Youth, Families and Schools
Sheridan, Susan	Educational Psychology/Nebraska Center for Research on Children, Youth, Families and Schools
Olson, Kathryn	Center on Children, Families and the Law
New Worker Pre-Service Training in the Eastern Service Area (Douglas and Sarpy Counties)	
\$1,307,717	DHHS-ACF through Nebraska Department of Health and Human Services
Brank, Eve	Center on Children, Families and the Law
Owen, Erin	Buffett Early Childhood Institute
*Nebraska Early Childhood Workforce Public Outreach and Education Program	
\$1,000,000	Holland Foundation
Sarver, Susan	Buffett Early Childhood Institute
Wessels, Renee	Buffett Early Childhood Institute
Pannier, Angela	Biological Systems Engineering
Using Cell Priming and Telecommunications Modeling to Enhance Gene Delivery for Stem Cell Therapies (DP2)	
\$2,332,072	NIH-NIBIB
Pope, Kevin	Natural Resources
Human Dimensions of Nebraska's Fisheries	
\$1,747,225	DOI-FS through Nebraska Game and Parks Commission
Chizinski, Christopher	Natural Resources
Rajca, Andrzej	Chemistry
New Nitroxide Spin Labels for Distance Measurements in Biological Systems	
\$1,745,253	NIH-NIGMS
Rajca, Suchada	Chemistry

	Synthesis of Metal-Free Magnetic Resonance Imaging Contrast Agents
\$1,208,299	NIH-NIBIB
Rajca, Suchada	Chemistry
Ray, Chittaranjan	Civil and Environmental Engineering/Nebraska Water Center/Robert B. Daugherty Water for Food Institute
Securing Water for and from Agriculture Through Effective Community and Stakeholder Engagement	
\$1,054,083	USDA-NIFA through Pennsylvania State University
Burbach, Mark	Natural Resources/Robert B. Daugherty Water for Food Institute
Burkhart-Kriesel, Cheryl	Panhandle Research and Extension Center
Fulginiti, Lilyan	Agricultural Economics/Robert B. Daugherty Water for Food Institute
Groskopf, Jessica	Panhandle Research and Extension Center/Robert B. Daugherty Water for Food Institute
Perrin, Richard	Agricultural Economics/Robert B. Daugherty Water for Food Institute
Rudnick, Daran	West Central Research and Extension Center/Robert B. Daugherty Water for Food Institute
Weigle, Jason	Southeast Extension Center
Reid, John	Mechanical & Materials Engineering
Midwest States Pooled Fund Roadside Safety Program Year 30	
\$1,353,957	DOT-FHWA through Nebraska Department of Transportation
Bielenberg, Robert	Midwest Roadside Safety Facility/Nebraska Transportation Center
Faller, Ronald	Midwest Roadside Safety Facility/Nebraska Transportation Center
Holloway, Jim	Midwest Roadside Safety Facility/Nebraska Transportation Center
Lechtenberg, Karla	Midwest Roadside Safety Facility/Nebraska Transportation Center
Rasmussen, Jennifer	Midwest Roadside Safety Facility/Nebraska Transportation Center
Rosenbaugh, Scott	Midwest Roadside Safety Facility/Nebraska Transportation Center
Steelman, Joshua	Midwest Roadside Safety Facility/Nebraska Transportation Center
Stolle, Cody	Midwest Roadside Safety Facility/Nebraska Transportation Center

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

Mid-Plains Professional Upgrade Partnership - Visual Impairment
\$1,162,200ED
Caruso, EricSpecial Education and Communication Disorders

Mid-Plains Professional Upgrade Partnership - Sensory Disabilities
\$1,082,718ED
Thomas, AnneSpecial Education and Communication Disorders

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

TGCM: (T)rait, (G)ene, and (C)rop Growth (M)odel-Directed Targeted Gene Characterization in Sorghum
\$2,675,039DOE
Ge, YufengBiological Systems Engineering/Center for Plant Science Innovation

Sigmon, BrandiPlant Pathology/Center for Plant Science Innovation

Scott, Stephen **Computer Science and Engineering**

Operationalizing Cyber Situational Awareness Research: Capability Exploration
\$1,525,215DoD-Offutt Air Force Base-STRATCOM through National Strategic Research Institute

Haugerud, RickInformation Services
Magilton, ElsbethLaw
Variyam, VinodComputer Science and Engineering

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

Studies of Artificially Structured Composite Magnets
\$1,868,002DOE

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
\$3,800,000ED-IES
Wheeler, LoreyNebraska Center for Research on Children, Youth, Families and Schools

Witte, AmandaNebraska Center for Research on Children, Youth, Families and Schools

Early Learning Contexts in Rural and Urban Nebraska
\$4,773,268ED-IES

Bovaird, JamesEducational Psychology/Nebraska Center for Research on Children, Youth, Families and Schools/Buffett Early Childhood Institute

DeKraai, MarkPublic Policy Center/Nebraska Center for Research on Children, Youth, Families and Schools/Buffett Early Childhood Institute

Knoche, LisaNebraska Center for Research on Children, Youth, Families and Schools/Buffett Early Childhood Institute

A Randomized Trial of Conjoint Behavioral Consultation (CBC) with Latino Students: A Replication Study
\$3,499,987ED-IES

Bovaird, JamesEducational Psychology
Wheeler, LoreyNebraska Center for Research on Children, Youth, Families and Schools

Early Learning Network Lead
\$1,999,987ED

Knoche, LisaNebraska Center for Research on Children, Youth, Families and Schools

Sinitskii, Alexander **Chemistry**

DNA-Enabled Hierarchical Assembly of Graphene Electronics
\$4,499,998DoD-ONR

Soh, Leen-Kiat **Center for Science, Mathematics and Computer Education/Computer Science and Engineering**

Adapt, Implement and Research at Nebraska:
A Statewide Implementation Study of a Researcher-Practitioner Partnership for K-8 Computer Science Education
\$2,000,000NSF

Nugent, GwenNebraska Center for Research on Children, Youth, Families and Schools

Smith, WendyCenter for Science, Mathematics and Computer Education

Trainin, GuyTeaching, 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

Mutational Pleiotropy, Epistasis, and the Adaptive Evolution of Hemoglobin Function
\$1,437,536 NIH-NHLBI

Sun, Xinghui **Biochemistry**

Role of lncRNA 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
Knutson, Cody 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
Forbes, Cory Natural Resources/
Nebraska Center for Research on Children, Youth, Families and Schools
Homp, Michelle Center for Science, Mathematics and Computer Education/
Nebraska Center for Research on Children, Youth, Families and Schools
Nugent, Gwen Nebraska Center for Research on Children, Youth, Families and Schools
Scharmann, Lawrence Teaching, Learning and Teacher Education/
Nebraska Center for Research on Children, Youth, Families and Schools
Smith, Wendy Center for Science, Mathematics and Computer Education/
Nebraska Center for Research on Children, Youth, Families and Schools
Soh, Leen-Kiat Computer Science and Engineering/
Nebraska Center for Research on Children, Youth, Families and Schools
Thomas, Julie Teaching, Learning and Teacher Education/
Nebraska Center for Research on Children, Youth, Families and Schools
Trainin, Guy Teaching, Learning and Teacher Education/
Nebraska Center for Research on Children, Youth, Families and Schools
Wei, Sally College of Engineering/
Nebraska Center for Research on Children, Youth, Families and Schools

Thomas, Anne **Special Education and Communication Disorders**

Mid-Plains Professional Upgrade Partnership: Interdisciplinary Preparation in Deaf Education and Speech-Language Pathology
\$1,052,376 ED
Weissling, Kristy Special Education and Communication Disorders

Thompson, Laura Eastern Nebraska Research and Extension Center

Promoting Adoption of Innovative Precision Ag Nitrogen Management Technologies Through the Nebraska On-Farm Research Network for Improved Conservation Stewardship
\$1,267,747 USDA-NRCS
DeBoer, Karen Panhandle Research and Extension Center
Glewen, Keith Southeast Extension District
Krienke, Brian Agronomy and Horticulture
Lesoin, Gary Southeast Extension District
Luck, Joe Biological Systems Engineering
Maharjan, Bijesh Panhandle Research and Extension Center
Mamo, Mitiku Northeast Extension District
Mieno, Taro Agricultural Economics
Milander, Jeremy Northeast Extension District
Mueller, Nathan Metro Extension District
Nygren, Aaron Northeast Extension District
Puntel, Laila Agronomy and Horticulture
Rees, Jennifer Southeast Extension District
Sindelar, Michael Southeast Extension District
Sivits, Sarah West Central Research and Extension Center
Thomas, John Panhandle Research and Extension Center
Whitney, Todd West Central Research and Extension Center

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

A Missing Link to a Better Tomorrow:
Developing Health Literacy in Transition-Age Youth with High Incidence Disabilities
\$1,499,994 ED
Duppong Hurley, Kristin Special Education and Communication Disorders/
Academy for Child and Family Wellbeing
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

Umstadter, Donald Physics and Astronomy

LaserNetUS
\$2,100,000 DOE

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

R11 Track-2 FEC: G2P in VOM:
An Experimental and Analytical Framework for
Genome to Phenome Connections in Viruses of Microbes
\$1,192,224. NSF through University of Delaware
DeLong, John Biological Sciences/
Nebraska Center for Virology
Dunigan, David. Plant Pathology/
Nebraska Center for Virology

Vecchio, Alex Biochemistry

*Elucidating Structures and Functions of
Membrane Protein Interactions at Tight Junctions
\$1,797,390 NIH-NIGMS

Viesca, Kara Teaching, Learning and Teacher Education

International Consortium for Multilingual Excellence in Education
\$2,739,661 ED
Gatti, Lauren Teaching, Learning and Teacher Education
Johnson, Aaron Teaching, Learning and Teacher Education
Kiramba, Lydia Teaching, Learning and Teacher Education

Weaver, Eric Biological Sciences/Nebraska Center for Virology

Rapid Manufacturing of a Universal Flu Vaccine Using TMV-
Conjugated Centralized Antigens
\$3,229,833 NIH-NIAID

West, John Nebraska Center for Virology

KSHV, HIV and the Kaposi's Sarcoma Tumor Niche
\$2,893,129. NIH-NCI
Wood, Charles Biological Sciences/Biochemistry/
Nebraska Center for Virology

Whitbeck, Les Sociology

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

Wiebe, Matthew Veterinary Medicine and Biomedical Sciences

Mechanism of the Antiviral Activity of
BAF against Poxvirus and HSV-1 Infection
\$1,838,387 NIH-NIAID

Williams, Robert	Mechanical & Materials Engineering
Nebraska Industrial Assessment Center (NIAC)	
\$1,439,589	DOE
Dvork, Bruce	Civil and Environmental Engineering
Wilson, Mark	Biochemistry/Nebraska Center for Redox Biology
*Time-Resolved X-ray Crystallography of Dynamics in Cysteine-Dependent Enzymes	
\$1,183,976	NIH-NIGMS
Wood, Charles	Biological Sciences/Biochemistry/Nebraska Center for Virology
Biomarkers for Dysbiosis-Related HIV-Associated Cognitive Disorders among Persons Who Inject Drugs in Puerto Rico	
\$3,029,162	NIH-NIDA
Chiou, Kathy	Psychology/Nebraska Center for Virology
Fernando, Samodha	Animal Science/Nebraska Center for Virology
Khan, Bilal	Sociology/Nebraska Center for Virology
West, John	Biochemistry/Nebraska Center for Virology
Models of KHSV Transmission and Its Inhibition	
\$2,192,835	NIH-NCI
Li, Qingsheng	Biological Sciences/Nebraska Center for Virology
West, John	Biochemistry/Nebraska Center for Virology
Zambia AIDS Malignancies Diagnosis and Pathogenesis Program	
\$3,744,993	NIH-NCI
Angeletti, Peter	Biological Sciences/Nebraska Center for Virology
West, John	Nebraska Center for Virology
The Impact of Cannabis on Inflammation and HIV-1 Reservoirs in Zambia	
\$4,057,340	NIH-NIDA
Li, Qingsheng	Biological Sciences/Nebraska Center for Virology
West, John	Nebraska Center for Virology
AIDS Malignancies Training and Research International Program (AMTRIP)	
\$1,482,515	NIH-FIC
Cancer Research International Training and Intervention Consortium (CRITIC)	
\$4,425,389	NIH-NCI
Angeletti, Peter	Biological Sciences
West, John	Nebraska Center for Virology

Yin, Yanbin	Food Science and Technology/Nebraska Food for Health Center
*Carbohydrate Enzyme Gene Clusters in Human Gut Microbiome	
\$1,208,480	NIH-NIGMS
Zhou, Yuzhen	Statistics
Yu, Bin	Biological Sciences/Center for Plant Science Innovation
Understand the Function of the MOS4-Associated Complex in MicroRNA Biogenesis	
\$1,570,405	NIH-NIGMS
Zempleni, Janos	Nutrition and Health Sciences/Nebraska Center for the Prevention of Obesity Diseases through Dietary Molecules
Molecular Signatures of New Bioactive Compounds in Humans: Cows Milk MicroRNAs	
\$1,785,715	USDA-NIFA
Adamec, Jiri	Biochemistry/Nebraska Center for the Prevention of Obesity Diseases through Dietary Molecules
Cui, Juan	Computer Science and Engineering/Nebraska Center for the Prevention of Obesity Diseases through Dietary Molecules
Zhang, Limei	Biochemistry/Nebraska Center for Redox Biology
*Structures and Mechanisms of Iron-Sulfur Proteins in Redox Control and Stress Response	
\$1,841,118	NIH-NIGMS

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

Active awards, July 1, 2020–June 30, 2021

* Indicates new in 2020–2021

Abadie, Roberto **Sociology**

Assessing the Effects of Hurricane Maria on Opioid Agonist
Treatment Access among PWID in Rural Puerto Rico
\$412,763 NIH-NIDA
Habecker, Patrick Sociology

Adamowicz, Michael **College of Agricultural Sciences and Natural Resources**

Application of the Human Virome to
Touched Objects and Hair Shafts
\$443,931 DOJ-NIJ
Clarke, Jennifer Food Science and Technology
Fernando, Samodha Animal Science
Herr, Joshua Plant Pathology

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

Alexandrov, Vitali **Chemical and Biomolecular Engineering**

Corrosion and Passivation Mechanisms of Li-Ion Battery
Cathodes from Ab Initio Interfacial Reaction Dynamics
\$302,291 NSF

Alsalem, Fadi **Durham School of Architectural Engineering & Construction**

Micro-Electro-Mechanical Neural Integrated Sensing and
Computing Units for Wearable Device Applications
\$391,532 NSF

Asadollahi Pajouh, Mojdeh **Midwest Roadside Safety Facility**

*AASHTO Guidelines for Implementation of MASH Sign Supports,
Breakaway Poles, and Work Zone Traffic Control Devices
\$500,000 DOT-FHWA through
National Academy of Sciences-NCHRP
Faller, Ronald Midwest Roadside Safety Facility
Reid, John Mechanical & Materials Engineering

Awada, Tala **Natural Resources/Agricultural Research Division**

Agricultural Intensification in the Western Corn Belt
\$650,000 USDA-ARS
Giannakas, Konstantinos Agricultural Economics
Suyker, Andy Natural Resources

Carbon Flux from Great Plains Agroecosystems Associated
with the ARS LTAR Network
\$300,000 USDA-ARS
Erickson, Galen Animal Science
Suyker, Andy Natural Resources

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

Plant Breeding Partnerships: Continuing to
Develop and Validate the Tools for Hybrid Wheat
\$650,000 USDA-NIFA
Belamkar, Vikas Agronomy and Horticulture
El Basyoni, Ibrahim Agronomy and Horticulture

Developing the Tools and Germplasm for Hybrid Wheat
\$975,000 USDA-NIFA

Balkir, Sina **Electrical and Computer Engineering**

Low-profile PMT Scintillator Read-out System
\$987,191 Do D-DTRA through Kansas State University
Hoffman, Michael Electrical and Computer Engineering

Banerjee, Simanti **Agricultural Economics**

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

Bao, Wei **Electrical and Computer Engineering**

*Robust, Compact, On-Chip Microlaser Enabled by
Merging Bound States in the Continuum
\$350,000 DoD-ONR

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

Development and Testing of *Mycobacterium avium* subsp.
paratuberculosis DIVA Vaccines in Ruminants
\$500,000 USDA-NIFA

Bartelt-Hunt, Shannon **Civil and Environmental Engineering**

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 Nebraska Transportation Center
Kim, Seunghye Civil and Environmental Engineering
Li, Xu Civil and Environmental Engineering
Li, Yusong Civil and Environmental Engineering
Linzell, Daniel Civil and Environmental Engineering
Sim, Chungwook Civil and Environmental Engineering
Steelman, Joshua Nebraska Transportation Center
Wittich, Christine Civil and Environmental Engineering
Wood, Richard Civil and Environmental Engineering

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 Agronomy and Horticulture

Bashford, Gregory **Biological Systems Engineering**

REU Site: Undergraduate Research Opportunities in
Biomedical Devices at the University of Nebraska-Lincoln
\$414,979 NSF
Markovicka, Eric Mechanical & Materials Engineering

Batelaan, Herman **Physics and Astronomy**

Coherent Electron Control
\$475,161 NSF

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

*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. Biochemistry/Nebraska Center for Redox Biology/
Center for Plant Science Innovation
Ro, Seung-Hyun . . . Biochemistry/Nebraska Center for Redox Biology/
Center for Plant Science Innovation
Stone, Julie Biochemistry/Nebraska Center for Redox Biology/
Center for Plant Science Innovation
Wilson, Mark. Biochemistry/Nebraska Center for Redox Biology/
Center for Plant Science Innovation
Zhang, Limei Biochemistry/
Center for Plant Science Innovation/
Nebraska Center for Redox Biology/

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

Benson, John **Natural Resources**

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
\$304,656 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**

Dynamic Testing and Evaluation of a Culvert-Mounted,
Strong-Post MGS to TL-3 Guidelines of MASH 2016

\$275,995 DOT-WI DOT through

Nebraska Department of Transportation

Faller, RonaldMidwest Roadside Safety Facility

Reid, John Mechanical & Materials Engineering

Rosenbaugh, ScottMidwest Roadside Safety Facility

Development of an Optimized MASH TL-4 Kansas Corral Rail
(Kansas, Iowa, South Dakota and Virginia)

\$401,400DOT-KS DOT through

Nebraska Department of Transportation

Faller, RonaldMidwest Roadside Safety Facility

Holloway, JamesMidwest Roadside Safety Facility

Lechtenberg, KarlaMidwest Roadside Safety Facility

Rosenbaugh, ScottMidwest Roadside Safety Facility

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

Magnetoelectrics and Spinorbitronics in
Topological Heterostructures and Superlattices

\$725,357 DoD-ONR through
University of California, Los Angeles

Black, Paul **Biochemistry**

Waste to Oil and High Value Bioproducts

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

Allen, JamesBiochemistry

Blanco, Humberto **Agronomy and Horticulture**

Managing Cover Crops to Enhance Soil Ecosystem Services
in Soils Vulnerable to Environmental Pressures

\$500,000 USDA-NIFA

Parson, Jay Agricultural Economics

Proctor, Christopher Agronomy and Horticulture

Ruis, Sabrina Agronomy and Horticulture

Thompson, Laura .. Eastern Nebraska Research and Extension Center

Yang, Haishun Agronomy and Horticulture

Enhancing the Health of Low C, Sandy and Sloping Soil
with Biochar and Cover Crops

\$499,999 USDA-NIFA

Creech, Cody Panhandle Research and Extension Center

Drijber, Rhae..... Agronomy and Horticulture

Easterly, Amanda Agronomy and Horticulture

Jasa, Paul Biological Systems Engineering

Ruis, Sabrina Agronomy and Horticulture

Enhancing Soil Ecosystem Services with Cover Crops

\$252,471 Nebraska Environmental Trust

Ferguson, Richard Agronomy and Horticulture

Jasa, Paul Biological Systems Engineering

Assessing Innovative Strategies to Maximize Cover Crop Yields
for Biofuel across Precipitation Gradient

\$500,000 USDA-NIFA

Creech, Cody Panhandle Research and Extension Center

Elmore, Roger Agronomy and Horticulture

Francis, Charles Agronomy and Horticulture

Koehler-Cole, Katja Agronomy and Horticulture

Parsons, Jay Agricultural Economics

Ruis, Sabrina Agronomy and Horticulture

Shaver, Tim West Central Research and Extension Center

Yang, Haishun Agronomy and Horticulture

Blum, Paul **Biological Sciences**

*Epigenetic Inheritance in the Crenarchaeota

\$618,472NSF

Van Cott, Kevin Chemical and Biomolecular Engineering

Wilson, MarkBiochemistry

Chromatin Modification in Archaea and
Its Role in Gene Expression

\$379,675NSF

Van Cott, Kevin Chemical and Biomolecular Engineering

REU Site: Integrated Development of Bioenergy Systems

\$323,325NSF

Cerutti, Heriberto Biological Sciences/

Center for Plant Science Innovation

Bobaru, Florin **Mechanical & Materials Engineering**

Corrosion-Induced Fracture and Failure: Transforming Computations
from Micrometers and Minutes to Meters and Years

\$748,375NSF

Larios, AdamMathematics

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

\$499,088ED-IES through Duquesne University
Sheridan, Susan Educational Psychology/Nebraska Center for Research on Children, Youth, Families and Schools

Brennan, Marc **Special Education and Communication Disorders**

Restoration of Spectral Resolution with Hearing-Aid Amplification

\$448,983NIH-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, Carrie **Holland Computing Center**

CC* Team: Great Plains Regional CyberTeam

\$269,874 NSF through University of Missouri-Columbia

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**

An Evidence-Based Approach to Preventing Student Suicide at the University of Nebraska-Lincoln

\$305,409 DHHS-SAMHSA
Boehm, Constance Student Affairs

Cahoon, Edgar

Biochemistry/Center for Plant Science Innovation

*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

Carroll, John

Natural Resources

Wildlife Management and Human Dimensions

\$255,000 DOI-FWS through Nebraska Game and Parks Commission

Centurion, Martin

Physics and Astronomy

Capturing Ultrafast Electron-Driven

Chemical Reactions in Molecules

\$700,847 DOE

OP: Diffractive Imaging of Complex Isolated Molecules

\$375,170 NSF

Cerutti, Heriberto

Biological Sciences/Center for Plant Science Innovation

Developing Genetic and Genomics Tools for *Tetraselmis* sp.

\$689,033 Gordon and Betty Moore Foundation
Clemente, Thomas Agronomy and Horticulture/Center for Plant Science Innovation

Mechanisms of Small RNA-Mediated Translation Repression in *Chlamydomonas*

\$560,000 NSF

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

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

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

Choi, Evan **Child, Youth and Family Studies/ Nebraska Center for Research on Children, Youth, Families and Schools**

Youth Civic Engagement: Using Simulations and Design Thinking
\$647,000 USDA-NIFA
De Guzman, Maria Child, Youth and Family Studies/
Nebraska Center for Research on
Children, Youth, Families and Schools
Jennings, Euwanda Metro Extension District/
Nebraska Center for Research on
Children, Youth, Families and Schools
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
Sierra, Leo Panhandle Research and Extension Center/
Nebraska Center for Research on
Children, Youth, Families and Schools
Valentine, Dagen 4-H State Office/
Nebraska Center for Research on
Children, Youth, Families and Schools

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

An Innovative Approach to Increasing Bioavailability
of Curcumin Using Nanoporous Starch Bioaerogels
\$468,000 USDA-NIFA
Meneses Gonzalez, Yulie Food Science and Technology
Moreau, Regis Nutrition and Health Sciences
Rose, Devin Food Science and Technology

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

Ciobanu, Daniel **Animal Science**

Deconstructing the Role of SYNGR2 in
Viral Disease Susceptibility in Livestock
\$500,000 USDA-NIFA
Vu, Hiep Animal Science

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

Clark, Carrie

Educational Psychology/
Nebraska Center for Research on
Children, Youth, Families and Schools/
Center for Brain, Biology and Behavior

*Evaluating Psychophysiological Mechanisms of
Early Childhood Teachers' Stress Resilience and
Their Relevance for Preschoolers' Self-Regulation

\$412,863

NIH-NICHD

Calvi, Jessica

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

Parra, Gilbert

Child, Youth and Family Studies/
Nebraska Center for Research on
Children, Youth, Families and Schools/
Center for Brain, Biology and Behavior

Tyler, Kimberly

Sociology/Nebraska Center for Research on
Children, Youth, Families and Schools/
Center for Brain, Biology and Behavior

Wheeler, Lorey

Nebraska Center for Research on
Children, Youth, Families and Schools/
Center for Brain, Biology and Behavior

Clemente, Thomas

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

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

\$299,006

NSF

Corman, Jessica

Natural Resources

StreamNet: Building Capacity to Improve Water Quality

\$480,524

Nebraska Environmental Trust

Chizinski, Christopher

Natural Resources

Thomas, Steven

Natural Resources

Couch, Brian

Biological Sciences/
Nebraska Center for Virology

*Student Engagement with Online Formative Assessments:
Identifying Access and Barriers to Resource Use at
Two-Year and Four-Year Institutions

\$250,724

NSF

Brazeal, Kati

Biological Sciences

Wheeler, Lorey

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

Mapping Change in Higher Education Social Networks
and STEM Reforms

\$524,243

NSF

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

\$299,920

NSF

Brassil, Chad

Biological Sciences

Cressler, Clay

Biological Sciences

Habitat and Coinfection as Drivers of Heterogeneity in
Cross-Scale Wildlife Infectious Disease Processes

\$302,744

NSF through University of Arkansas

Cui, Bai

Mechanical & Materials Engineering

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

\$314,963

NIH-NICHD through
University of Nebraska Medical Center

Wood, Jennifer

Animal Science

Dauer, Jenny **Natural Resources**
 Bridging Science Education and Psychology Perspectives to
 Support Science Literacy Theory and Instruction
 \$349,836NSF

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

Dauer, Joseph **Natural Resources**
 *Quantitative Modeling in Undergraduate Biology Courses:
 Teaching Approaches and Student Outcomes
 \$402,926NSF
 Couch, BrianBiological Sciences

*ECR DBER DCL: Describing the Neurobehavioral Effects of
 Modeling-Based Instruction in Undergraduate Life Sciences Education
 \$313,898NSF
 Clark, CarrieEducational Psychology

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

Detweiler, Carrick **Computer Science and Engineering**
 *Real-time Weather Awareness for
 Enhanced Safety Assurance in UTM
 \$805,406NASA through Oklahoma State University
 Houston, Adam Earth and Atmospheric Sciences

NRI: INT: Raining Drones: Mid-Air Release and
 Recovery of Atmospheric Sensing Systems
 \$643,600NSF
 Houston, Adam Earth and Atmospheric Sciences

Fixed Wing VTOL Sensor Emplacement
 \$740,798 DoD-Offutt Air Force Base-STRATCOM through
 National Strategic Research Institute
 Bradley, JustinComputer Science and Engineering
 Duncan, BrittanyComputer Science and Engineering

At the Water's Edge:
 Installation and Optimization of Robotic Sensing Systems
 \$949,716 USDA-NIFA
 Bradley, JustinComputer Science and Engineering

DiLillo, David **Psychology**
 Promoting Prosocial Bystander Behavior in Intoxicated Men:
 Evaluation of RealConsent2.0
 \$554,223NIH-NIAAA through Georgia State University
 Gervais, SarahPsychology

Intervention to Promote Pro-social Bystander Behaviors
 \$402,117NIH-NICHD
 Brock, BeccaPsychology
 Gervais, SarahPsychology

Doht, Mitchell **Extension/
 Nebraska Local Technical Assistance Program**
 Nebraska Local Technical Assistance Program
 \$744,515DOT-FHWA through
 Nebraska Department of Transportation

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

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

Controlling Structural, Electronic, and Energy Flow Dynamics
 of Catalytic Processes Through Tailored Nanostructures
 \$340,001University of Central Florida

Duncan, Brittany **Computer Science and Engineering**
 NRI: INT: Leveraging Environmental Monitoring UAS in Rainforests
 \$722,804NSF
 Detweiler, CarrickComputer Science and Engineering

REU Site: Undergraduate Research Opportunities in
 Unmanned Systems Foundations and Applications
 \$400,649NSF
 Bradley, JustinComputer Science and Engineering
 Detweiler, CarrickComputer Science and Engineering

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

Dussault, Patrick **Chemistry**
 A New Paradigm for Ether Synthesis
 \$390,000 NSF

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

Edwards, Katie **Educational Psychology/ Nebraska Center for Research on Children, Youth, Families and Schools**
 *The Impact of an Adapted Version of the Strengthening Families Program on Reducing IPV among Caregivers and ACEs among Their Children
 \$699,996 DHHS-CDC
 Waterman, Emily Nebraska Center for Research on Children, Youth, Families and Schools
 Wheeler, Lorey Nebraska Center for Research on Children, Youth, Families and Schools

*Development and Pilot Evaluation of an Online Intervention to Prevent Dating Violence and Problem Drinking in Sexual Minority Youth

\$649,358 NIH-NIAAA
 Siller, Laura Nebraska Center for Research on Children, Youth, Families and Schools
 Wheeler, Lorey Nebraska Center for Research on Children, Youth, Families and Schools

*Development and Pilot Trial of an Intervention to Reduce Disclosure Recipients' Negative Social Reactions and Victims' Psychological Distress and Problem Drinking
 \$264,221 NIH-NIAAA
 Waterman, Emily Nebraska Center for Research on Children, Youth, Families and Schools

Evaluating Practice-Based Sexual Violence Primary Prevention Approaches from CDC's Rape Prevention
 \$743,021 DHHS-CDC
 The Role of Stigma in Partner Violence
 \$413,900 NSF

Elkins, Lynne **Earth and Atmospheric Sciences**
 Testing Extrusion Tectonics, Rifting, and Lithosphere-Asthenosphere Coupling Models for the Central Highlands Diffuse Igneous Province, Vietnam
 \$413,347 NSF
 Burberry, Cara Earth and Atmospheric Sciences

Assessing Segment-scale Compositional Control over Slow-spreading Ridge Morphology
 \$278,905 NSF

Erickson, Galen **Animal Science**
 *Integrated Crop Livestock Systems for the Western Corn Belt
 \$400,000 USDA-ARS
 MacDonald, James Animal Science
 Watson, Andrea Animal Science

Erixson, John Nebraska State Forest Service

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

Community Assistance Funds Adjacent
\$300,000 USDA-FS

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

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

Eskridge, Kent Statistics

GAANN Fellowship Program for Statistics
\$887,202 ED

Eun, Jongwan Civil and Environmental Engineering

*Multiscale and Multiphysical Testing-Modeling of
Inorganic Microfiber-Reinforced Engineered Barrier Materials
(IMEBM) for Enhancing Repository Performance
\$640,000 DOE-NEUP
Kim, Seunghee Civil and Environmental Engineering

Everhart, Sydney Plant Pathology

*Enhancing Resiliency of Broccoli Production by Mitigating
Alternaria Leaf Blight and Head Rot in the Eastern U.S.
\$744,156 USDA-NIFA through University of Georgia

Improved White Mold Resistance in Dry and
Snap Beans Through Multi-Site Screening and Pathogen
Characterization Throughout Major Production Areas
\$276,002 USDA-ARS

Fabrikant, Ilya Physics and Astronomy

Electron and Positronium Collisions with Molecules
\$270,000 NSF

Faller, Ronald Midwest Roadside Safety Facility

MnDOT Barriers 157 and 158 MASH 2016 Testing,
Level 3 and Level 4 Evaluations
\$560,286 DOT-MN DOT through
Nebraska Department of Transportation

Bielenberg, Robert Midwest Roadside Safety Facility
Holloway, James Midwest Roadside Safety Facility
Rasmussen, Jennifer Midwest Roadside Safety Facility
Rosenbaugh, Scott Midwest Roadside Safety Facility
Steelman, Joshua Civil and Environmental Engineering

Crash Testing of a Precast Concrete Barrier
\$414,128 Iowa Department of Transportation
Bielenberg, Robert Midwest Roadside Safety Facility
Rasmussen, Jennifer Midwest Roadside Safety Facility
Rosenbaugh, Scott Midwest Roadside Safety Facility

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

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

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

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

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

Fernandez-Ballester, Lucia **Mechanical & Materials Engineering**
Nucleation Control of Conjugated Polymers Through
Melt-crystallization and Self-seeding
\$345,000 NSF

Fernando, Samodha **Animal Science**
*Investigating the Emergence and Ecology of
Antimicrobial Resistance in High-Risk Beef Cattle
\$332,437 USDA-AFRI through Texas Tech University
Schmidt, Amy Animal Science/Biological Systems Engineering

Improving Water Quality and Fish Health
in the Platte River and Tributaries
\$360,828 Nebraska Environmental Trust
Pegg, Mark Natural Resources

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

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

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

Forbes, Cory **Natural Resources/
Robert B. Daugherty Water for Food Institute**
INFEWS/T3 RCN: Cultivating a National Collaborative for
Research on Food, Energy, and Water Education (NC-FEW)
\$749,964 NSF

Supporting Undergraduate Teaching and Learning
about Socio-Hydrological Challenges Through
Data-Driven Modeling in the FANH Sciences
\$299,997 USDA-NIFA

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

Franz, Trenton **Natural Resources**
CPS: Medium: A Scalable Real-Time Sensing and Decision-Making
System for Field-Level Row-Crop Irrigation Management
\$319,994 USDA-NIFA through
University of Illinois-Urbana/Champaign
Heeren, Derek Biological Systems Engineering
Rudnick, Daran West Central Research and Extension Center

Frels, Katherine **Agronomy and Horticulture**
*Breeding Scab-Resistant and Low DON
Winter Barley Varieties for the Great Plains
\$284,038 USDA-ARS

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

Fuchs, Brian **Natural Resources**
Drought Information Services and Research for Agriculture
across the United States
\$833,384 USDA-OCE
Svoboda, Mark Natural Resources

Fuchs, Matthias Physics and Astronomy

*High-Efficiency, High-Current Laser-Driven Electron Injector
\$749,622 DOE
Shadwick, Bradley Physics and Astronomy

Phase-Space Investigation of Laser-driven
Weakly Relativistic Electron Beams
\$420,000 NSF
Centurion, Martin Physics and Astronomy
Shadwick, Bradley Physics and Astronomy

Nonlinear X-Ray Optics
\$594,760 DOE

Gamon, John Natural Resources

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

Gardner, Scott University of Nebraska State Museum/ Biological Sciences

Digitization TCN: Digitizing Collections to Trace Parasite-Host
Associations and Predict the Spread of Vector-Borne Disease
\$426,149 NSF

CSBR: Natural History: Digitizing and Conserving Specimens
in the Manter Laboratory of Parasitology
\$499,988 NSF
Diamond, Judy University of Nebraska State Museum

Gay, Timothy Physics and Astronomy

Accurate Electron Spin Optical Polarimetry (AESOP)
\$565,000 NSF

Polarized Electron Physics
\$570,000 NSF

Ge, Yufeng Biological Systems Engineering

*A Rapid In-Field System to Measure Deep Soil C Stock and Flux
\$624,997 DOE-ARPA-E through Soil Health Institute

CPS: 3D Dynamic Soil Information System Enabled
by UAV and Proximal Depth Sensing
\$717,698 USDA-NIFA
Shi, Yeyin Biological Systems Engineering
Yu, Hongfeng Computer Science and Engineering
Zhou, Yuzhen Statistics

VisNIR-Based Multi-sensing Penetrometer for
in situ High-resolution Depth Sensing of Soils
\$499,896 USDA-NIFA

PAPM EAGER: Transitioning to the Next-generation
Plant Phenotyping Robots
\$285,000 USDA-NIFA
Pitla, Santosh Biological Systems Engineering
Schnable, James Biological Systems Engineering

Gilmore, Troy Natural Resources

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

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
Velez Arango, Ana Maria Entomology
Weissling, Tom Entomology
Wu-Smart, Judy Entomology

Community as Habitat: Nebraska Communities Supporting
Pollinators and Landscape Diversity Through
Native Waterwise Plant Habitats
\$364,520 Nebraska Environmental Trust
Evertson, Justin Nebraska State Forest Service

*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.
\$267,966 North Central Soybean Research Program through
Ohio State University
Hyten, David Jr. Agronomy and Horticulture

Soybean Breeding and Genetic Studies for Nebraska	
\$304,247	Nebraska Soybean Board

Grassini, Patricio Agronomy and Horticulture

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

Griep, Mark Chemistry

REU Site: Research Experiences for Undergraduates in Chemical Assembly at the University of Nebraska	NSF
\$339,683	

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

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

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**

\$400,000	NSF
Snow, Daniel	Water Center

New Approaches to Catalyst Screening and Development	
\$522,208.....	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

Harwood, David Earth and Atmospheric Sciences/

Antarctic Drilling Program
Subglacial Antarctic Lakes Scientific Access (SALSA):
Integrated Study of Carbon Cycling in
Hydrologically Active Subglacial Environments
\$349,956NSF through Montana State University
McManis, James Engineering/Antarctic Drilling Program

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

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

Hebert, Michael **Special Education and Communication Disorders**
Designing and Providing Academic Interventions

\$955,034 ED
Goodrich, Marc Special Education and
Communication Disorders
Loveall-Hague, Susan Special Education and
Communication Disorders
Namkung, Jessica Special Education and
Communication Disorders
Savaiano, Mackenzie Special Education and
Communication Disorders

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

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**

Complex Oxide Heterostructure-Based
Negative Capacitance Mott FETs
\$264,000 Semiconductor Research Corp
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**
Targeted Observation by Radars
and UAS of Supercells (TORUS)

\$866,107 NSF
Investigating Soil Moisture-Convective Precipitation Feedbacks
with Soil Moisture Active Passive
\$402,364 NASA through The Ohio State University

Hughes, Michelle **Special Education and Communication Disorders**
Telepractice for Cochlear Implants

\$319,682 NIH-NIDCD
Wheeler, Lorey Nebraska Center for Research on
Children, Youth, Families and Schools
Physiology as a Potential Predictor
of Perception in Cochlear Implants
\$291,566 NIH-NIDCD
Wheeler, Lorey Nebraska Center for Research on
Children, Youth, Families and Schools

Hunt, Thomas **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
\$295,749 Mead Johnson Nutrition
Izard, Jacques Food Science and Technology

Irmak, Suat **Biological Systems Engineering**
 Water Use and Soil-Water Storage Effect of Individual and Mixed Cover Species and Impacts on Soil Quality Variables
 \$391,756 Nebraska Environmental Trust

Izard, Jacques **Food Science and Technology**
 Dietary Sulfur, the Gut Microbiome and Colorectal Cancer
 \$389,051 NIH-NCI through Massachusetts General Hospital

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

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

Kaskie, Shawn **Extension**
 *Nebraska Entrepreneurial Communities Pandemic Response
 \$415,261 DOC-EDA
 Barrera Fuentes, Sandra Extension
 Schlake, Marilyn Agricultural Economics
 Tuller, Jason Extension
 Weigle, Jason Extension

Kazyak, Emily **Sociology/Women's and Gender Studies**
 Religious Exemption Laws and the Rights of Sexual and Gender Minorities
 \$324,228 NSF
 Burke, Kelsy Sociology

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

Khan, Bilal **Sociology/Computer Science and Engineering/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
 McChargue, Dennis Psychology/
 Rural Drug Addiction Research Center
 Tyler, Kimberly Sociology/
 Rural Drug Addiction Research Center

Kidambi, Srivatsan **Chemical and Biomolecular Engineering**
 *Extracellular Vesicles as the Vehicles for Promoting Liver Injury Induced by HIV and Alcohol
 \$265,064 NIH-NIAAA through
 University of Nebraska Medical Center

Kim, Panya **Center for Plant Science Innovation**
 IOS: The Microtubule Network and Plant Immunity
 \$600,000 NSF
 Van Dijk, Karin Biochemistry/Center for Plant Science Innovation

Kim, Surin **Textiles, Merchandising and Fashion Design**
 Leveraging Community Connections, Local Issues, and Youth High Tech Entrepreneurship Education to Nurture Rural Economic Opportunities
 \$493,560 USDA-NIFA
 De Guzman, Maria Child, Youth and Family Studies
 Guru, Ashu 4-H State Office
 Nicholas, Claire Textiles, Merchandising and Fashion Design

Knoche, Lisa **Nebraska Center for Research on Children, Youth, Families and Schools**
 Getting Ready Preschool Development Grant PDG
 \$292,723 DHHS-ACF-Nebraska Department of
 Health and Human Services through
 Nebraska Children and Families Foundation

Korus, Jesse Natural Resources

Aquifer Recharge and Sustainability in the Republican Basin
\$269,008Nebraska Natural Resources Commission through
Middle Republican NRD

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

Kovalev, Alexey Physics and Astronomy

*Spin Currents in Magnetic Systems and Heterostructures
\$344,971 DOE

Krull, Dean Agronomy and Horticulture

Managing Irrigation Systems Today
\$552,982 Central Platte NRD

Lackey, Susan Natural Resources

Developing Hydrogeologic Databases to Assist
in Water Resources Management
\$654,700 Lower Elkhorn NRD

Lai, Rebecca Chemistry

*A Wireless, Closed-Loop Neural Probe for Optogenetics,
Pharmacology and Neurochemical Monitoring
\$339,325 NIH-NINDS through University of Connecticut

Lawrence, Nevin Panhandle Research and Extension Center

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

Lechtenberg, Karla Midwest Roadside Safety Facility

Crash Testing MoDOT Devices
\$376,367Missouri Department of Transportation through
Nebraska Department of Roads
Faller, RonaldMidwest Roadside Safety Facility
Holloway, JimMidwest Roadside Safety Facility
Rasmussen, JenniferMidwest Roadside Safety Facility

Lewis, Elizabeth Teaching, Learning and Teacher Education

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

Lewis, Ronald Animal Science

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

Li, Qingsheng Biological Sciences/ Nebraska Center for Virology

*Targeted *in vivo* Delivery of Gene Therapeutics for HIV Cure
\$308,624 NIH-NIAID through Temple University

Impact of the Gut Microbiome on HIV-1 Rectal Transmission
and Immunopathogenesis During ART
\$416,659NIH-NIAID

Preclinical Development of Ingenol and HDACi
Toward HIV Eradication
\$303,578 NIH-NIAID through University of Utah

Beat-HIV: Delaney Collaborative to
Cure HIV-1 Infection by Immunotherapy
\$321,926 NIH-NIAID through Wistar Institute

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
\$330,000NSF
Snow, Daniel Nebraska Water Center
Walia, Harkamal Agronomy and Horticulture

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 Agronomy and Horticulture
Tyre, Drew Natural Resources
Uden, Daniel Natural Resources

Lodi, Kathleen **Extension**

EAGER: Building an Ecosystem for Broadening Participation for Computing: 4-H and the Land-Grant University System
\$297,313 NSF
Frerichs, Sandra Extension
Guru, Ashu Extension
O'Connor, Ann Extension
Wheeler, Lorey Nebraska Center for Research on Children, Youth, Families and Schools

Louis, Joe **Entomology/Biochemistry**

Characterizing the Interplay Between Sorghum and Fall Armyworm
\$429,248 USDA-NIFA

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

Femto Second Laser Machining of Various Materials
\$570,000 Honeywell FM & T

Radar 2021
\$905,025 Honeywell FM & T

Luck, Joe **Biological Systems Engineering**

*Initiation of Nitrogen and Cover Crop Application Technology Demonstration
\$452,540 EPA through Nebraska Department of Environment and Energy
Pekarek, Katie Natural Resources
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

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

Examining the Impact of the CPM Implementation in an Urban District
\$384,753 College Preparatory Mathematics (CPM) Educational Program

Mamo, Martha **Agronomy and Horticulture**

Fostering the Next Generation of Agricultural and Natural Resources Professionals Through Experiential Learning in Research, Education and Extension

\$281,475 USDA-NIFA
Keshwani, Jennifer Biological Systems Engineering
Lambe, David Agronomy and Horticulture
Lee, Donald Agronomy and Horticulture
Matkin, Gina Agricultural Leadership,
Education and Communication
Sandall, Leah Agronomy and Horticulture
Schacht, Walter Agronomy and Horticulture
Speth, Carol Agronomy and Horticulture

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

Montooth, Kristi **Biological Sciences**

RoL: FELs: EAGER: A Predictive Framework of Metabolism as an Engine of Functional Environmental Responses across Levels of Biological Organization

\$299,999 NSF
DeLong, John Biological Sciences

Moon, Alena **Chemistry**

Developing Educational Measurement Competency to Support Investigations of Students' Conceptions of Light

\$300,112 NSF

Moreau, Regis **Nutrition and Health Sciences**

Bioactivity of Curcumin and Gut Inflammation

\$480,214 USDA-NIFA
Hage, David Chemistry

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

Impact of Milk Production on Cow-Calf Productivity, Grazing Behavior, and Profitability

\$299,999 USDA-NIFA
Fernando, Samodha Animal Science
Stephenson, Mitchell Panhandle Research and Extension Center

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/
Robert B. Daugherty Water for Food Institute**

*Improving Agricultural Water Use and Nutrient Management to Sustain Food and Energy Crops Production in the Corn Belt

\$890,835 USDA-NIFA through University of Maryland
Luck, Joe Biological Systems Engineering
Masi, Ashish Robert B. Daugherty Water for Food Institute
Puntel, Laila Agronomy and Horticulture
Thompson, Laura .. Eastern Nebraska Research and Extension Center

Irrigation Innovation Consortium-Base Funding
\$303,000 Foundation for Food and Agriculture Research through
Colorado State University
Rudnick, Daran Robert B. Daugherty Water for Food Institute
Safa, Babak Robert B. Daugherty Water for Food Institute
Zution Goncalves, Ivo .. Robert B. Daugherty Water for Food Institute

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

Reconfiguring Farmers' Behavior to Reduce Irrigation Water Use Through Water Measurements and Social Norms Interventions: A Case Study in the Republican River Basin
\$453,539 USDA-NIFA
Olson, Kristen Sociology

Nelson, Timothy **Psychology/
Center for Brain, Biology and Behavior**
Role of Executive Control in Adolescent Substance Use
and Co-occurring Problems
\$508,159 NIH-NIDA through
University of Tennessee
Espy, Kimberly Psychology/
Center for Brain, Biology and Behavior
Nelson, Jennifer Psychology/
Center for Brain, Biology and Behavior

Ngoko Djiokap, Jean Marcel **Physics and Astronomy**
Strong Field & Ultrafast Atomic and Molecular Processes
\$548,398 NSF

Nguyen, Lim **Electrical and Computer Engineering**
ABC Group SRA: Center for Electromagnetic
Concrete R&D and Shielding Innovations
\$301,408 American Business Continuity Domes, Inc.

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

Novbert, Heather **Nebraska State Forest Service**
Great Plains Biochar Initiative II:
Supply and Demand for Biochar as a Cattle Feed Additive
\$250,000 USDA-FS
Erickson, Galen Animal Science
MacDonald, James Animal Science
Watson, Andrea Animal Science

Nugent, Gwen **Nebraska Center for Research on
Children, Youth, Families and Schools**
Analysis of Effective Science Coaching: What, Why and How
\$699,584 NSF
Houston, James Nebraska Center for Research on
Children, Youth, Families and Schools
Kunz, Gina Nebraska Center for Research on
Children, Youth, Families and Schools

Obata, Toshihiro **Biochemistry/
Center for Plant Science Innovation**
*Elucidating the Health-Beneficial Traits of Kernels of
Maize Relatives Digested in the Human Gastrointestinal Tract
\$500,000 USDA-NIFA
Majumder, Kaustav Food Science and Technology/
Center for Plant Science Innovation
Yang, Jinliang Agronomy and Horticulture/
Center for Plant Science Innovation

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

Pannier, Angela **Biological Systems Engineering**
*Influence of Maternal and Embryonic-Derived Extracellular Vesicles
on the Initiation of Porcine Conceptus Elongation
\$500,000 USDA-NIFA
Understanding Molecular Factors that
Regulate Initiation of Porcine Embryo Elongation
\$465,000 USDA-NIFA

Park, Jae Sung **Mechanical & Materials Engineering**
Nonlinear Electrokinetics at Polarizable Soft Interfaces: Implications
for Cell Membrane Characterization and Nanopore Transport
\$387,356 NSF
Yang, Ruiguo Mechanical & Materials Engineering

Pedrigi, Ryan **Mechanical & Materials Engineering**
*Ultrasound as a MechanoTherapy for Endothelial Cell Dysfunction
\$602,769 NIH-NIBIB
Kievit, Forrest Biological Systems Engineering
Sun, Xinghui Biochemistry
Turner, Joseph Mechanical & Materials Engineering

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
 \$645,943NSF

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

Peterson, Julie **West Central Research and Extension Center**
 *Corteva Innovation Farms
 \$315,991Pioneer Hi-Bred

Piepenbrink, Kurt **Food Science and Technology**
 Structural Basis of Type IV Pilus-Induced
Clostridium difficile Microcolony Formation
 \$259,560NIH-NIAID

Pierobon, Massimiliano **Computer Science and Engineering**
 CIF: Small: WetComm: Foundations of Wet Communication Theory
 \$515,528NSF
 Niu, Wei..... Chemical and Biomolecular Engineering

Pitla, Santosh **Biological Systems Engineering**
 *UGV and UAV Collaboration for Automated Seed Refilling in
 Row Crops (U2AGV Refill)
 \$452,783 USDA-NIFA
 Luck, Joe Biological Systems Engineering
 Rohrer, Rodney Biological Systems Engineering
 Shi, Yeyin Biological Systems Engineering

In-field Tractor Operational Load Profile Generation in
 Support of Advanced Tractor Testing in Mixed-mode Power States
 \$472,887 USDA-NIFA
 Hoy, Roger..... Biological Systems Engineering
 Luck, Joe Biological Systems Engineering
 Rohrer, Rodney Biological Systems Engineering

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

Powell, Larkin **Natural Resources**
 Management of Private Grazing Lands in Nebraska:
 Do Differences in Ranch Management and Landowner
 Characteristics Affect Conservation Impacts
 \$344,521Nebraska Game and Parks Commission
 Schacht, Walter Agronomy and Horticulture

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

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

Proctor, Christopher **Agronomy and Horticulture**
 *Development of Research and Demonstration Sites in the
 BGMA for Nitrate Reduction
 \$272,574Nebraska Environmental Trust through
 Lower Elkhorn NRD
 Heeren, Derek Biological Systems Engineering
 Mamo, MarthaExtension
 Milander, Jeremy Extension
 Powers, Crystal Water Center
 Ray, Chittaranjan Civil and Environmental Engineering/
 Water Center
 Rudnick, Daran Biological Systems Engineering
 Timmerman, AmyExtension

Qian, Yi **Electrical and Computer Engineering**
 *CNS Core: Small: Secure and Efficient Mobile Edge Computing in
 Wireless Heterogeneous Networks
 \$250,000NSF

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

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

Radu, Petronela **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 **Computer Science and Engineering**

NeTS: Small: Intelligent Optical Networks
using Virtualization and Software-Defined Control
\$466,000 NSF

Ramer-Tait, Amanda **Food Science and Technology/
Nebraska Center for the Prevention of
Obesity Diseases through Dietary Molecules**

Epigenetic Regulation of Obesity and Metainflammation by
Red Raspberry Ellagic Acid and its Microbiota-derived Metabolites,
the Urolithins
\$469,949 USDA-NIFA

Rao, Prahalada **Mechanical & Materials Engineering**

*Understanding the Thermal Physics and Metallurgy of
Metal Big Area Additive Manufacturing
\$670,000 DOE
Cole, Kevin Mechanical & Materials Engineering
Shield, Jeffrey Mechanical & Materials Engineering

Rasby, Rick **Extension**

Nebraska Extension Implementation Program
\$836,596 USDA-NIFA
Bradshaw, Jeffrey Panhandle Research and Extension Center
Glewen, Keith Southeast Research and Extension Center
Green, Jody Southeast Research and Extension Center
Jackson-Ziems, Tamra Plant Pathology
Jhala, Amitkumar Agronomy and Horticulture
Larson, Jonathan Southeast Research and Extension Center
Ogg, Clyde Agronomy and Horticulture
Wright, Robert Entomology
Wu-Smart, Judy Entomology

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

Development of Data Bases for Model Development and
Field Testing of Crop Models in Midwest Farms
\$750,000 USDA-ARS
Sustaining Agriculture Through Adaptive Management Resilient to
a Declining Ogallala Aquifer and Changing Climate
\$933,791 USDA-NIFA through Colorado State University
Haacker, Erin Earth and Atmospheric Sciences/
Robert B. Daugherty Water for Food Institute
Rudnick, Daran West Central Research and Extension Center/
Robert B. Daugherty Water for Food Institute
Schoengold, Karina Agricultural Economics/Robert B. Daugherty
Water for Food Institute
Shaver, Tim West Central Research and Extension Center/
Robert B. Daugherty Water for Food Institute

Integrating the Vadose Zone for Improved Management
of Nebraska Ground Water Quality
\$384,227 Nebraska Environmental Trust
Snow, Daniel Nebraska Water Center/
Robert B. Daugherty Water for Food Institute

Reddy, N.R. Jayagopala**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

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

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

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

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

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

*Rural Rail Safety Center
\$535,500 DOT-FRA through Kansas State University

Research and Equipment Enhancement

\$336,544 DOT-FHWA through
Nebraska Department of Transportation
Faller, Ronald Midwest Roadside Safety Facility/
Nebraska Transportation Center

Rosenbaugh, Scott**Midwest Roadside Safety Facility**

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
Rasmussen, Jennifer Midwest Roadside Safety Facility
Song, Chung Civil and Environmental Engineering
Steelman, Joshua Civil and Environmental Engineering
Stolle, Cody Midwest Roadside Safety Facility

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

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

Samal, Ashok **Computer Science and Engineering**

Know Your Well:

A Program for Agricultural Education and FFA Students
 \$398,880 Nebraska Environmental Trust
 Kriefels, Matt Agricultural Leadership,
 Education and Communication
 Ray, Chittaranjan Civil and Environmental Engineering/
 Nebraska Water Center
 Snow, Daniel Nebraska Water Center

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

*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

Genomics and Phenomics to Identify Yield and Drought Tolerance
 Alleles for Improvement of Camelina as a Biofuel Crop
 \$281,968 USDA-ARS
 Ge, Yufeng Biological Systems Engineering/
 Center for Biotechnology

Schmidt, Tyler **Animal Science**

Utilization of an Advanced Computer Vision Platform
 to Identify Changes in the Physiological and Behavioral Changes
 Associated with Illness and Aggressive/Damaging Behavior
 During the Nursery and Finisher Phase

\$301,793 Foundation for Food and Agriculture Research through
 National Pork Board
 Mote, Benny Animal Science
 Pérez, Lance Electrical and Computer Engineering
 Psota, Eric Electrical and Computer Engineering

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

*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

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

Schubert, Mathias **Electrical and Computer Engineering**

*Terahertz Electron Paramagnetic Resonance Ellipsometry
 Defect Characterization in Ultrawideband Gap Monoclinic
 Gallium Oxide and Related Alloys

\$499,987 DoD-AFOSR
 Korlacki, Rafal Electrical and Computer Engineering

The Influence of Doping and Annealing onto the Lattice Dynamics,
 Band Structure and Free Charge Carrier Properties in
 Monoclinic Gallium Aluminum Oxide Semiconductor Alloys
 \$430,052 NSF
 Korlacki, Rafal Electrical and Computer Engineering

The Strain-Stress Relationships for Band Gap, Phonon and
 Plasmon Energies in Monoclinic Ga2O3 and Related Materials
 \$323,393 DoD-AFOSR

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

GP-IMPACT: Building a Comprehensive
Geoscience Learning Experience

\$400,075 NSF
Bathke, Deborah Earth and Atmospheric Sciences
Harwood, David Earth and Atmospheric Sciences

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

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

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

DMREF: Design and Synthesis of Novel Magnetic Materials

\$684,086 NSF
Xu, Xiaoshan Physics and Astronomy

Shadwick, Bradley**Physics and Astronomy**

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

\$632,020 DOE

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 & Construction
Hempel, Michael Electrical and Computer Engineering
Peng, Dongming Electrical and Computer Engineering

Shen, Zhigang**Durham School of Architectural
Engineering & 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 Biological Systems Engineering
Heeren, Derek Biological Systems Engineering
Puntel, Laila Agronomy and Horticulture
Rudnick, Daran Biological Systems Engineering
Zhang, Kuan Electrical and Computer Engineering
Zhou, Yuzhen Statistics

*FACT-AL: 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 U USDA-NIFA
Jhala, Amit Agronomy and Horticulture
Knezevic, Stevan Agronomy and Horticulture
Luck, Joe Biological Systems Engineering
Psota, Eric 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

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
Faller, Ronald Midwest Roadside Safety Facility
Linzell, Daniel Civil and Environmental Engineering
Rilett, Laurence Civil and Environmental Engineering
Sharif-Kashani, Hamid Electrical and Computer Engineering
Song, Chung Civil and Environmental Engineering
Wittich, Christine Civil and Environmental Engineering
Woldt, Wayne Biological Systems Engineering
Wood, Richard Civil and Environmental Engineering
Zhu, Jinying Civil and Environmental Engineering

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

Persistence, Effectiveness and Retention Studies in STEM Teaching
\$392,264 NSF
Augustyn, Lindsay Center for Science, Mathematics
and Computer Education
Funk, Rachel Center for Science, Mathematics
and Computer Education

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

Student Engagement in Mathematics Through
an Institutional Network for Active Learning
\$398,904 NSF
Donsig, Allan Mathematics
Wakefield, Nathan Mathematics

Snow, Daniel**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 Water Center
Ray, Chittaranjan Water Center

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

Anticipating Social Unrest Using Integrated Model- and
Data-Driven Approaches: The Impact of Socio-Demographic
and Environmental Factors in Post-Colonial Nations
\$521,451 DoD-National Geospatial Intelligence Agency through
Citadel University
Hayes, Michael Natural Resources
Samal, Ashok Computer Science and Engineering
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
Shell, Duane Educational Psychology

Spangler, Matthew**Animal Science**

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

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
Lechtenberg, Karla Midwest Roadside Safety Facility
Rasmussen, Jennifer 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 Computer Science and Engineering/
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
Hepburn, Erika Global Strategies
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

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

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

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

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
 Arkebauer, Timothy Agronomy and Horticulture
 Blanco, Humberto Agronomy and Horticulture
 Franz, Trenton Natural Resources
 Gamon, John Natural Resources
 Gitelson, Anatoly Natural Resources
 Liska, Adam Agronomy and Horticulture/
 Biological Systems Engineering
 Yang, Haishun Agronomy and Horticulture

Svoboda, Mark **Natural Resources**
 MENAdrought Empowering and Enhancing Drought Management
 Systems in the Middle East-North Africa (MENA) Region
 \$429,694 USAID through
 International Water Management Institute
 Bathke, Deborah Natural Resources
 Brozovic, Nicholas Robert B. Daugherty Water for Food Institute
 Hayes, Michael Natural Resources
 Jedd, Theresa Natural Resources
 Knutson, Cody Natural Resources
 Neale, Christopher Robert B. Daugherty Water for Food Institute

Terry, Benjamin **Mechanical & Materials Engineering**
 *BT Spring 2021 (Atreyu Program)
 \$399,640 DoD-DTRA through
 National Strategic Research Institute

Fielding Proof of Concept: En Route Care Acute Respiratory Distress
 System (ARDS) Mitigation Using Oxygenated Microbubbles (OMB)
 \$772,639 DoD-Offutt Air Force Base-STRATCOM through
 National Strategic Research Institute

Peritoneal Oxygen Delivery for Treatment of
 Acute Respiratory Distress Syndrome
 \$441,472 NIH-NHLBI through University of Colorado

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

Turner, Joseph **Mechanical & Materials Engineering**
 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
 \$562,803 NSF
 Lu, Yongfeng Electrical and Computer Engineering
 Rao, Prahalada Mechanical & Materials Engineering
 Shield, Jeffrey Mechanical & Materials Engineering
 Zhu, Jinying Civil and Environmental Engineering

Integrated Analysis of the Cell Biological, Biomechanical, and
Physiological Dynamics of Stomatal Guard Cells in Plants
\$301,395NSF

STTR: Ultrasonic Method to Quantify Ablative Material Liners
\$300,000DoD-NAVSEA through Intelligent Automation, Inc.

PCC-3: Non-Destructive Testing (NDT) Microstructural
Response Characterization and Impact
\$528,399 DoD-Air Force Research Lab through
Rolls Royce Corporation

An Integrated Experimental and Computational Approach
to Discover Biomechanical Mechanisms
of Leaf Epidermal Morphogenesis
\$385,927NSF

Twidwell, Dirac Jr. **Agronomy and Horticulture**
Enhancing Livestock Production from Rangelands in the Great Plains
\$745,202USDA-NIFA through
Texas A & M Univ-Texas AgriLife
Keshwani, Jenny Biological Systems Engineering

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

Uiterwaal, Kees **Physics and Astronomy**
*REU Site: Lasers and Optics
\$310,555NSF

Umstadter, Donald **Physics and Astronomy**
*Novel Approach to Imaging through
Dense Shielding with Penetrating Radiation
\$621,875DoD-DTRA
Banerjee, Sudeep Physics and Astronomy

*Controlled Injection of Electrons for Improved Performance of
Laser-Wakefield Acceleration
\$528,681 DOE
Golovin, Grigory Physics and Astronomy
Shadwick, Bradley Physics and Astronomy

*Disabling Batteries with Laser-Driven Beams of
High-Brightness Ionizing Radiation
\$466,999DoD-DTRA
Banerjee, Sudeep Physics and Astronomy

Controlled Release of Energy from
Nuclear Isomers by Laser-Driven X-Rays
\$611,275DoD-ARO
Banerjee, Sudeep Physics and Astronomy
Golovin, Grigory Physics and Astronomy

Van Den Broeke, Matthew **Earth and Atmospheric Sciences**
Aeroecology as a Test-Bed for Interdisciplinary STEM Training
\$332,708 NSF through University of Oklahoma

VanderPlas, Susan **Statistics**
*Center for Statistics and Forensic Evidence
\$456,930DOC-NIST through Iowa State University

*Automatic Acquisition and Identification of
Footwear Class Characteristics
\$380,405DOJ-NIJ

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

Vu, Hiep **Animal Science/Nebraska Center for Virology**
Development of a Broadly Protective Vaccine
Against Swine Influenza Virus
\$500,000 USDA-NIFA

Development of a Broadly Protective Diva Marker Vaccine
against Porcine Reproductive and Respiratory Syndrome Virus
\$489,934 USDA-NIFA
Osorio, Fernando Veterinary Medicine and Biomedical Sciences/
Nebraska Center for Virology

Vuran, Can **Computer Science and Engineering**

*SWIFT: LARGE: DYNAmWIC: Dynamic mmWave Spectrum
Sharing Techniques for Public Safety Communications
\$500,000NSF
Batur, Demet Supply Chain Management and Analytics
Ryan, Jennifer Supply Chain Management and Analytics

*PAWR Platform: NEXTT: Nebraska Experimental Testbed of Things
\$300,000NSF
Anderson, John Economics
Brown-Brandl, Tami Biological Systems Engineering
Hurwitz, Gus Law
Pitla, Santosh Biological Systems Engineering
Ramamurthy, Byrav Computer Science and Engineering
Yu, Hongfeng Computer Science and Engineering

NeTS: Small: Connected Barriers: Vehicle-to-barrier Communication
and Networking for Single-vehicle Crash Safety Facility
\$319,513NSF
Faller, RonaldMidwest Roadside Safety Facility
Stolle, CodyMidwest Roadside Safety Facility

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

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

Wagner, William **Biological Sciences**

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

Walia, Harkamal **Agronomy and Horticulture**

UNL-VBC Collaboration: Using Plant Phenomics
to Capture Dynamic Growth Responses in Maize
\$521,500 Valent USA

Walker, Mark **Mathematics**

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

Walters, Cory **Agricultural Economics**

Northern Plains Regional Farm Business
Management and Benchmarking Partnership
\$497,976 USDA-NIFA
Banerjee, Simanti Agricultural Economics

Wang, Jian **Mechanical & Materials Engineering**

Bridging Microscale to Macroscale Mechanical Property
Measurements and Predication of Performance Limitation
for FeCrAl Alloys under Extreme Reactor Applications
\$799,270 DOE

Computational and Experimental Characterization
of Twin-Twin Interactions in Hexagonal Metals
\$388,037NSF

Plasticity of High-strength Multiphase Metallic Composites
\$432,702DOE through University of Michigan

Wang, Yingying **Special Education and Communication Disorders/
Center for Brain, Biology and Behavior/
Nebraska Center for Research on
Children, Youth, Families and Schools**

Neural Predictors of Speech Perception Outcomes
in Adults with Cochlear Implants
\$460,356NIH-NIDCD
Hughes, Michelle Special Education and
Communication Disorders/
Center for Brain, Biology and Behavior/
Nebraska Center for Research on
Children, Youth, Families and Schools

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

*One Health Universal Swine Influenza Vaccines
\$452,442 USDA-NIFA

Weller, Curtis **Food Science and Technology**

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

White, Brett **Animal Science**

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

Wilson, Mark **Biochemistry**
 Engineering Enzymes for New Stereoselective and Stereodynamic
 Processes: An Integrated Chemistry -Bioengineering- X-Ray
 Crystallography Molecular Dynamics Approach
 \$603,881NSF
 Berkowitz, David Chemistry
 Niu, Wei Chemical and Biomolecular Engineering

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

Witte, Amanda **Nebraska Center for Research on
 Children, Youth, Families and Schools**
 Nebraska Multi-Tiered System of
 Support Implementation Support Team
 \$875,413ED through Nebraska Department of Education

Wolf, Marilyn **Computer Science and Engineering**
 SHF: Small: System-Level Design
 of Attack-Resistant Safety-Critical Systems
 \$343,061NSF

Wood, Charles **Biological Sciences/Biochemistry/
 Nebraska Center for Virology**
 Comparative Virology Research Training Program
 \$843,579NIH-NIAID
 Van Etten, JamesPlant Pathology

Wortman, Samuel **Agronomy and Horticulture**
 *A Bio-based Mulch Innovation for Organic Spinach and Carrots
 \$475,000USDA-NIFA
 Leveraging Management to Speed Degradation
 of Bio-based Mulches in Soil
 \$499,718USDA-NIFA
 Drijber, Rhae Agronomy and Horticulture

Wragge, Annette **Special Education and
 Communication Disorders**
 Nebraska Autism Spectrum Disorders Network,
 State Coordinator Project
 \$357,995ED through Nebraska Department of Education

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

Xiang, Shi-Hua **Veterinary Medicine and Biomedical Sciences/
 Nebraska Center for Virology**
 *Structure-Based Design of Peptide Entry Inhibitors
 against Ebola Virus Infection
 \$468,183NIH-NIAID

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

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

Xu, Lisong **Computer Science and Engineering**
 NeTS: Small: Exploring the Design Space of Bandwidth
 Estimation Methods Using Packet Sequence Information
 \$498,878NSF

Xu, Xiaoshan **Physics and Astronomy/
 Nebraska Center for Materials and Nanoscience**
 Non-Volatile Active Control of Spin Transport
 Using Interfaces with Molecular Ferroelectrics
 \$750,000DOE

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

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

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

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
 Schmidt, Ty Animal Science

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

Yoder, Aaron **Biological Systems Engineering**
 Nebraska AgrAbility
 \$540,000 USDA-NIFA
 Frecks, Nancy West Central Research
 and Extension Center
 Harris-Broomfield, Susan West Central Research
 and Extension Center
 Riley, Mark Biological Systems Engineering

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

Yu, Jiujiu **Nutrition and Health Sciences/
 Nebraska Center for the Prevention of
 Obesity Diseases through Dietary Molecules**
 *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-related Diseases

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

Yuill, David **Durham School of Architectural
 Engineering & 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 through Dietary Molecules**
 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 through Dietary Molecules

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

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

Zhu, Jinying	Civil and Environmental Engineering
*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	DOE
Zink, Robert	Natural Resources/Biological Sciences/ University of Nebraska State Museum
Genetic Structure and Function of Nebraska Wildlife	
\$257,421	Nebraska Game and Parks Commission
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
Alexander, Dennis	Electrical and Computer Engineering
Argyropoulos, Christos	Electrical and Computer Engineering
Gogos, George	Mechanical & Materials Engineering
Ianno, Natale	Electrical and Computer Engineering
Shield, Jeffrey	Mechanical & Materials Engineering
Fundamental Studies on Functionalizing Metallic Surfaces using Femtosecond Lasers with Applications to Enhanced Heat Transfer; Novel Power	
\$811,826	DoD-ONR
Alexander, Dennis	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, 2020–June 30, 2021

* Indicates new in 2020–2021

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
\$520,244NSF



Bradley, Justin

Computer Science and Engineering
*CAREER: Foundations for a Resource-Aware,
Cyber-Physical Vehicle Autonomy
\$499,968NSF



Dishari, Shudipto

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



Duncan, Brittany

Computer Science and Engineering
CAREER: Drones in Public:
Foundational Interaction Research
\$549,951NSF



Eichhorn, Catherine

Chemistry
*CAREER: Molecular Mechanisms of
Ribonucleoprotein Assembly
\$1,048,975NSF



Elkins, Lynne

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



Guo, Jiantao

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



Jeffries, Jack

Mathematics
*CAREER: Differential Operators and
p-Derivations in Commutative Algebra
\$400,000NSF



Li, Xu

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



Libault, Marc

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



Louis, Joe

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



Males, Lorraine

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

**Morin, Stephen**

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

**Nejati, Siamak**

Chemical and Biomolecular Engineering
*CAREER: Molecular Layer Deposition of
Porous Organic Frameworks
\$593,240NSF

**Neta, Maital**

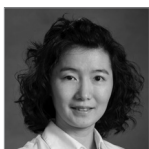
Psychology
CAREER: Functional Brain Networks
Mediating Positivity Bias in Healthy Aging
\$756,711NSF

**Obata, Toshihiro**

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

**Pedrigi, Ryan**

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

**Qu, Liyan**

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

**Rao, Prahalada**

Mechanical & Materials Engineering
CAREER: Smart Additive Manufacturing
\$657,731NSF

**Roston, Rebecca**

Biochemistry/Center for Plant Science Innovation
CAREER: How SFR2 Allows Chloroplast Envelope
Membranes to Survive Freezing, from Initial Signal
to Molecular Mechanism
\$846,076NSF

**Saha, Rajib**

Chemical and Biomolecular Engineering
CAREER: Dissecting a Metabolically Versatile
Non-Model Bacterium's Lignin-Derived Compound
Catabolism
\$747,855NSF

**Sealy, Michael**

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

**Sharif, Bonita**

Computer Science and Engineering
*CAREER: Empowering Software Engineering
with Eye Tracking
\$257,331NSF

**Shizuka, Dai**

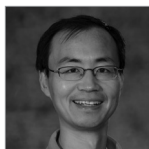
Biological Sciences
CAREER: Structure and Resilience of
Social Networks under Population Turnover
\$681,870NSF

**Sinitiskii, Alexander**

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

**Wachs, Rebecca**

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

**Xu, Xiaoshan**

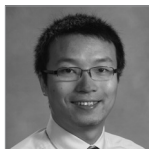
Physics and Astronomy
 CAREER: Hexagonal Ferrite Thin Films for the High-Temperature Magnetoelectric Memory Effect
 \$591,256NSF

**Yin, Yanbin**

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

**Yu, Hongfeng**

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

**Zhang, Jian**

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

**Zhang, Limei**

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

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
 \$750,000DOE

**Kovalev, Alexey**

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

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
 \$749,910DoD-ONR

Arts and Humanities Awards
\$250,000 or More

Active awards, July 1, 2020–June 30, 2021

* Indicates new in 2020–2021

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.

Charles Chesnutt: A Digital Archive

\$292,627 NEH
5/1/19 – 6/30/21
Price, Kenneth English/Center for Digital
Research in the Humanities

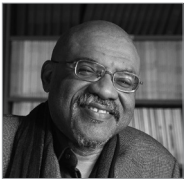
Through a grant from the National Endowment for the Humanities, the existing Charles Chesnutt Digital Archive will be redesigned, and more works by the African-American author will be added. The project, a collaboration between Nebraska and The New School in New York City, is directed at Nebraska by Matt Cohen, professor of English, and Kenneth Price, Hillegass University Professor of American literature and co-director of CDRH. The project is edited by Stephanie Browner of The New School. Chesnutt is a major figure in American literary studies and was a profound thinker about race and justice in the United States. He wrote six book-length works, more than 80 stories, and many essays and speeches during his career.

Dawes, Kwame

English

*African Poetry Digital Portal

\$750,000 Andrew W. Mellon Foundation
6/23/21 – 6/30/24
Dawes, Lorna University Libraries



Kwame Dawes, George Holmes Professor of English and Glenna Luschei Editor of *Prairie Schooner*, 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

History/Center for Digital Research in the Humanities

Genoa Indian School Digital Reconciliation Project
\$349,899 NEH
6/1/19 – 5/30/22

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

Genoa Indian School Digital Reconciliation Project
\$290,123 Council on Library and Information Resources
6/1/18 – 5/31/21
Lorang, Elizabeth Center for Digital Research in the Humanities



With funding from the National Endowment for the Humanities and the Council on Library and Information Resources, Margaret Jacobs, professor of history and director of the Women's and Gender Studies program, and Elizabeth Lorang, associate professor of University Libraries, are compiling, digitizing and making accessible records and other

materials from the Genoa Indian Industrial School in Nebraska, one of more than 150 boarding schools designed to assimilate indigenous American people into Euro-American culture near the end of the 19th century. They are working closely with Nancy Carlson and the Genoa U.S. Indian School Foundation in Genoa. The university's Center for Digital Research in the Humanities hosts the Genoa Indian School Digital Reconciliation Project. In order to move the project forward with sensitivity and respect, Jacobs and Lorang are working with an advisory council that includes representatives from the Ponca, Pawnee, Omaha and Winnebago nations and UNITE, the university's Native American student group.

Jagodinsky, Katrina

History/Center for Digital Research in the Humanities

Petitioning for Freedom:
Habeas Corpus and Liberty in the American West
\$460,410 NSF
6/1/20 – 5/31/23



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



The National Endowment for the Humanities is supporting the work of Andrew Jewell, professor of University Libraries in the Center for Digital Research in the Humanities, to digitally publish the complete correspondence of Willa Cather on the open-access Willa Cather Archive (cather.unl.edu). Publication on the archive will allow interoperation of the edition with other Cather documents (photographs, texts, published scholarship and archival materials) and wide accessibility as data for humanities scholars doing various kinds of research. When finished, *The Complete Letters of Willa Cather* will bring unprecedented access to the revealing personal voice of one of the most important figures in American literary history and will dramatically expand the body of Cather materials available to scholars, teachers, students and general readers.

Krehbiel, Michelle **4-H Youth Development**
 Library Innovation Studios: Transforming Rural Communities
 \$282,568IMLS through Nebraska Library Commission
 7/1/17 – 12/31/21
 Barker, BradleyExtension
 Farritor, Shane Mechanical & Materials Engineering



Michelle Krehbiel, youth development specialist and associate 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.

Lorang, Elizabeth **Center for Digital Research in the Humanities**
 Extending Image Analysis for Archival Discovery (Aida)
 \$462,317IMLS
 12/1/16 – 12/31/20
 Soh, Leen-KiatComputer Science and Engineering



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

Shear, Donna **University of Nebraska Press**
 Recovering Languages and Literacies of the Americas:
 A Collaborative Initiative
 \$781,900 Andrew W. Mellon Foundation
 1/3/11 – 12/31/21



This \$781,900 grant from the Andrew W. Mellon Foundation gives the University of Nebraska Press, along with the University of Oklahoma Press and the University of Texas Press, resources to help linguistic scholars publish indigenous language grammars and dictionaries, literacy studies, ethnographies and other linguistic monographs. Twenty-seven books – nine from each press – will be published on the grammar and literacy of endangered languages. The initiative also aims to generate broader interest in linguistic monographs and to find more efficient, cost-effective ways to produce monographs. These publications are important resources for academics in the fields of linguistics, indigenous studies and social sciences, and to communities wishing to preserve their language and culture, said Donna Shear, University of Nebraska Press director, who is leading this collaboration.

Walter, Katherine **University Libraries/Center for Digital Research in the Humanities**
 National Digital Newspaper Program: Nebraska
 \$981,012 NEH
 9/1/07 – 12/31/20
 Mering, Margaret University Libraries



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

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

Active awards, July 1, 2020–June 30, 2021

* Indicates new in 2020–2021

Burnett, Amy

History

*The Religious Republic of Letters:
Correspondence Networks in Reformation Germany
\$57,000 University of Wisconsin-Institute
for Research in Humanities

Dawes, Kwame

English

African Poetry Digital Project
\$150,000 Ford Foundation
Dawes, Lorna University Libraries

Eckstrom, Mikal Brotnov

Center for Great Plains Studies

Staking Their Claim: Great Plains Black Homesteaders
\$75,000 NEH
Edwards, Richard Center for Great Plains Studies

Edwards, Richard

Center for Great Plains Studies

African American Homesteaders Historic Resource Study
\$198,986 DOI-NPS

Hoff, Michael

Art, Art History and Design

Antiochia ad Cragum Excavations: 2019 Season
\$105,431 Merops Foundation

Jones, Jeannette

Institute for Ethnic Studies/History/ Center for Digital Research in the Humanities

To Enter Africa from America:
The United States, Africa and the New Imperialism, 1862-1919
\$216,106 NEH

Nicholas, Claire

Textiles, Merchandising and Fashion Design

*Gesture & Form: A Field-Based Approach to
New Methods of Architecture and Handcraft in Textiles
Using Augmented Reality Technologies
\$53,462 Government of Canada-Social Sciences and Humanities
Research Council through Dalhousie University

Price, Kenneth

English/Center for Digital Research in the Humanities

*Walt Whitman's Journalism:
Finding the Poet in the Brooklyn Daily Times
\$249,941 NEH

*The Complete Correspondence of Charles W. Chesnutt
\$152,648 National Archives and Records Administration
Cohen, Matt English/Center for Digital
Research in the Humanities

Fame and Infamy: Walt Whitman's Old-Age Correspondence
\$75,415 National Historical Publications and Records
Commission through University of Iowa
McMullen, Kevin English/Center for Digital
Research in the Humanities

Richards-Rissetto, Heather

Anthropology/Center for Digital Research in the Humanities

Revitalizing and Enhancing the Open Source
3D WebGIS of the MayaArch3D Project
\$50,000. NEH
Dalziel, Karin Center for Digital Research in the Humanities
Tunink, Greg Center for Digital Research in the Humanities

Thomas, William

History/Center for Digital Research in the Humanities

The Bell Affair: A Film Reframing American Slavery and Freedom
\$200,000. NEH
Burton, Michael Textiles, Merchandising and Fashion Design/
Center for Digital Research in the Humanities
Dreher, Kwakiutl English/Institute for Ethnic Studies/
Center for Digital Research in the Humanities

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

Active awards, July 1, 2020–June 30, 2021

* Indicates new in 2020–2021

Dawes, Kwame English

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

DeLaPort, Dijon Center for Great Plains Studies

Climate Change and Culture in the Great Plains
\$5,800 Humanities Nebraska

Eckstrom, Mikal Brotnov Center for Great Plains Studies

400 Years of African American History:
Black Homesteading in the Great Plains
\$20,000 National Alliance of Faith and Justice

Engen-Wedin, Nancy Lied Center for Performing Arts

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

*COVID: Nebraska 2020 Stabilization CARES for Lied
\$12,000 Department of the Treasury-IRS through
Nebraska Department of Health and Human Services

LPS Arts for ALL
\$25,000 Woods Charitable Fund

Heitman, Carrie C. Center for Digital Research in the Humanities

*Humanities Without Walls Pass-through Grants
\$20,000Andrew 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 History

Return of the Pawnees
\$9,698 Humanities Nebraska

Jones, Patrick History

The Classroom and the Future of the Historical Record: Humanities
Education in a Changing Climate for Knowledge Production
\$41,906Andrew 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

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

Digital Notation Across the Movement-Based Arts
\$15,800 NEH
Pytlík 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

Shear, Donna University of Nebraska Press

Early American Regions
\$30,100 University of Georgia

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

The Bell Affair: A Film Reframing American Slavery and Freedom
\$8,399 Maryland Humanities
Burton, Michael Textiles, Merchandising and Fashion Design/
Center for Digital Research in the Humanities
Dreher, Kwakiutl Institute for Ethnic Studies/
Center for Digital Research in the Humanities

Weller, Susan	University of Nebraska State Museum
	*Exploring a Square Meter of Prairie Exhibit
\$7,500	Humanities Nebraska
	*COVID: HN Cares Grant
\$5,000	Humanities Nebraska
Yang, Shuling	Teaching, Learning and Teacher Education
	Coaching Preschool Teachers to Ask
	Higher-Level Questions in Dialogic Reading
\$5,000	International Literacy Association



Pioneering Partnerships for Innovation

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

Patents Issued in 2020-2021

Recognition for faculty and other university personnel
who received patents for their inventions
July 1, 2020–June 30, 2021

Chandrakanth Are, Madhuri Are, Dennis R. Alexander
Electrical and Computer Engineering; Surgery (UNMC)
Title: Portable Laparoscope System
Date: 5/18/2021
Number: 11006818
Country: United States

Fadi Alsaleem, Mohammad Hasan
The Durham School of Architectural Engineering and Construction;
Mechanical & Materials Engineering
Title: Systems and Methods for Reducing the Actuation Voltage for Electrostatic MEMS Devices
Date: 9/8/2020
Number: 10771040
Country: United States

Judith M. Burnfield, Carl A. Nelson, Cale Stolle, Thad Buster, Bernadette McCrory
Mechanical & Materials Engineering
Title: Assistive Rehabilitation Elliptical System
Date: 7/7/2020
Number: 10702735
Country: United States

Jie Cheng, F. Fred Choobineh
Electrical and Computer Engineering
Title: Wind Energy to Compressed Fluid Conversion and Energy System
Date: 2/23/2021
Number: 10927815
Country: United States

Roberto De la Rosa Santamaria, Sally Mackenzie
Agronomy and Horticulture; Center for Plant Science Innovation
Title: Plants with Useful Traits and Related Methods
Date: 2/16/2021
Number: 10920286
Country: United States

Stephen G. DiMagno
Chemistry
Title: Fluorination of Aromatic Ring Systems
Date: 3/3/2021
Number: 3284736
Countries: Austria, Belgium, Switzerland, Germany, Spain, France, United Kingdom, Italy, Netherlands, Sweden

Patrick H. Dussault, Wantanee Sittiwong, Robert Powers, Raul Barletta
Chemistry; Veterinary Medicine and Biomedical Sciences
Title: Amphiphilic Cyclobutenes and Cyclobutanes
Date: 4/27/2021
Number: 2625
Country: Brazil

Shane M. Farritor, Amy Catherine Lehman, Mark Rentschler, Nathan Wood, Jason James Dumpert, Dmitry Oleynikov
Mechanical & Materials Engineering; Surgery (UNMC)
Title: Multifunctional Operational Component for Robotic Devices
Date: 3/30/2021
Number: 10959790
Country: United States

Shane M. Farritor, Thomas Frederick, Joe Bartels
Mechanical & Materials Engineering
Title: Methods, Systems, and Devices Relating to Surgical End Effectors
Date: 11/17/2020
Number: 2838637
Country: Canada

Shane M. Farritor, Jason James Dumpert, Yutaka Tsutano
Mechanical & Materials Engineering; Computer Science and Engineering
Title: Robotic Surgical Devices, Systems and Related Methods
Date: 10/13/2020
Number: 2880220
Country: Canada

Shane M. Farritor, Dmitry Oleynikov, Ryan L. McCormick, Tyler Wortman, Eric Markvicka
Mechanical & Materials Engineering; Surgery (UNMC)
Title: Robotic Surgical Devices, Systems and Related Methods
Date: 7/28/2020
Number: 2841459
Country: Canada

Shane M. Farritor, Joseph Palmowski
Mechanical & Materials Engineering
Title: Single-Arm Robotic Device with Compact Joint Design and Related Systems and Methods
Date: 5/25/2021
Number: 11013564
Country: United States

Thomas Frederick, Shane M. Farritor, Dmitry Oleynikov, Eric Markvicka, Jack Mondry, Jacob Greenburg
Mechanical & Materials Engineering; Surgery (UNMC)
Title: Methods, Systems, and Devices for Surgical Access and Insertion
Date: 12/29/2020
Number: 2860754
Country: Canada

Thomas Frederick, Shane M. Farritor, Eric Markvicka
Mechanical & Materials Engineering
Title: Local Control Robotic Surgical Devices and Related Methods
Date: 4/6/2021
Number: 2876846
Country: Canada

Date: 2/1/2021
Number: 6831445
Country: Japan

Thomas Frederick, Shane M. Farritor, Eric Markvicka, Joe Bartels, Jack Mondry
Mechanical & Materials Engineering
Title: Single Site Robotic Device and Related Systems and Methods
Date: 8/25/2020
Number: 2871149
Country: Canada

Thomas Frederick, Shane M. Farritor, Joe Bartels, Kearney Lackas, Jacob Greenburg
Mechanical & Materials Engineering
Title: Methods, Systems and Devices Relating to Force Control Surgical Systems
Date: 8/18/2020
Number: 10743949
Country: United States

Thomas Frederick, Shane M. Farritor, Lou Cubrich
Mechanical & Materials Engineering
Title: Robotic Device with Compact Joint Design and an Additional Degree of Freedom and Related Systems and Methods
Date: 7/7/2020
Number: 10702347
Country: United States

Matthias Fuchs, Ping Zhang

Physics and Astronomy

Title: Compact Tunable X-Ray Source Based on Laser-Plasma Driven Betatron Emission

Date: 5/11/2021

Number: 11000245

Country: United States

Timothy Gay, Herman Batelaan, Evan Brunkow, Eric Jones

Physics and Astronomy

Title: Fast Spin-Polarized Electron Source

Date: 5/18/2021

Number: 11011337

Country: United States

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

Mechanical & Materials Engineering; Electrical and Computer Engineering

Title: Control of Change of Phase Through Physical Surface Shaping

Date: 6/29/2021

Number: 11047053

Country: United States

Ming Han

Electrical and Computer Engineering

Title: In-Line Fiber Sensing, Noise Cancellation and Strain Detection

Date: 8/4/2020

Number: 10731969

Country: United States

Jinsong Huang, Qi Wang, Qingfeng Dong, Yang Bai, Xiaopeng Zheng

Mechanical & Materials Engineering

Title: Insulating Tunneling Contact for Efficient and Stable Perovskite Solar Cells

Date: 11/10/2020

Number: 10833283

Country: United States

Jinsong Huang, Haotong Wei

Mechanical & Materials Engineering

Title: Sensitive X-Ray and Gamma-Ray Detectors Including Perovskite Single Crystals

Date: 1/12/2021

Number: 10892416

Country: United States

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

Biochemistry

Title: Novel Acyltransferases and Methods of Using

Date: 12/15/2020

Number: 10865421

Country: United States

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

Veterinary Medicine and Biomedical Sciences; Biological Sciences

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

Date: 1/8/2021

Number: 378873

Country: Mexico

Date: 8/11/2020

Number: 10738088

Country: United States

Qingsheng Li, Yanmin Wan, Feng Li

Biological Sciences; Nebraska Center for Virology

Title: Development of a Preventive Influenza D Virus Vaccine

Date: 3/30/2021

Number: 10960069

Country: United States

Jian Liu, Robert J. Linhardt, Yongmei Xu, Edward N. Harris

Biochemistry

Title: Reversible Heparin Molecules and Methods of Making and Using the Same

Date: 5/18/2021

Number: ZL201480044429.9

Country: China

Sally Mackenzie, Kamaldeep S. Virdi, Michael E. Fromm, Yashitola Wamboldt

Agronomy and Horticulture; Center for Plant Science Innovation

Title: Methods and Compositions for Obtaining Useful Plant Traits

Date: 9/8/2020

Number: 10767188

Country: United States

Sally Mackenzie, Robersy Sanchez Rodriguez

Agronomy and Horticulture

Title: Method of Identifying Important Methylome Features and Use Thereof

Date: 2/9/2021

Number: 10913986

Country: United States

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

Mechanical & Materials Engineering; Electrical and Computer Engineering

Title: Leidenfrost Droplet Microfluidics

Date: 10/6/2020

Number: 10792660

Country: United States

Lance Pérez, Eric Psota, Mateusz Mittek, Ty Schmidt

Electrical and Computer Engineering; Animal Science

Title: Systems for Tracking Individual Animals in a Group-Housed Environment

Date: 10/6/2020

Number: 10796142

Country: United States

Wei Qiao, Liyan Qu, Jun Wang

Electrical and Computer Engineering

Title: Detecting Faults in Wind Turbines

Date: 12/1/2020

Number: 10852214

Country: United States

Mikhail Shekhirev, Alexander Sinitiskii, Alexey Lipatov, Andrey Vitalyevich Lashkov, Mohammad Mehdi Pour, Victor Vladimirovich Sysoev

Chemistry

Title: Carbon Nanostructure-Based Gas Sensors and Method of Making Same

Date: 2/2/2021

Number: 10908108

Country: United States

Li Tan, Yang Gao, Qin Zhou, Yongmei Chen

Mechanical & Materials Engineering

Title: Hydrogel Microphone

Date: 10/13/2020

Number: 10801906

Country: United States

Dirac Twidwell, Craig Allen, Christian Laney, James Higgins, Sebastian Elbaum, Carrick Detweiler, Evan Beachly

Agronomy and Horticulture; Nutrition and Health Sciences; Mechanical & Materials Engineering; Computer Science and Engineering

Title: Fire Suppression and Ignition with Unmanned Aerial Vehicles

Date: 6/29/2021

Number: 11045672

Country: United States

Haosen Wang, Wei Qiao, Liyan Qu

Electrical and Computer Engineering

Title: Electromagnetic Power Converter

Date: 9/22/2020

Number: 10784041

Country: United States

Yiqi Yang, Helan Xu, Kaili Song

Textiles, Merchandising and Fashion Design

Title: Effective Hair Styling Compositions and Processes

Date: 11/10/2020

Number: 10828246

Country: United States

2020-2021 License Agreements

Recognition for faculty whose technologies formed the basis of licensing agreements with industry partners
July 1, 2020–June 30, 2021

David Andrews

Agronomy and Horticulture

Technology: Purple Colorant

Technology: Food Colorant

Atorod Azizinamini

Civil Engineering

Technology: Short Span Bridge Construction

Steven Barlow, Chunxiao Liao

Special Education and Communication Disorders; Computer Science and Engineering

Technology: NICU Software

P. Stephen Baenziger, Mitchell Montgomery, Greg Dorn

Agronomy and Horticulture

Technology: Barley

P. Stephen Baenziger, Carol Speth, Mitchell Montgomery, Greg Dorn

Agronomy and Horticulture

Technology: Barley

P. Stephen Baenziger, Richard Little, Mitchell Montgomery, Greg Dorn

Agronomy and Horticulture

Technology: Hard White Winter Wheat

Robert Bielenberg, Ronald Faller, Scott K. Rosenbaugh, Jennifer D. Rasmussen (Schmidt)

Midwest Roadside Safety Facility

Technology: Barrier System

Paul Black, James Allen, Timothy Nicodemus

Biochemistry

Technology: Ground Water Remediation

Paul Blum

Biological Sciences

Technology: Cellulosic Biomass Technology

Paul Blum, Raghuveer Singh, Derrick White

Biological Sciences

Technology: Transient Gene Inactivation

Nicole Buan, Jared Aldridge, Sean Carr, Karrie Weber

Biological Sciences; Biochemistry

Technology: Production of Isoprene

Jennifer Catlett, Nicole Buan

Biochemistry

Technology: Renewable Methane

Aaron Clare

Agronomy and Horticulture; Natural Resources

Technology: Hazelnut

Technology: Hazelnut

Technology: Hazelnut

Bai Cui, Michael Nastasi, Fei Wang, Yongfeng Lu

Mechanical & Materials Engineering; Electrical and Computer Engineering; Center for Energy Sciences Research

Technology: Ceramic Material Processing

Stephen DiMagno, Haorun Sun, Bao Hu,

Chemistry

Technology: Radiopharmaceutical Method and Agents

Concetta DiRusso, Nishikant Wase

Nutrition and Health Sciences; Biochemistry

Technology: Lipid Synthesis and Storage

Concetta DiRusso, Paul Black, Angel Sandoval-Alvarez

Nutrition and Health Sciences; Biochemistry

Technology: Fatty Acid Uptake

Shudipto Dishari

Chemical and Biomolecular Engineering

Technology: Energy Conversion and Storage

Achim Dobermann, Tri Setiyono, James Specht, Kenneth Cassman, Albert Weiss

Agronomy and Horticulture; College of Agricultural Sciences and Natural Resources

Technology: SoySim Software

Ismail Dweikat, David Andrews, John Rajewski, Linda Pavlish

Agronomy and Horticulture

Technology: Sorghum

George Graef

Agronomy and Horticulture

Technology: Soybean

Technology: Soybean

Technology: Soybean

Technology: Soybean

Technology: Soybean varieties

Technology: Soybeans

Technology: Soybeans

George Graef, Leslie Korte, Orlando Zapata, Rebecca Ott, Shawn Jenkins, Tyler Frederick, Aaron Hoagland

Agronomy and Horticulture

Technology: Soybean

Technology: Soybean

Technology: Soybeans

George Graef, Orlando Zapata, Rebecca Ott, Aaron Clark Hoagland, Luis Posadas

Agronomy and Horticulture

Technology: Soybeans

Patricio Grassini, Kenneth Cassman, Haishun Yang

Agronomy and Horticulture

Technology: Global Yield Gap Atlas

Patricio Grassini, Kenneth Cassman, Juan Ignacio Rattalino Edreira, Justin Van Wart

Agronomy and Horticulture

Technology: Software

David Hage

Chemistry

Technology: COVID-19 Antibody Technology

Megan Hopkins, Dennis McChargue, Duance Shell, Ian Newman, Linda Major, Robert Schroeder

Education and Human Sciences; Psychology; Educational Psychology; Student Affairs; University Health Center

Technology: Year One College Behavior Profile

Jinsong Huang

Mechanical & Materials Engineering

Technology: Solar Cell Technology

Technology: Solar Cells

Technology: Solar Panel Technology

Robert Hutkins, Jens Walter, Thomas E. Burkey

Food Science and Technology; Animal Science

Technology: Prebiotic

Robert Hutkins

Food Science and Technology

Technology: Prebiotics

Sibel Irmak

Biological Systems Engineering

Technology: Edible Bale Wrap

Bilal Khan, Kirk Dombrowski

Sociology

Technology: Software

Seunghee Kim, Amin Hosseinizadeh, Miras Mamirov, Jiong Hu

Civil Engineering

Technology: Recycled Concrete

Yongfeng Lu, Leimin Deng, Chenfei Zhand, Shiding Sun, Lei Liu

Electrical and Computer Engineering

Technology: Laser Technology

Joe Luck, Daran Rudnick, Jackson Stansell, Brian Krienke, Tyler Smith, Samantha Teten

Biological Systems Engineering

Technology: Software

Lim Nguyen

Electrical and Computer Engineering

Technology: Conductive Concrete

Patricia Sollars, Gary Pickard

Veterinary Medicine and Biomedical Sciences

Technology: Vaccine

Technology: Vaccine

Li Tan, Yifan Huang, Xuejing Shen, Tao Sun

Mechanical & Materials Engineering

Technology: Additive Manufacturing

Chris Tuan, Bing Chen, Lim Nguyen

Civil Engineering; Electrical and Computer Engineering

Technology: EMP Concrete

Joseph Turner

Mechanical & Materials Engineering

Technology: Rail Technology

Carlos Urrea

Panhandle Research and Extension Center

Technology: Great Northern Bean

Technology: Garbanzo Bean

Technology: Light Red Kidney Bean

Agronomy and Horticulture; Panhandle Research and Extension Center

Technology: Great Northern Bean

West Central Research and Extension Center

Technology: "Coyne" Great Northern Bean

Ann Vidaver, James Van Etten

Veterinary Medicine and Biomedical Sciences; Plant Pathology

Technology: Bacteriophage (Phi)6

Hiep Vu

Veterinary Medicine and Biomedical Sciences

Technology: Pig Vaccine

Yiqi Yang, Narendra Reddy

Textiles, Merchandising and Fashion Design

Technology: Fabric Manufacturing

Technology: Fabric Manufacturing

National Science Foundation Innovation Corps Teams

The National Science Foundation's Innovation Corps (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

Michael Sealy

Mechanical & Materials Engineering

I-Corps: Hybrid Additive Manufacturing that Provides Computational
Solutions to Fabricate Geometrically Complex Components

Li Tan

Mechanical & Materials Engineering

I-Corps: Room Temperature Titanium Extraction from Low-Cost
Pigments

Creative Activity

Faculty who created, performed or produced works in the fine and performing arts and architecture, television and film, or digital/software design, nationally or internationally
July 1, 2020–June 30, 2021

Submitted by faculty, chairs/heads or deans

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

Printmaking exhibition. "Beach Crowd." Etch 20. RGRB Gallery, Omaha, NE.

Woodcut printmaking exhibition. "What's the Worst That Could Happen?" Nine Nebraskans. Community Installation, Lincoln, NE.

Paul Barnes **Glenn Korff School of Music**

Piano solo performance. "Immigrant Dreams: A Solo Piano Recital of Works Based on Diverse Chant Traditions." Symphony Space, New York, NY.

Michael H. Burton **Textiles, Merchandising and Fashion Design**

Film animation exhibition. "A Gold Slipper." The National Willa Cather Center, Red Cloud, NE.

Sruti Das Choudhury **Natural Resources/ Computer Science and Engineering**

Visual arts exhibition. "Landscape Paintings in Oil by Sruti Das Choudhury." Focus Gallery Art Exhibition. Noyes Art Gallery, Lincoln, NE.

David D. Dunigan **Plant Pathology/Agricultural Research Division**

Writer. Educational online video segment on *paramecium bursaria* virus symbiosis. "Journey to the Microcosmos." Complexly, YouTube.

Peter A. Eklund **Glenn Korff School of Music**

Director. 250-piece orchestra plus 600-voice choir and 300-piece band. Concert opening and closing: "America the Beautiful" and "Battle Hymn of the Republic." 75th Anniversary Iowa All-State Music Festival. Hilton Coliseum, Iowa State University, Ames, IA.

Michael Farrell **Natural Resources**

Film production, 16mm transferred to digital. "The StoneMan." <https://the-stoneman.com/>.

Jesse Fleming **Johnny Carson Center for Emerging Media Arts**

Solo exhibition, cyanotype prints and generative software piece. "Nuclei." Five Car Garage, Los Angeles, CA.

Marques L. A. Garrett **Glenn Korff School of Music**

Conductor/composer. Virtual choir performance of "Sing Out, My Soul." VCDistrict XI High School Honor Choir. Virginia American Choral Directors Association.

Conductor/composer. Virtual choir performance of "My Heart Be Brave." MSVMA High School Virtual Honors Choir. Michigan School Vocal Music Association.

Arranger/composer. "Five Songs of Laurence Hope: 1. Worth While; 2. The Jungle Flower; 3. Kashmiri Song; 4. Among the Fuchsias; 5. Till I Wake." Published by GIA Publications, Chicago, IL.

Composer. "Sing Out, My Soul." Peer reviewed and published by Beckenhorst Press, Columbus, OH.

Composer. "We Shall Walk through the Valley." Peer reviewed and published by Mark Foster Music Company/Shawnee Press, Inc., Nashville, TN.

Composer. "Rise, Shine!" Peer reviewed and published by MorningStar Music Publishers, St. Louis, MO.

Suna A. Gunther **Glenn Korff School of Music**

Vocal music recording. "Saint Rose Camerata: Live Performances." College of Saint Rose, Albany, NY.

Vocal music producer/conductor/co-director. "Laws of Motion." Musical theatre song cycle. Picotte Recital Hall, Albany, NY.

Vocal music director/conductor/producer. Scenes from Adam Guettel's "Myths & Hymns," along with Pasek and Paul's "Edges." Picotte Recital Hall, Albany, NY.

Vocal music performer. Dorabella in "Cosi Fan Tutte" by Mozart. Schenectady Symphony Orchestra. Proctor's Theatre, Schenectady, NY.

Director/editor/producer. "Cendrillon au Cinema." Film version of Pauline Viardot's chamber opera. Albany, NY.

Planner and co-chair. "ENY-NATS Art Song Festival." Virtual art song festival focusing on BIPOC composers and poets. Eastern New York Region, NY.

Michelle Harvey **Johnny Carson School of Theatre and Film**
Lighting designer. "Shin Lim: Limitless at the Mirage." The Mirage Theatre, Las Vegas, NV.

Carrie C. Heitman **Anthropology/Center for Digital Research in the Humanities**
Producer. "Acoma Perspectives, Parts 1 and 2"; "Diné Perspectives – Parts 1-5"; "A:shiwi (Zuni) Perspectives – Parts 1-3"; "Hopi Perspectives." The Greater Chaco Landscape: Ancestors, Scholarship, and Advocacy. University Press of Colorado, Boulder, CO.

Video producer. "Yupköyvi - The Place Beyond the Horizon." American Indian Film Festival (virtual); LASkins Festival, Los Angeles, CA; Santa Fe Film Festival, Santa Fe, NM; Durango Film Festival, Durango, CO.

Video producer. "Hopi Perspectives." The Greater Chaco Landscape: Ancestors, Scholarship, and Advocacy. University Press of Colorado, Boulder, CO.

Margaret D. Jacobs **Center for Great Plains Studies/History**
Video producer. "Return of the Pawnees." In collaboration with Kevin Abourezk of the Rosebud Lakota Nation. Nebraska Stories. Nebraska Public Media, Lincoln, NE.

Director. Online digital website. "Genoa Indian School Digital Reconciliation Project." Co-directed by Liz Lorang, UNL Libraries, and Susana Geliga, UNO history department. Lincoln, NE.

Katie Jones **University Libraries**
Writer. Online digital website. "The Messenger of Death: UNL and the Fight Against the Spanish Flu." Archives and Special Collections, UNL Libraries, Lincoln, NE.

Jinku Kim **Johnny Carson Center for Emerging Media Arts**
Digital artist. "Dreaming Maestro." Beyond Reality, Bucheon International Film Festival. Incheon International Airport, Incheon, South Korea.

James D. Le Sueur **History**
Director. Documentary feature film, "The Art of Dissent." Co-production between Czech TV in Prague and NUtech Ventures at UNL. Official selection at Rhode Island International Film Festival, Providence, RI; Middlebury New Filmmakers Festival, Middlebury, VT; Newburyport Documentary Film Festival, Newburyport, MA; Big Apple Film Festival, New York, NY; Karama Human Rights Film Festival, Amman, Jordan; Vancouver Independent Film Festival, Vancouver, BC; Black Hills Film Festival, SD; Front Range Film Festival, Longmont, CO; Blackbird Film Festival, Cortland, NY.

Bernard McCoy **Broadcasting**
Producer/director. Radio newscast. "Pandemic Porch Concerts Use Music to Chronicle Highs and Lows." Nebraska Public Media, Lincoln, NE.

Producer/director. Radio newscast. "The 'Pleasant Valley Gang' Paved the Way for Today's Live-Streaming Concerts." Nebraska Public Media, Lincoln, NE.

Producer/director. Radio newscast. "Live Music on the Radio Has a Long History in Kansas (It May Have a Future Too)." Kansas Public Media, Lawrence, KS.

Clark Potter **Glenn Korff School of Music**
Viola solo performance. "Performing the 6th Bach Cello Suite on 5-String Viola: Slogging Through Muck to Reach the Prize." Lecture/recital. UNL, Lincoln, NE.

Virtual concert performance. "Gabrieli: Canzona per Sonare No. 2," performed with the Trans-Nebraska Players, including David C. Neely, Cameron Shoemaker, Noah Rogoff, Franziska Brech, James Margetts. Musical Mosaic Virtual Concert. Cambridge Festival 2021: Centre for Intercultural Musicology, Churchill College, Cambridge, UK.

Jamie Reimer Seaman **Glenn Korff School of Music**
Vocal music CD recording. "The Last Songs of Robert Owens." Centaur Records, Baton Rouge, LA.

Lloyd Shenefelt **Architecture**
Architectural designer. "Mayr House Renovation." Atlanta, GA.

Jennifer Sheppard **Journalism**
Digital production director. "Climate Change Nebraska." climatechangenebraska.com, Lincoln, NE.

Digital production director. "Being Black in Lincoln." Lincoln Journal Star, Lincoln, NE.

John Shrader **Sports Media Communication/Broadcasting**
Radio show and podcast director. "Watch the Media." KRNU Radio; Apple, Spotify, Anchor and other podcast sites.

Gregory Scott Simon **Glenn Korff School of Music**
Composer. Music recording. Jazz Septet: "Fanfare, Nocturne, Fanfare." Bandcamp, Lincoln, NE.

Ash Eliza Smith **Johnny Carson Center for Emerging Media Arts/
Art, Art History and Design**

Visual arts exhibition. "Hot Doughnuts Now." Stove Works, Chattanooga, TN.

Featured artist/designer. "Ash Eliza Smith-Speculative Designer." Zoom Podcast Series, UCI Illuminations, University of California, Irvine.

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

Drawing exhibition. "Long Food Line (from the Venezuelan series)." State of the Art 2020: Discovering American Art Now. Crystal Bridges Museum of American Art, Bentonville, AR.

Drawing exhibition. "Poetics of Despair." K Contemporary Gallery, Denver, CO.

Drawing exhibition. "Into the Rearview Mirror: A Look Back at 2020." Lone Tree Arts Center, Denver, CO.

Bruce Thorson **Journalism**

Photojournalist. Publication of approximately 1,500 photographs in 2020-21. USA Today Sports Media Group, CBS Sports News, NBC Sports News, Fox Sports, The Atlantic, the NFL, the Big Ten Network, Turner Sports and many other media outlets.

Rafael Untalan **Johnny Carson School of Theatre and Film**

Theatrical performer. Mr. Gains in "ZERO" by Ian August. Ashland New Plays Festival, Ashland, OR.

Yujia Wang **Landscape Architecture**

Landscape architectural design. "Rizhao Coastal National Forest Park." Rizhao, China.

Landscape architectural design. "Dongguan Dongjiang Waterfront Park." Dongguan, China.

Darryl A. White **Glenn Korff School of Music**

Composer. Music recording. "Serpent and the Dove." Collection of spirituals and original compositions. Available on iTunes.

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

Cut paper exhibition. "Anthropocene Blues." Museum of Nebraska Art, Kearney, NE.

Published Books

Faculty who wrote or edited books published July 1, 2020–June 30, 2021

UNL co-authors/editors (identified by those who submitted items for inclusion) designated in red
Submitted by faculty, chairs/heads or deans

Marco Abel

English

Editor, with Timothy Schaffert and Jessica Poli. *More in Time: A Tribute to Ted Kooser*. Lincoln, NE: University of Nebraska Press.

Rachel Azima

English

Chapter author. Practice doesn't always makes permanent: Directing a writing center as a professor of practice. In Jessica Edwards, Meghan McGuire and Rachel Sanchez (Eds.), *Speaking Up, Speaking Out: Lived Experiences of Non-Tenure-Track Faculty in Writing Studies*. Logan, UT: Utah State University Press.

Raul G. Barletta

Veterinary Medicine and Biomedical Sciences

Chapter author, with G. Rathnaiah, F.M. Shoyama, E. Brenner, D.K. Zinniel, J.P. Bannantine, S. Sreevatsan, O. Chacon. Molecular genetics of *Mycobacterium avium* subsp. paratuberculosis. In Marcel E. Behr, Karen Stevenson and Vike Kapur (Eds.), *Paratuberculosis: Organism, Disease, Control, 2nd edition*. Boston, MA: CABI.

Stephen Behrendt

English

Chapter author. The surprising novelty of the familiar: Ted Kooser's poetry. In Jessica Poli, Marco Abel and Timothy Schaffert (Eds.), *More in Time: A Tribute to Ted Kooser*. Lincoln, NE: University of Nebraska Press.

Chapter author. The letter and the literary circle: Mary Leadbeater, Melesina Trench and the epistolary salon. In Madeleine Callaghan and Anthony Howe (Eds.), *Romanticism and the Letter*. Houndsmills, UK: Palgrave Macmillan.

Chapter author. Finding the elusive Charlotte Smith. In Elizabeth A. Dolan and Jacqueline M. Labbe (Eds.), *Placing Charlotte Smith*. Bethlehem, PA: Lehigh University Press.

Author. *Romantic-Era Irish Women Poets in English*. Cork, Ireland: Cork University Press.

Dawn O. Braithwaite

Communication Studies

Editor, with B.W. Bach, S. Ganesh. *By Degrees: Resilience, Relationships and Success in Communication Graduate Studies*. San Diego, CA: Cognella.

Chapter author, with B.W. Bach, S. Ganesh. Introduction. In B.W. Bach, D.O. Braithwaite and S. Ganesh (Eds.), *By Degrees: Resilience, Relationships and Success in Communication Graduate Studies*. San Diego, CA: Cognella.

Chapter author, with T. Harris, J. Ohl, T. Kauer. Getting to know the discipline of communication. In B.W. Bach, D.O. Braithwaite and S. Ganesh (Eds.), *By Degrees: Resilience, Relationships and Success in Communication Graduate Studies*. San Diego, CA: Cognella.

Peter J. Capuano

English

Editor. *Victorian Hands: The Manual Turn in Nineteenth-Century Body Studies*. Columbus, OH: Ohio State University Press.

Chapter author. The anatomy of Anglican industry: Mechanical philosophy and early factory fiction. In Peter J. Capuano (Ed.), *Victorian Hands: the Manual Turn in Nineteenth-Century Body Studies*. Columbus, OH: Ohio State University Press.

Chapter author. Teaching *Persuasion* in multiple contexts. In Marcia McClintock Folsom and John Wiltshire (Eds.), *Approaches to Teaching Austen's Persuasion*. New York, NY: Modern Language Association.

Janet F. Carlson

Buros Center for Testing/Educational Psychology

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

Rochelle L. Dalla

Child, Youth and Family Studies

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

Sruti Das Choudhury

Natural Resources/ Computer Science and Engineering

Editor, with Ashok Samal. *Intelligent Image Analysis for Plant Phenotyping*. Boca Raton, FL: CRC Press, Taylor and Francis Group.

Chapter author, with Diego Jarquin, Reca Howard, Alencar Xavier. Predicting yield by modeling interactions between canopy coverage image data, genotypic and environmental information for soybeans. In Ashok Samal and Sruti Das Choudhury (Eds.), *Intelligent Image Analysis for Plant Phenotyping*. Boca Raton, FL: CRC Press, Taylor and Francis Group.

Chapter author, with Saptarsi Goswami, Amlan Chakrabarti. Time series- and eigenvalue-based analysis of plant phenotypes. In **Ashok Samal** and **Sruti Das Choudhury** (Eds.), *Intelligent Image Analysis for Plant Phenotyping*. Boca Raton, FL: CRC Press, Taylor and Francis Group.

Chapter author, with **Ashok Samal**. Structural high-throughput plant phenotyping based on image sequence analysis. In **Ashok Samal** and **Sruti Das Choudhury** (Eds.), *Intelligent Image Analysis for Plant Phenotyping*. Boca Raton, FL: CRC Press, Taylor and Francis Group.

Chapter author. Segmentation techniques and challenges in plant phenotyping. In **Ashok Samal** and **Sruti Das Choudhury** (Eds.), *Intelligent Image Analysis for Plant Phenotyping*. Boca Raton, FL: CRC Press, Taylor and Francis Group.

Chapter author, with **Ashok Samal**, **Tala Awada**. Image-based plant phenotyping: Opportunities and challenges. In **Ashok Samal** and **Sruti Das Choudhury** (Eds.), *Intelligent Image Analysis for Plant Phenotyping*. Boca Raton, FL: CRC Press, Taylor and Francis Group.

Yasar Demirel **Chemical and Biomolecular Engineering**

Author. *Energy: Production, Conversion, Storage, Conservation, and Coupling*, 3rd edition. London, UK: Springer.

Robert C. Denicola **Law**

Author. *Copyright*. Saint Paul, MN: Foundation Press.

Sarah Deyong **Architecture**

Chapter author. Building arguments. In Hashim Sarkis and Ala Tanir (Eds.), *Expansions*. Venice, Italy: La Biennale di Venezia/Silvana Editoriale.

Judy Diamond **University Libraries/ University of Nebraska State Museum**

Author, with **Scott Gardner**, **Gabor Racz**. *Parasites: The Inside Scoop*. Lincoln, NE: Zea.

Author, with Bob Hall, **Liz VanWormer**, Judi gaiashkibos. *C’Rona Pandemic Comics*. Lincoln, NE: University of Nebraska Press.

Peter A. Eklund **Music**

Chapter author. Recruiting and keeping boys and men in the choral classroom. In Brian J. Winnie (Ed.), *The Choral Conductor’s Companion*. Chicago, IL: Meredith Music Publications.

Elizabeth Enkin **Modern Languages and Literatures**

Chapter author, with **Eric Kirschling**. The smart language lab: Building and integrating emerging technology into language programs. In Elizabeth Lavolette and Angelika Kraemer (Eds.), *Language Center Handbook 2021*. Auburn, AL: International Association for Language Learning Technology.

Charles A. Francis **Agronomy and Horticulture**

Chapter author, with J. Helenius, A. Wezel. The science of agroecology. In R. Hazlett (Ed.), *Oxford Encyclopedia of Agriculture and the Environment*. New York, NY: Oxford University Press.

Chapter author, with A.M. Nicolaysen, T.A. Breland, G. Lieblein, S. Morse. Evaluation of student reflective documents in agroecology education: A qualitative analysis of experiential learning. In Ariel Jerez Novara (Ed.), *Ciudades, Memorias, y Territorios y Alimentos: Diálogos Iberoamericanos de Una por Una Cultura para la Sostenibilidad* (Spanish edition). Barcelona, Spain: Tirant lo Blanch.

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

Editor. *Ramón Belaustegigoitia. Euzkadi en llamas*. Tafalla, Spain: Txalaparta.

William Grange **Johnny Carson School of Theatre and Film**

Author. *Cabaret*. London, UK: Methuen.

Patricio Grassini **Agronomy and Horticulture**

Chapter author, with **N. Cafaro La Menza**, **J.I. Rattalino Edreira**, **F.A. Tenorio**, **J.P. Monzon**, **J.E. Specht**. Soybean. In V. Sadras and D. Calderini (Eds.), *Crop Physiology Case Histories for Major Crops*. Amsterdam, The Netherlands: Elsevier.

David Hage **Chemistry**

Chapter author, with **Sazia Iftekhar**, **Susan T. Ovbude**. Affinity-based methods for the analysis of emerging contaminants in wastewater and related samples. In M. Kumar, **D.D. Snow**, R. Honda and S. Mukherjee (Eds.), *Contaminants in Drinking and Wastewater Sources*. New York, NY: Springer.

Chapter author. Chromatography and electrophoresis. In W. Clarke and M.A. Marzinke (Eds.), *Contemporary Practice in Clinical Chemistry*, 4th edition. Washington, DC: AACC Press.

Rumiko Handa **Architecture**

Author. *Presenting Difficult Pasts Through Architecture: Converting National Socialist Sites to Documentation Centers*. New York, NY: Routledge.

Edmund Hamann

**Teaching, Learning and Teacher Education/
Global Integrative Studies**

Chapter author, with Víctor Zúñiga. What educators in Mexico and in the United States need to know and acknowledge to attend to the educational needs of transnational students. In Patricia Gándara and Bryant Jensen (Eds.), *The Students We Share: Preparing US and Mexican Educators for Our Transnational Future*. Albany, NY: SUNY Press.

Carrie C. Heitman

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

Editor, with Ruth Van Dyke. *The Greater Chaco Landscape: Ancestors, Scholarship, and Advocacy*. Boulder, CO: University Press of Colorado.

Chapter author, with Ruth Van Dyke. The greater Chaco landscape volume. In Ruth Van Dyke and Carrie C. Heitman (Eds.), *The Greater Chaco Landscape: Ancestors, Scholarship, and Advocacy*. Boulder, CO: University Press of Colorado.

Chapter author, with Sean Field. Geospatial data, remote sensing, and aggregating roads data. In Ruth Van Dyke and Carrie C. Heitman (Eds.), *The Greater Chaco Landscape: Ancestors, Scholarship, and Advocacy*. Boulder, CO: University Press of Colorado.

Melissa J. Homestead

English

Author. *The Only Wonderful Things: The Creative Partnership of Willa Cather and Edith Lewis*. New York, NY: Oxford University Press.

Soo-Young Hong

Child, Youth and Family Studies

Chapter author, with Holly Hatton-Bowers, Lisa Knoche. Strengthening the quality of preschool, childcare, and parenting. In Philip J. Lazarus, Shannon M. Suldo and Beth Doll (Eds.), *Fostering the Emotional Well-being of Our Youth: A School-based Approach*. New York, NY: Oxford University Press.

Diego Jarquin

Agronomy and Horticulture

Chapter author, with Reka Howard, Alencar Xavier, Sruti Das Choudhury. Predicting yield by modeling interactions between canopy coverage image data, genotypic and environmental information for soybeans. In Ashok Samal and Sruti Das Choudhury (Eds.), *Intelligent Image Analysis for Plant Phenotyping*. Boca Raton, FL: CRC Press.

Valerie K. Jones

Advertising and Public Relations

Chapter author, with Katherine Graham, Nathaniel Price, Joseph Fontaine, Christopher Chizinski. Marketing and ecological models to predict permit purchasing behavior of sportspersons. In Kevin Pope and Larkin Powell (Eds.), *Harvest of Fish and Wildlife: New Paradigms for Sustainable Management*. Boca Raton, FL: CRC Press.

Thomas R. Kubick

Accountancy

Author, with Sally M. Jones, Shelley C. Rhoades-Catanach, Sandra R. Callaghan. *Principles of Taxation for Business and Investment Planning*. New York, NY: McGraw Hill.

Elizabeth B. Lewis

Teaching, Learning and Teacher Education

Chapter author, with A. Rivero, A. Musson, L. Lucas, A. Tankersley, B.A. Holding. Educating effective science teachers: Preparing and following teachers into the field. In J. Carinci, S. Meyer and C. Jackson (Eds.), *Linking Teacher Preparation Program Design and Implementation to Outcomes for Teachers and Students*. Charlotte, NC: Information Age Publishing.

Jung Yul Lim

Mechanical & Materials Engineering

Chapter author, with Tasneem Bouzid. Effects of hyperglycemia and mechanical stimulations on differentiation fate of mesenchymal stem cells. In Amit Gefen (Ed.), *The Science, Etiology and Mechanobiology of Diabetes and its Complications, 1st edition*. Cambridge, MA: Academic Press.

Daniel Linzell

Civil and Environmental Engineering

Author, with K.D. Hall, B.S. Minsker, J.F. Hajjar, C.M. Saviz. *Civil Engineering Education Summit: Mapping the Future of Civil Engineering Education*. Reston, VA: American Society of Civil Engineers.

Suping Lu

University Libraries

Author. *The 1937-1938 Nanjing Atrocities*. London, UK; New York, NY; Singapore: Springer.

Tom Lynch

English

Chapter author. Eco-memoir, belonging, and the ecopoetics of settler colonial enchantment. In Bénédicte Meillon (Ed.), *Dwelling of Enchantment: Writing and Reenchanting the Earth*. Lanham, MD: Lexington.

Elsbeth Magilton

Space, Cyber and Telecommunications Law

Chapter author. Women in line: Space security in the United States. In Melissa de Zwart and Stacey Henderson (Eds.), *Commercial and Military Uses of Outer Space*. Singapore: Springer.

Arindam Malakar

Water Center

Editor. *Selenium Contamination in Water*. Oxford, UK: John Wiley and Sons Ltd.

Chapter author, with Banajarani Panda, Sabarathinam Chidambaram. Survival of SARS-COV-2 in untreated and treated wastewater—A review. In A.L. Ramanathan, Chidambaram Sabarathinam, M.P. Jonathan, M.V. Prasanna, Pankaj Kumar and **Francisco Munoz-Arriola** (Eds.), *Environmental Resilience and Transformation in Times of COVID-19*. Cambridge, MA: Elsevier.

Maria Marron **Journalism**
Editor. *Misogyny across Global Media*. Lanham, MD: Lexington Books.

Jennifer McKittrick **Philosophy**
Chapter author. Powers in contemporary thought. In Julia Jorati (Ed.), *Powers: A History*. Oxford, UK: Oxford University Press.

Chapter author. Resurgent powers. In Benjamin Hill, Henrik Lagerlund and Stathis Psillos (Eds.), *Reconsidering Causal Powers: Historical and Conceptual Perspectives*. Oxford, UK: Oxford University Press.

Joseph Mendola **Philosophy**
Author. *Experience and Possibility*. Oxford, UK: Oxford University Press.

Chapter author. Conflicts and cooperation in act consequentialism. In Douglas Portmore (Ed.), *The Oxford Handbook of Consequentialism*. Oxford, UK: Oxford University Press.

Francisco Munoz-Arriola **Biological Systems Engineering/
Natural Resources**
Editor, with A.L. Ramanathan, S. Chidambaram, M.P. Jonathan, M.V. Prasanna, P. Kumar and **F. Munoz-Arriola**. *Environmental Resilience and Transformation in Times of COVID-19: Climate Change Effects on Environmental Functionality*. Amsterdam, The Netherlands: Elsevier.

Chapter author, with J. Janin, Deepak Khare. Short-term resilience and transformation of urban socio-environmental systems to COVID-19 lockdowns in India using air quality as proxy. In A.L. Ramanathan, S. Chidambaram, M.P. Jonathan, M.V. Prasanna, P. Kumar (Eds.), *Environmental Resilience and Transformation in Times of COVID-19: Climate Change Effects on Environmental Functionality*. Amsterdam, The Netherlands: Elsevier.

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

Chapter author, with A. Mohr, P.K. Sahoo, P.G. Muthuraj, M.R. Spriet, J.L. Mott. Epigenetics, noncoding RNAs and gene expression. In Alejandro Cifuentes (Ed.), *Comprehensive Foodomics, 2020*. Amsterdam, The Netherlands: Elsevier.

David Newton **Architecture**
Chapter author. Dynamic and explorative optimization for architectural design. In Imdat As and Prithwish Basu (Eds.), *Routledge Companion to AI and Architecture*. New York, NY: Routledge.

Maria E. Oliveri **Buros Center for Testing**
Editor, with C. Wendler. *Higher Education Admission Practices: An International Perspective*. Cambridge, UK: Cambridge University Press.

Chapter author. Global challenges and common admissions models. In **M.E. Oliveri** and C. Wendler (Eds.), *Higher Education Admission Practices: An International Perspective*. Cambridge, UK: Cambridge University Press.

Chapter author. Assessments used in higher education admissions. In **M.E. Oliveri** and C. Wendler (Eds.), *Higher Education Admission Practices: An International Perspective*. Cambridge, UK: Cambridge University Press.

Chapter author, with N. Elliot. New horizons for postsecondary placement and admission practices in the United States. In **M.E. Oliveri** and C. Wendler (Eds.), *Higher Education Admission Practices: An International Perspective*. Cambridge, UK: Cambridge University Press.

David L. Olson **Supply Chain Management and Analytics**
Author, with Desheng Wu. *Pandemic Risk Management in Operations and Finance: Modeling the Impact of COVID-19*. Heidelberg, Germany: Springer.

Author, with Majid Nabavi and Wesley Boyce. *Introduction to Business Analytics*. New York, NY: Business Expert Press.

Kristen Olson **Sociology**
Chapter author, with **Jerry Timbrook**, **Jolene Smyth**. How do interviewers and respondents navigate sexual identity questions in a CATI survey? In Philip Brenner (Ed.), *Understanding Survey Methodology: Sociological Theory and Applications*. Cham, Switzerland: Springer.

Chapter author, with **Jolene Smyth**. Male/female is not enough: Adding measures of masculinity and femininity to general population surveys. In Philip Brenner (Ed.), *Understanding Survey Methodology: Sociological Theory and Applications*. Cham, Switzerland: Springer.

Gabrielle Owen **English**
Author. *A Queer History of Adolescence: Developmental Pasts, Relational Futures*. Athens, GA: University of Georgia Press.

Jessica L. Petersen **Animal Science**
Author, with J. Warren Evans, Rhonda M. Hoffman, L. Dale Van Vleck. *The Horse*. Long Grove, IL: Waveland Press, Inc.

Kevin L. Pope **Nebraska Cooperative Fish and Wildlife Research/
Natural Resources**
Editor, with Larkin A. Powell. *Harvest of Fish and Wildlife: New Paradigms for Sustainable Management*. Boca Raton, FL: CRC Press.

Kenneth M. Price **English/Center for Digital
Research in the Humanities**
Author. *Whitman in Washington: Becoming the National Poet in the Federal City*. Oxford, UK: Oxford University Press.

Brett C. Ratcliffe **Entomology/
University of Nebraska State Museum**
Author, with Ronald D. Cave, Aura Paucar. *The Dynastine Scarab Beetles of Ecuador (Coleoptera: Scarabaeidae: Dynastinae)*. Lincoln, NE: University of Nebraska State Museum.

Guy J. Reynolds **English**
Author. *Sensing Willa Cather: The Writer and the Body in Transition*. Edinburgh, UK: Edinburgh University Press.

Heather Richards-Rissetto **Global Integrative Studies/
Center for Digital
Research in the Humanities**
Chapter author, with Graham Goodwin. Modelling acoustics in ancient Maya cities: Moving towards synesthetic experience using GIS and 3D Simulation. In J. Glover, J. Moss and D. Rissolo (Eds.), *Digital Archaeologies, Material Worlds (Past and Present)*. Tübingen, Germany: Tübingen University Press.

Rebecca L. Roston **Biochemistry**
Chapter author, with S. Mahboub, Z.D. Shomo, R.M. Regester, M. Albusharif. Three methods to extract membrane glycerolipids: Comparing sensitivity to lipase degradation and yield. In D. Bartels and P. Dörmann (Eds.), *Plant Lipids. Methods in Molecular Biology*. New York: Springer.

Loukia K. Sarroub **Teaching, Learning and Teacher Education**
Editor, with Claire Nicholas. *Doing Fieldwork at Home: The Ethnography of Education in Familiar Contexts*. Lanham, MD; New York, NY; London, UK: Rowman & Littlefield Publishers, Ltd.

Chapter author. "You pulled the chair from right under me!" How a Black young man disappears from a high school reading class. In Loukia K. Sarroub and Claire Nicholas (Eds.), *Doing Fieldwork at Home: The Ethnography of Education in Familiar Contexts*. Lanham, MD; New York, NY; London, UK: Rowman & Littlefield Publishers, Ltd.

Robert C. Shepard **Geography/Center for Digital
Research in the Humanities**
Chapter author. Placing segregation. In Siddharth Peter de Souza, Nida Rehman and Saba Sharma (Eds.), *Crowdsourcing, Constructing and Collaborating: Methods and Social Impacts of Mapping the World Today*. New Delhi, India: Bloomsbury.

John Shrader **Sports Media Communication/Broadcasting**
Chapter author. Sports. In Richard Craig (Ed.), *Navigating the News: A Guide to Understanding Journalism*. New York, NY: Peter Lang.

Daniel D. Snow **Nebraska Water Center/Natural Resources**
Editor, with Pooja Devi, Pardeep Singh, Arindam Malakar. *Selenium Contamination in Water*. Hoboken, NJ: John Wiley & Sons.

Jordan Stump **Modern Languages and Literatures**
Translator. *That Time of Year* (by Marie NDiaye). San Francisco, CA: Two Lines Press.

Daniel Tannenbaum **Economics**
Chapter author, with Fatemeh Momeni. Spillovers and program evaluation at scale. In John List, Lauren Supplee and Dana Suskind (Eds.), *The Scale-Up Effect in Early Childhood and Public Policy: Why Interventions Lose Impact at Scale and What We Can Do About It*. New York, NY: Routledge.

William G. Thomas III **History**
Author. *A Question of Freedom: The Families Who Challenged Slavery from the Nation's Founding to the Civil War*. New Haven, CT: Yale University Press.

Guy Trainin **Teaching, Learning and Teacher Education**
Chapter author, with S. Wessels. Digital storytelling with English language learning families. In Grace Onchwari and Jared Keengwe (Eds.), *Bridging Family-Teacher Relationships for ELL and Immigrant Students*. Hershey, PA: IGI Global.

Chapter author, with J. Schneider. Genius-hour: Student-led learning in the fourth industrial revolution. In J. Naidoo (Ed.), *Teaching and Learning in the 21st Century: Embracing the Fourth Industrial Revolution*. Leiden, The Netherlands: Brill.

Mark van Roojen**Philosophy**

Chapter author. Promising and assertion. In Sanford Goldberg (Ed.), *The Oxford Handbook of Assertion*. Oxford, UK: Oxford University Press.

Susan R. VanderPlas**Statistics**

Chapter author, with Alicia Carriquiry, Heike Hofmann, James Hamby, Xiao Hui Tai. An introduction to firearms examination for researchers in statistics. In D. Banks, K. Kafadar, D. Kaye and M. Tackett (Eds.), *Handbook of Forensic Statistics*. New York, NY: Chapman and Hall/CRC.

James L. Van Etten**Plant Pathology**

Chapter author, with D.D. Dunigan, K. Nagasaki, D.C. Schroeder, N. Grimsley, C.P.D. Brussaard, J.I. Nissimov. Phycodnaviruses (*Phycodnaviridae*). In D.H. Bamford and M. Zuckerman (Eds.), *Encyclopedia of Virology, 4th edition*, vol. 4. Oxford, UK: Academic Press.

Mark P. Vrtiska**Natural Resources/Applied Ecology**

Chapter author. Harvest management of migratory game birds. In Kevin L. Pope and Larkin A. Powell (Eds.), *Harvest of Fish and Wildlife: New Paradigms for Sustainable Management*. Boca Raton, FL: CRC Press.

Bing Wang**Food Science and Technology**

Author, with FAO core working group. *Risk Profile - Group B Streptococcus (GBS) Streptococcus Agalactiae Sequence Type (ST) 283 in Freshwater Fish*. Bangkok, Thailand: FAO.

Author, with FAO core working group. *Microbiological Risk Assessment - Guidance for Food*. Rome, Italy: FAO/WHO.

Laura Madeline Wiseman**Journalism**

Author. *Safety Measures*. Lincoln, NE: Zea Books.

Yan R. Xia**Child, Youth and Family studies**

Chapter author, with D. Wang. Couple relationships in China. In S. Piscopo (Ed.), *Couple Relationships in a Global Context*. New York, NY: Springer.

Chapter author, with A. Do, X. Xie. Asian-origin families in Canada and the United States: Challenges and resilience. In S. Chuang, R. Moodley, U. Gielen and S. Akram-Paul (Eds.), *Asian Families in Canada and the United States: Implications for Mental Health and Well-being*. New York, NY: Springer.

Janos Zempleni**Nutrition and Health Sciences**

Chapter author. MicroRNAs and exosomes in human milk. In Michelle McGuire and Deborah O'Connor (Eds.), *Human Milk: Sampling and Measurement of Energy-Yielding Nutrients and Other Macromolecules*. Amsterdam, The Netherlands: Elsevier.

Recognitions and Honors

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

July 1, 2020–June 30, 2021

Submitted by faculty, chairs/heads or deans

Donald Cox **Electrical and Computer Engineering**
National Academy of Engineering

Raymond Hames **Anthropology**
National Academy of Sciences

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

Craig Allen **Natural Resources**
Fellow, American Association for the Advancement of Science
Interim co-editor, *Ecology and Society*, Resilience Alliance

Katie Anania **Art, Art History and Design**
Tyson Scholar in American Art, Crystal Bridges Museum of Art

Katherine Ankerson **Architecture**
Chair, Board of Directors, Council for Interior Design Accreditation

Mojdeh Asadollahi Pajouh **Midwest Roadside Safety Facility/
Civil and Environmental Engineering**
2021 Best Paper Award, Transportation Research Board Committee on Roadside Safety Design (with **Karla Lechtenberg**, **Ronald Faller**, **Tewodros Yosef**)

Hamid Bagheri **Computer Science and Engineering**
Distinguished Paper Award, Special Interest Group for Software Engineering, Association for Computing Machinery

Lindsey Bahe **Architecture**
Teaching Excellence Award, Interior Design Educators Council

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

Bronze Award, iidex 2020 Invention-Innovation-Design Exposition, Universiti Teknologi MARA, Malaysia

Robyn Benes **Bureau of Sociological Research**
Tarnai Scholarship, Association of Academic Survey Research Organizations

Humberto Blanco **Agronomy and Horticulture**
Fellow, Soil Science Society of America

Kristen Blankley **Law**
Editor-in-Chief, *ADR and Employment Law*, 3rd edition, American Bar Association-Section of Labor and Employment

Florin Bobaru **Mechanical & Materials Engineering**
Best Paper Award, National Association of Corrosion Engineers International

Dawn O. Braithwaite **Communication Studies**
Distinguished Scholar, National Communication Association

Eve Brank **Psychology**
Lawrence S. Wrightsman Book Award, American Psychology-Law Society

Kathleen (Kate) Brooks **Agricultural Economics**
Outstanding Undergraduate Teaching Award: Less Than 10 Years' Experience, Western Agricultural Economics Association

Amy Nelson Burnett **History**
Gerald Strauss Book Prize, Sixteenth Century Society and Conference

Martin Centurion **Physics and Astronomy**
Fellow, American Physical Society

Qian Chen **Marketing**
Data Science Research Award, Adobe

Ozan Ciftci **Food Science and Technology**
International Award in Bioinnovation, Luxembourg Institute of Science and Technology

Bertrand Clarke **Statistics**
Senior Member, Institute of Electrical and Electronics Engineers

Matt Cohen **English**
David Greetham Prize, Society for Textual Scholarship

Nathan Conner **Agricultural Leadership,
Education and Communication**
Educator Award, North American Colleges and Teachers of
Agriculture

Kwame Dawes **English**
PEN/Nora Magid Award for Magazine Editing, PEN America
Editor, national "American Life in Poetry" column

Carrick Detweiler **Computer Science and Engineering**
Senior Member, National Academy of Inventors

Shudipto Dishari **Chemical and Biomolecular Engineering**
Non-Tenured Faculty Award, 3M

Thomas Dotzel **Marketing**
Best Services Article Award, American Marketing Association

Mary Drewnoski **Animal Science**
Outstanding Extension Specialist Award, Midwest Section, American
Society of Animal Science

Robert Dyer **Computer Science and Engineering**
Distinguished Paper Award, International Conference on Mining
Software Repositories (with graduate students **Samuel Flint** and
Jigyasa Chauhan)

Ronald K. Faller **Midwest Roadside Safety Facility/
Civil and Environmental Engineering**
2021 Best Paper Award, Transportation Research Board Committee
on Roadside Safety Design (with UNL colleagues **Mojdeh Asadollahi**
Pajouh, **Karla Lechtenberg**, **Tewodros Yosef**)

Sherilyn Fritz **Earth and Atmospheric Sciences/
Biological Sciences**
Fellow, American Geophysical Union

Matthias Fuchs **Physics and Astronomy**
Outstanding Referee, American Physical Society

Lilyan Fulginiti **Agricultural Economics**
Graduate Teaching Award: Ten or More Years' Experience,
Agricultural and Applied Economics Association

Crystal Garcia **Educational Administration**
Emerging Scholars Award, American College Personnel Association

Roch Gaussoin **Agronomy and Horticulture**
Fellow, American Association for the Advancement of Science

Danni Gilbert **Glenn Korff School of Music**
Outstanding Music Educator of the Year, Nebraska Music Educators
Association

John Gilley **Biological Systems Engineering**
Conservation Research Award, Soil and Water Conservation Society

Marc Goodrich **Special Education and Communication Disorders**
Rebecca L. Sandak Young Investigator Award, Society for the
Scientific Study of Reading

Patricio Grassini **Agronomy and Horticulture**
Werner L. Nelson Award for Diagnosis of Yield-Limiting Factors,
American Society of Agronomy
List of Highly Cited Researchers (top 1% in the world), Web of Science

Nicole Gray **University Libraries**
Richard J. Finneran Award, Society for Textual Scholarship

Alexei Gruverman **Physics and Astronomy**
Humboldt Research Award, Alexander von Humboldt Foundation

David Hage **Chemistry**
ACS Award in Chromatography, American Chemical Society

Carrie C. Heitman **Anthropology/Center for Digital
Research in the Humanities**
Engaged Anthropology Award, American Anthropological Association

Chuck Hibberd **Extension**
Nebraska Agricultural Youth Institute's Award of Merit, Nebraska Agricultural Youth Council

Terry A. Howell **Food Science and Technology/
Food Processing Center**
Fellow, American Society of Agricultural and Biological Engineers

Roger M. Hoy **Biological Systems Engineering/
Nebraska Tractor Test Laboratory**
President, Tractor Test Codes and Schemes, Organization for Economic Cooperation and Development

Suat Irmak **Biological Systems Engineering**
Fellow, American Society of Civil Engineers' Environmental and Water Resources Institute
Fellow, American Society of Agricultural and Biological Engineers

Diego Jarquin **Agronomy and Horticulture**
Early Career Scientist Award, National Association of Plant Breeders

Jeannette Jones **History/Ethnic Studies**
Distinguished Visiting Scholar, University at Buffalo's Center for Diversity Innovation

Valerie Jones **Advertising and Public Relations**
Fellow, Nebraska Governance and Technology Center

Casey Kelly **Communication Studies**
Top Paper Award, Feminist and Gender Studies Division, National Communication Association

Michael Kocher **Biological Systems Engineering**
PEI Professional Engineer of the Year Award, American Society of Agricultural and Biological Engineers

Alok Kumar **Marketing**
Outstanding Reviewer Award, *Journal of Marketing*
Top 47 Most-Productive Scholars of 2020, American Marketing Association

Nevin Lawrence **Agronomy and Horticulture**
Outstanding Weed Scientist – Early Career, Western Society of Weed Science

James Le Sueur **History**
Awards for "The Art of Dissent": Feather Award for Best Documentary, Karama Human Rights Film Festival; Best Feature Documentary, Big Apple Film Festival; First-Time Filmmaker Award, Newburyport Documentary Film Festival; Social Spotlight Award, Rhode Island International Film Festival; Best Documentary Feature, Blackbird Film Festival

Ronald Lewis **Animal Science**
Distinguished Teacher Award, American Society of Animal Science

Michael Lippman **Classics and Religious Studies**
Award for Excellence in College Teaching, Classical Association of the Middle West and South

Joe Luck **Biological Systems Engineering**
Pierre C. Robert Precision Agriculture Award - Young Scientist, International Society of Precision Agriculture

Kate Lyons **Biological Sciences**
Science Achievement Award, Smithsonian National Museum of Natural History

Kacie McCarthy **Animal Science/Extension**
Wilson G. Pond Travel Scholarship Award, Western Section of the American Society of Animal Science

**Tiffany Messer, Aaron Mittelstet,
Thomas Franti, Jessica Gorman** **Biological Systems Engineering/
School of Natural Resources**
Superior Paper Award, American Society of Agricultural and Biological Engineers

Sarah Michaels **Political Science**
Fulbright Canada Distinguished Research Chair in Environmental Science at Carleton University, Council for International Exchange of Scholars

Max Perry Mueller **Classics and Religious Studies**
The Jan Shippo Best Article Award, Mormon History Association

Travis Mulliniks **West Central Research and Extension Center/
Gudmundsen Sandhills Laboratory**
Young Scientist Award, Western Section of the American Society of Animal Science

Carl Nelson **Mechanical & Materials Engineering**
Fellow, American Society of Mechanical Engineers

Chigozie Obioma **English**
Judge, 2021 Booker Prize
International Literature Award, Haus der Kulturen der Welt (House of World Cultures)

Clyde Ogg **Agronomy and Horticulture**
Life Membership, American Association of Pesticide Safety Educators

Kristen Olson **Sociology**
Fellow, American Association for the Advancement of Science

Angela Pannier **Biological Systems Engineering**
Fellow, Biomedical Engineering Society

Jenna Pieper **Management**
International HRM Scholarly Research Award, Human Resources Division, Academy of Management

Santosh Pitla **Biological Systems Engineering**
John Deere Award, North American Colleges and Teachers of Agriculture

Yi Qian **Electrical and Computer Engineering**
Best Paper Award (2018 – 2020), *IET Smart Grid*

Wei Qiao **Electrical and Computer Engineering**
Sustainable Energy Systems Technical Achievement Award, Power Electronics Society, Institute of Electrical and Electronics Engineers

Heather Marie Richards-Rissetto **Global Integrative Studies/
Center for Digital Research
in the Humanities**
Fellowship for Digital Publication, National Endowment for the Humanities and the Mellon Foundation

Laurence Rilett **Civil and Environmental Engineering/
Mid-America Transportation Center/
Nebraska Transportation Center**
Fellow, American Society of Civil Engineers
Frank M. Masters Transportation Engineering Award, American Society of Civil Engineers

Rebecca L. Roston **Biochemistry**
Arthur C. Neish Young Investigator Award, Phytochemical Society of North America

Sangjin Ryu **Mechanical & Materials Engineering**
Invitational Fellowship for Research in Japan, Japan Society for the Promotion of Science

Rajib Saha **Chemical and Biomolecular Engineering**
Early Career Alumni Recognition Award, Penn State University

K. Kelli Saunders **Accountancy**
Best Behavioral Paper, American Accounting Association, Auditing Section Midyear Meeting

James Schnable **Agronomy and Horticulture**
Outstanding Paper Award, *The Plant Phenome Journal*

Philip Schwadel **Sociology**
Distinguished Journal Article Award, Association for the Sociology of Religion

Jamie Reimer Seaman **Glenn Korff School of Music**
Programming Award, International Alliance for Women in Music

Bonita Sharif **Computer Science and Engineering**
Distinguished Paper Award, IEEE International Conference on Software Maintenance and Evolution

Jessica Shoemaker **Law**
Andrew Carnegie Fellow, Carnegie Corporation of New York

John Shrader **Sports Media and Communication/Broadcasting**
First Place, Documentary/Special Category, Midwest Broadcast Journalists Association

Greg Simon **Glenn Korff School of Music**
First Prize, Zodiac International Music Competition

Ash Eliza Smith **Johnny Carson Center for Emerging Media Arts/
Art, Art History and Design**
Inaugural Artist-Curator in Residence, Stove Works, Chattanooga, TN
Fellow, Diverse Intelligences Summer Institute, University of St. Andrews, Scotland

Gerald Steinacher **History**
Fellowship, Vienna Wiesenthal Institute for Holocaust Studies

**Matthew Stockton, Daran Rudnick,
Chuck Burr, and Robert Tigner** **Agricultural Economics/
Biological Systems Engineering/
West Central Research
and Extension Center**
Distinguished Extension/Outreach Program Awards, Agricultural and
Applied Economics Association

Jay Storz **Biological Sciences**
Explorer, National Geographic Society

Jordan Stump **Modern Languages and Literatures**
National Translation Award in Prose, American Literary Translators
Association

Gary Sullivan **Animal Science**
Distinguished Achievement Award, American Meat Science
Association

Susan Swearer **Educational Psychology**
Mid-Career Award for Outstanding Contributions to Benefit Children,
Youth and Families, American Psychological Association

James Takacs **Chemistry**
Fellow, American Association for the Advancement of Science

William G. Thomas III **History**
Mark Lynton History Prize, Columbia Journalism School and the
Nieman Foundation for Journalism at Harvard University
Best Book Prize, Society for Historians of the Early American Republic

Julie Tippens **Child, Youth and Family Studies**
Student and New Professional Award, Issues in Aging Focus Group,
National Council on Family Relations

Christopher Tuan **Civil Engineering**
Concrete Award for New Technology, Concrete Promotional and
Environmental Group of Kansas City

Robert Twomey **Johnny Carson Center for Emerging Media Arts**
Fellow, T. Denny Sanford Institute for Empathy and Compassion

Judy Walker **Mathematics**
Outstanding Alumni Achievement Award, Department of
Mathematics, University of Illinois at Urbana-Champaign

Jian Wang **Mechanical & Materials Engineering**
Fellow, American Society of Mechanical Engineers

Lily Wang **Architectural Engineering**
Editor's Award, *Journal of Speech, Language, and Hearing Research*,
Hearing Section, American Speech-Language-Hearing Association
(with Z. Ellen Peng)

Yujia Wang **Landscape Architecture**
Winner, Landscape Design Competition, Rizhao Coastal National
Forest Park
30 Under 30 List, Forbes China
Best Paper Award, Chinese Society of Landscape Architecture,
Conference on Landscape Architectural Education

Susan Weller **Entomology/University of Nebraska State Museum**
Fellow, Entomological Society of America

Yan Xia **Child, Youth and Family Studies**
Jan Trost Award, International Section, National Council on Family
Relations

Xiao Cheng Zeng **Chemistry**
Member, European Academy of Sciences

Publications in Scholarly Journals

Faculty who have published in peer-reviewed scholarly journals
July 1, 2020–June 30, 2021

UNL co-authors (identified by those who
submitted articles for inclusion) designated in red
Submitted by faculty, chairs/heads or deans

Roberto Abadie

Sociology

With C. Gelpi-Acosta, F. Aquino-Ruiz, Y. Aponte-Melendez. Covid-19 risks among people who inject drugs in Puerto Rico. *International Journal of Drug Policy*. July 1, 2021.

With K. Dombrowski. “Caballo”: Risk environments, drug sharing and the emergence of a Hepatitis C epidemic among people who inject drugs in Puerto Rico. *Harm Reduction Journal*. Oct. 23, 2020.

With C.B. Fisher, K. Dombrowski. Privacy, confidentiality and anonymity: Understandings from people who inject drugs enrolled in a study of social networks and HIV risk. *Journal of Empirical Research on Human Research Ethics*. April 26, 2021.

Dena M. Abbott

Educational Psychology

With Michael Ternes, Caitlin Mercier, Chris Monceaux. Anti-atheist discrimination, outness, and psychological distress among atheists of colour. *Mental Health, Religion, & Culture*. Jan. 19, 2021.

With Andrew Franks, Corey Cook, Caitlin Mercier. (Non)religious coping with a natural disaster in a rural U.S. community. *Secularism and Nonreligion*. March 3, 2021.

With Debra Mollen, Elyxcus Anaya et al. Providing sexuality training for psychologists: The role of predoctoral internship sites. *American Journal of Sexuality Education*. March 8, 2021.

With Andrew Franks. Coping with COVID-19: An examination of the role of (non)religiousness (non)spirituality. *Journal of Religion and Health*. May 22, 2021.

Mirzokhidjon Abdurakhmonov

Management

With J. Ridge, A. Hill. Unpacking firm external dependence: How government contract dependence affects firm investments and market performance. *Academy of Management Journal*. Feb. 18, 2021.

Jiri Adamec

Biochemistry

With R.A. Grove, T. Helikar et al. Aberrant energy metabolism and redox balance in seizure onset zones of epileptic patients. *Journal of Proteomics*. July 15, 2020.

With A. Johnson, T. Helikar et al. Changes in lipid profiles of epileptic mouse model. *Metabolomics*. Oct. 16, 2020.

Dave Aiken

Agricultural Economics

Climate change and water management challenges facing the Great Plains (invited essay with introduction by Katie Nieland). *Great Plains Research*. Fall 2020.

Craig R. Allen

Natural Resources

With Christopher T. Fill, John F. Benson, Dirac Twidwell. Roost use and movements of northern long-eared bats in a southeast Nebraska agricultural landscape. *BioOne Complete*. April 28, 2021.

With Deborah M. Epperson, Katharine F.E. Hogan. Red imported fire ants reduce invertebrate abundance, richness, and diversity in gopher tortoise burrows. *Diversity*. Dec. 29, 2020.

With Christine H. Bielski, Dirac Twidwell et al. Overcoming an “irreversible” threshold: A 15-year fire experiment. *Journal of Environmental Management*. May 6, 2021.

With Caleb P. Roberts, David Wedin, Dirac Twidwell et al. Monitoring for spatial regimes in rangelands. *Rangeland Ecology & Management*. Jan. 1, 2021.

Sophie Alvarez

Center for Biotechnology

With Michael Naldrett. Mass spectrometry based untargeted metabolomics for plant systems biology. *Emerging Topics in Life Science*. March 11, 2021.

Katie Anania

Art, Art History and Design

Quick studies: A queer reading of Kimon Nicolaides’s “The natural way to draw.” *Archives of American Art Journal*. Sept. 1, 2020.

John E. Anderson

Economics

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CMS COLLABORATION:

Ken Bloom, Dan Claes,
Frank Golf, Ilya Kravchenko et al.

Physics and Astronomy

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.

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Search for dark photons in Higgs boson production via vector boson fusion in proton-proton collisions at $\sqrt{s} = 13$ TeV. *Journal of High Energy Physics*. March 1, 2021.

Measurements of $pp \rightarrow ZZ$ production cross sections and constraints on anomalous triple gauge couplings at $\sqrt{s} = 13$ TeV. *The European Physical Journal C*. March 1, 2021.

Measurement of the inclusive and differential Higgs boson production cross sections in the leptonic WW decay mode at $\sqrt{s} = 13$ TeV. *Journal of High Energy Physics*. March 1, 2021.

Search for new physics in top quark production with additional leptons in proton-proton collisions at $\sqrt{s} = 13$ TeV using effective field theory. *Journal of High Energy Physics*. March 9, 2021.

Measurement of differential $t\bar{t}t\bar{t}$ production cross sections using top quarks at large transverse momenta in pp collisions at $\sqrt{s} = 13$ TeV. *Physical Review D*. March 19, 2021.

Search for nonresonant Higgs boson pair production in final states with two bottom quarks and two photons in proton-proton collisions at $\sqrt{s} = 13$ TeV. *Journal of High Energy Physics*. April 9, 2021.

Development and validation of HERWIG 7 tunes from CMS underlying-event measurements. *The European Physical Journal C*. April 12, 2021.

Measurement of differential cross sections for Z bosons produced in association with charm jets in pp collisions at $\sqrt{s}=13$ TeV. *Journal of High Energy Physics*. April 13, 2021.

Search for supersymmetry in final states with two oppositely charged same-flavor leptons and missing transverse momentum in proton-proton collisions at $\sqrt{s}=13$ TeV. *Journal of High Energy Physics*. April 14, 2021.

Angular analysis of the decay $B^+\rightarrow K^*(892)^+\mu^+\mu^-B^+\rightarrow K^*(892)^+\mu^+\mu^-$ in proton-proton collisions at $\sqrt{s}=8$ TeV. *Journal of High Energy Physics*. April 14, 2021.

Measurement of the Higgs boson production rate in association with top quarks in final states with electrons, muons, and hadronically decaying tau leptons at $\sqrt{s}=13$ TeV. *The European Physical Journal C*. April 30, 2021.

Measurement of b jet shapes in proton-proton collisions at $\sqrt{s}=5.02$ TeV. *Journal of High Energy Physics*. May 7, 2021.

Search for strong electric fields in PbPb collisions at $\sqrt{s_{NN}}=5.02$ TeV using azimuthal anisotropy of prompt D^0D^0 and $D^{*-}D^0$ mesons. *Physics Letters B*. May 10, 2021.

Measurement of the CP-violating phase ϕ_s in the $B^0\rightarrow J/\psi\phi(1020)\rightarrow\mu^+\mu^-K^+K^-B^0\rightarrow J/\psi\phi(1020)\rightarrow\mu^+\mu^-K^+K^-$ channel in proton-proton collisions at $\sqrt{s}=13$ TeV. *Physics Letters B*. May 10, 2021.

In-medium modification of dijets in PbPb collisions at $\sqrt{s_{NN}}=5.02$ TeV. *Journal of High Energy Physics*. May 14, 2021.

Electron and photon reconstruction and identification with the CMS experiment at the CERN LHC. *Journal of Instrumentation*. May 16, 2021.

Study of Drell-Yan dimuon production in proton-lead collisions at $\sqrt{s_{NN}}=8.16$ TeV. *Journal of High Energy Physics*. May 20, 2021.

Measurement of the Z boson differential production cross section using its invisible decay mode ($Z\rightarrow\nu\bar{\nu}\rightarrow\nu\bar{\nu}$) in proton-proton collisions at $\sqrt{s}=13$ TeV. *Journal of High Energy Physics*. May 21, 2021.

First measurement of large area jet transverse momentum spectra in heavy-ion collisions. *Journal of High Energy Physics*. May 31, 2021.

Measurements of the differential cross sections of the production of $Z+\text{jets}$ and $\gamma+\text{jets}$ and of Z boson emission collinear with a jet in pp collisions at $\sqrt{s}=13$ TeV. *Journal of High Energy Physics*. May 31, 2021.

Presentations at Professional Conferences

Faculty who have presented at professional conferences
July 1, 2020–June 30, 2021

UNL co-presenters (identified by those who
submitted items for inclusion) designated in red

Submitted by faculty, chairs/heads or deans

Mojdeh Asadollahi Pajouh Midwest Roadside Safety Facility/ Civil and Environmental Engineering

Presenter/speaker. Development, crash testing, and evaluation of steel post, trailing-end, guardrail anchorage system. Transportation Research Board Annual Meeting. Online, Jan. 21-29, 2021.

Presenter/speaker, with **Karla Lechtenberg**, **Ronald Faller**, **Tewodros Yosef**. MASH-compliant guardrail applications: Recent research. American Traffic Safety Services Association's 51st Annual Convention and Traffic Expo. Online, Feb. 8-18, 2021.

Diane Barger Glenn Korff School of Music

Presenter/speaker, with **Mark Clinton**, Denise Gainey. A discussion and performance of "The Amicitia Suite" by Scott McAllister with the Amicitia Duo. International Clarinet Association Virtual Conference, July 9-31, 2021.

Raul G. Barletta Veterinary Medicine and Biomedical Sciences

Presenter/speaker, with **D.K. Zinniel**, **E. Muthukrishnan**, **V. Manthena**, **T.J. Kaftan**, **O.A. Taylor**, **A. Belashchenko**, **G. Rathnaiah**, **K.J. Hanford**. Analysis of D-alanine transaminase activity In *Mycobacterium smegmatis*. World Microbe Forum. Online, June 20-24, 2021.

Presenter/speaker, with J.R. Stabel, J.P. Bannantine, **D.K. Zinniel**, **E. Muthukrishnan**, A. Turner. Development and testing of *Mycobacterium avium subsp. paratuberculosis* DIVA vaccines in ruminants. Conference of Research Workers in Animal Diseases. Chicago, IL (online), Dec. 4-8, 2020.

Demet Batur Supply Chain Management and Analytics

Presenter/speaker, with J. Ryan, F. Guo, M.C. Vuran. Dynamic spectrum capacity sharing. Production and Operations Management Society Annual Conference. Online, April 30-May 5, 2021.

Kirill D. Belashchenko Physics and Astronomy

Presenter/speaker, with Giovanni Baez Flores, Wuzhang Fang, **Alexey Kovalev**, Mark van Schilfgaarde. Spin-orbit torque in magnetic heterostructures from first principles. SPIE Optics + Photonics 2020. Online, Aug. 24-28, 2020.

Presenter/speaker. Spin-orbit torque and magnetoresistance in metallic bilayers from first principles. 5th International Conference on Magnetism and Spintronics (Sol-SkyMag 2021). Online, June 21-24, 2021.

William R. Belcher Anthropology

Presenter/speaker, with Gregg Jamison, Charles Konsitzke, Brett Hoffman, **Ella Axelrod**. UW MIA Recovery and Identification Project: A multidisciplinary approach to DPAA partner missions. 86th Annual Meeting of the Society for American Archaeology. Online, April 2-9, 2021.

Presenter/speaker, with Sarah H. Ghannam, **Brittany S. Walter**. Estimating age from 2D and 3D imaging of skeletal remains: An assessment of reliability using the medial clavicle. 73rd Annual Scientific Meeting of the American Academy of Forensic Sciences. Online, Feb. 15-19, 2021.

Presenter/speaker. Fishing at Ras al-Hadd, HD-1: A preliminary model of seasonality, technology, and habitat. American Society of Oriental Research. Online, Nov. 19-22, 2020.

Panel discussion moderator. Discussion of the International Committee of the Red Cross publication, "Recovery of human remains in weapons-contaminated environments." 18th Meeting of States Parties to the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and their Destruction. Online, Nov. 17, 2020.

Presenter/speaker, with T. Pierce Holland. The ethnoarchaeology of Northwestern Omani fisheries: A multidisciplinary approach to understanding the past by using the present. American Fisheries Society Virtual Annual Meeting: Knowing Fishing Through Ethnography. Online, Sept. 15-20, 2020.

Nathan Bicak Interior Design

Presenter/speaker. Advancing the mission of a publicly accessible nature preserve through full-scale prototyping and construction documentation. Environmental Design Research Association Conference. Detroit, MI (remote), May 19-Aug. 23, 2021.

Presenter/speaker. Material fabrication for material application. IDEC 2021 Diversity: Dialogue+Design Interior Design Educators Council Conference. Virtual, March 1-5, 2021.

Christopher R. Bilder**Statistics**

Presenter/speaker, with Christopher McMahan. JUST GROUP IT. Group testing for identification. Joint Statistical Meetings. Philadelphia, PA, Aug. 3-6, 2020.

Presenter/speaker, with Brianna Hitt, Jeffrey Benfer, Kayleigh Blaney, Bonnie Carter, Kristofer Eveland, Christopher McMahan, Joshua Tebbs. To pool or not to pool? A web-based Shiny app to help laboratories make the specimen pooling decision. STD Prevention Conference. Atlanta, GA, Sept. 14-24, 2020.

Panel discussion participant. Group testing for identifying cases of COVID-19: Opportunities and challenges. ENAR 2021 Spring Meeting. Baltimore, MD, March 14-17, 2021.

James Brunton**English**

Presenter/speaker. Queer body politic: Autonomy, subjectivity, and the re-imagining of community. International Colloquium: Politics and Narratives of the Body. Paris, France, May 26-28, 2021.

Nicole R. Buan**Biochemistry**

Presenter/speaker, with S. Carr. Metabolic engineering in methanogens reveals potential alternative respiration strategy. West Coast Bacterial Physiology Meeting/Asilomar Conference. Virtual, Dec. 12-13, 2020.

Panel discussion moderator. Archaea Power Hour Conference Series. Virtual, Feb. 20-25, 2021.

Panel discussion moderator. New frontiers in microbial metabolism and metabolic engineering. World Microbe Forum. Virtual, June 20-24, 2021.

Anthony J. Bushard**Glenn Korff School of Music**

Presenter/speaker, with Brian Moore. Music as art, discipline, and profession: A case study for collaborative research, teaching, and performance. Teaching Music History Conference. Online, July 8-19, 2020.

Catherine P. Chia**Biological Sciences**

Presenter/speaker, with Heng Liang, Jeffrey Mower. Functional dCTP deaminases from the eukaryote *Dictyostelium discoideum*. 2021 World Microbe Forum. Virtual, June 20-24, 2021.

Bertrand Clarke**Statistics**

Presenter/speaker, with Dean Dustin, Jennifer Clarke. Stability as an objective criterion for prior selection. International Society of Bayesian Analysis World Meeting. Virtual, June 28-July 2, 2021.

Matt Cohen**English**

Panel discussion participant. Decolonizing knowledges. Archival Silences Working Group. Princeton, NJ (online), Nov. 15, 2020.

Keynote speaker. Textual editing and the future of digital editions. Conference on the Bicentennial of James Fenimore Cooper's *The Spy*. Worcester, MA (online), May 25-26, 2021.

Kimberley N. D'Adamo**Teaching, Learning and Teacher Education**

Presenter/speaker, with Julia Marshall, Lorinda Rice. Are we positioning art education as essential to public schools? 2021 National Art Education Conference. Virtual, March 4-6, 2021.

Panel discussion participant, with Lois Hetland, Julia Marshall, Gigi Yu, Jen Rankin, moderated by Lorinda Rice. A conversation about intertwining pedagogies. National Art Education Conference. Virtual, March 4-6, 2021.

Rochelle L. Dalla**Child, Youth and Family Studies**

Presenter/speaker, with Donna Sabella. *Journal of Human Trafficking*: What it is and how you can contribute. International Human Trafficking and Social Justice Conference. Toledo, OH, Sept. 22-24, 2020.

Presenter/speaker, with K. Roselius, S. Erwin, J. Peter, T.J. Panchal, R. Ranjan, M. Mischra, S. Sahu. Sex trafficking among the Bedia of India: Defying the dominant human trafficking discourse. International Human Trafficking and Social Justice Conference. Toledo, OH, Sept. 20-22, 2020.

Stuart Dearden**Accountancy**

Presenter/speaker, with Jimmy Downes, Tony Kang. Borrower-lender cross-ownership and borrower audit quality. American Accounting Association Annual Meeting. Virtual, Aug. 10-13, 2020.

Leslie M. Delserone**University Libraries**

Presenter/speaker, with Suzanne Cady Stapleton, Anne Hedrich. Telling our stories: The USAIN oral history pilot project. United States Agricultural Information Network 2020 - Smart Agriculture in the Era of Climate Change. Virtual, July 20-24, 2020.

Yasar Demirel **Chemical and Biomolecular Engineering**

Keynote speaker. Thermodynamics and bioenergetics theorem. Joint European Thermodynamics Conference. Prague, Czech Republic, June 14-18, 2021.

Presenter/speaker. Nonequilibrium thermodynamics and coupled systems. Joint European Thermodynamics Conference. Prague, Czech Republic, June 14-18, 2021.

Shanshan Deng **Bureau of Sociological Research**

Presenter/speaker, with **Lindsey Witt-Swanson, Jolene D. Smyth, Kristen Olson**. The effect of display of human subjects information in a mail survey cover letter. International Field Directors and Technologies Annual Conference. Virtual, April 26-28, 2021.

Presenter/speaker, with **Lindsey Witt-Swanson, Jolene D. Smyth, Kristen Olson**. The effect of display of human subjects information in a mail survey cover letter. Midwest Association of Public Opinion Research Annual Conference. Virtual, Nov. 20-21, 2020.

Sarah Deyong **Architecture**

Presenter/speaker. The vicissitudes of the megastructure. Blackboxing Banham Symposium. Online, Feb. 24-March 6, 2021.

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

Presenter/speaker, with **Ross Westemeyer, Douglas H. Schultz**. Taste stimulation and brain activity: A mechanism for neuroplastic change. Dysphagia Research Society Annual Meeting. Virtual, March 9-12, 2021.

Presenter/speaker, with **Ross Westemeyer**. Applying motor learning principles to treatment of motor speech disorders. Nebraska Speech-Language-Hearing Association Fall Convention. Virtual, Sept. 17-18, 2020.

Shudipto K. Dishari **Chemical and Biomolecular Engineering**

Keynote speaker. Zone-specific ion conduction behavior of ionomers. American Chemical Society Spring Meeting. Virtual, April 5-16, 2021.

Presenter/speaker. Lignin-based ionomers: A unique lignin valorization approach to support both energy and bioeconomy. American Chemical Society Spring Meeting. Virtual, April 5-16, 2021.

Presenter/speaker, with Jackson Goddard. Mechanical characteristics of fuel cell ionomers at nanoscale. American Institute of Chemical Engineers Mid-America Student Regional Conference. Lincoln, NE, April 16-17, 2021.

Keynote speaker. Nature-inspired ion-containing polymers: Playing with confinement. American Institute of Chemical Engineers Annual Meeting. Virtual, Nov. 16-20, 2020.

Presenter/speaker, with Ehsan Zamani, Tyler Johnson. Alterations of morphological and mechanical properties of antibiotic-resistant bacteria upon exposure to cationic conjugated polyelectrolyte. American Institute of Chemical Engineers Annual Meeting. Virtual, Nov. 16-20, 2020.

Presenter/speaker, with Seefat Farzin. Ion-conducting polymers from kraft lignin for electrochemical devices. American Institute of Chemical Engineers Annual Meeting. Virtual, Nov. 16-20, 2020.

Presenter/speaker. Ionomers from kraft lignin for energy conversion and storage device. International Congress on Sustainability Science and Engineering Meeting. Virtual, Aug. 3-5, 2020.

Thomas Dotzel **Marketing**

Presenter/speaker, with Venkatesh Shankar. The differential effects of goods, services, and software innovations on firm value and firm risk for technology firms. 2021 AMA Winter Academic Virtual Conference. Virtual, Feb. 17-19, 2021.

David D. Dunigan **Plant Pathology/Agricultural Research Division**

Presenter/speaker, with Marcie Marston. The fourth great question. Summer Workshop for the NSF-EPSCoR program in Genomes to Phenomes in the Viruses of Microbes. Virtual, June 14-21, 2021.

Panel discussion moderator. 10th International Aquatic Virus Workshop. Kyoto, Japan (virtual), June 24-27, 2021.

Presenter/speaker, with **Irina V. Agarkova, Ahmed Esmael, Sophie Alvarez Y Albala, James L. Van Etten**. Early-phase drive to the precursor pool, chloroviruses dive into the deep-end of nucleotide metabolism. 10th International Aquatic Virus Workshop. Kyoto, Japan (virtual), June 24-27, 2021.

Peter A. Eklund **Glenn Korff School of Music**

Keynote speaker, with Kay Augustine, Scott Edgar. Social-emotional learning (SEL): What teachers and students in the arts are doing during these unprecedented times in the arts. State of Iowa Fine Arts Conference. Des Moines, IA (virtual), June 17-19, 2021.

Pierce D. Ekstrom**Political Science**

Presenter/speaker, with Marti Hope Gonzales, Allison L. Williams, Elliot Weiner, Rafael Aguilera. Accounts balanced: Rhetoric's modest role in who survives political scandal. International Society for Political Psychology Conference. Online, July 14-16, 2020.

Presenter/speaker, with Calvin K. Lai. Selective communication: Ideological biases in information sharing. Society for Personality and Social Psychology Conference. Online, Feb. 9-13, 2021.

Elizabeth Enkin**Modern Languages and Literatures**

Presenter/speaker, with Eric Kirschling. Adding dimension to remote language teaching: Utilizing a collaborative 3D virtual reality platform for synchronous communication. Midwest Association for Language Learning Technology. Online, Feb. 13, 2021.

Presenter/speaker, with Eric Kirschling. The language lab in a remote age: Building and utilizing a hybrid "smart language lab." International Association for Language Learning Technology. Online, June 16-18, 2021.

Irina Filina**Earth and Atmospheric Sciences**

Presenter/speaker, with E. Beutel. New observations suggest the need for revised tectonic reconstructions of the Gulf of Mexico. Annual Convention of the American Society of Petroleum Geologists. Virtual, Sept. 29-Oct. 1, 2020.

Presenter/speaker, with J. Austin, T. Doré, E. Johnson, E. Lundin, D. Minguez, I. Norton, J. Snedden, R. Stern. The tectonic history of the Gulf of Mexico – A comprehensive review to chart new directions. Annual Meeting of American Geophysical Union. Virtual, Dec. 1-17, 2020.

Presenter/speaker. Ridge propagation in the Eastern Gulf of Mexico from integrated geophysical modeling. Annual Meeting of the Society of Exploration Geophysicists. Virtual, Oct. 10-16, 2020.

Panel discussion moderator, with Kirsten Seebach. Exploring Gale Crater basin with the Curiosity rover. Annual Meeting of the Society of Exploration Geophysicists. Virtual, Oct. 10-16, 2020.

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

Presenter/speaker, with Sarah Colby, Lynn Fredericks, and Marissa Burgermaster. Innovative and cost-effective tech-based solutions for program dissemination and evaluation. Society for Nutrition Education and Behavior Annual Conference. Virtual, July 20-24, 2020.

Rhonda Fuelberth**Glenn Korff School of Music**

Presenter/speaker, with Xinwei Liu. The effect of notation format on sight-singing fluency. Music Research and Teacher Education Conference. Virtual, Feb. 25-27, 2021.

Amanda Ganshert**Bureau of Sociological Research**

Presenter/speaker, with Lindsey Witt-Swanson, Mindy Anderson-Knott. Everything but the kitchen sink and \$1: An effort to get 19-25 year olds to respond to a survey. American Association of Public Opinion Research Annual Conference. Virtual, May 11-14, 2021.

Presenter/speaker, with Lindsey Witt-Swanson, Mindy Anderson-Knott. Everything but the kitchen sink and \$1: An effort to get 19-25 year olds to respond to a survey. International Field Directors and Technologies Annual Conference. Virtual, April 26-28, 2021.

Presenter/speaker, with Jolene D. Smyth, Shanshan Deng, Lindsey Witt-Swanson. Visual design experiments on income questions. Midwest Association of Public Opinion Research Annual Conference. Virtual, Nov. 20-21, 2020.

Presenter/speaker, with Lindsey Witt-Swanson and Mindy Anderson-Knott. Everything but the kitchen sink and \$1: An effort to get 19-25 year olds to respond to a survey. Midwest Association of Public Opinion Research Annual Conference. Virtual, Nov. 20-21, 2020.

Sue Ann Gardner**University Libraries**

Presenter/speaker, with Linnea Fredrickson, Paul Royster. The value of republishing scientific literature in institutional repositories. American Library Association, Science and Technology Section Annual Meeting. Remote, June 21-28, 2021.

Marques L. A. Garrett**Glenn Korff School of Music**

Presenter/speaker. Beyond Elijah Rock: The non-idiomatic choral music of Black composers. Delaware Music Educators Association State Arts Conference. Virtual, Oct. 9, 2020.

Presenter/speaker. Beyond Elijah Rock: The non-idiomatic choral music of Black composers. South Dakota Music Education Association Conference. Virtual, Nov. 14-15, 2020.

Presenter/speaker. Beyond Elijah Rock: The non-idiomatic choral music of Black composers. American Choral Directors Association National Conference. Virtual, March 18-20, 2021.

Panel discussion participant. The relevance of the contemporary African-American spiritual in the 21st century. American Choral Directors Association National Conference. Virtual, March 18-20, 2021.

Danni Gilbert**Glenn Korff School of Music**

Presenter/speaker. Action research for pre-service music educators in field experiences. Virginia Music Educators Association Conference. Remote, Nov. 20, 2020.

Presenter/speaker. An examination and comparison of the perceived levels of anxiety and depression of university music majors and non-music majors. Nebraska Music Educators Association Conference. Remote, Dec. 7, 2020.

Presenter/speaker. An examination and comparison of the perceived levels of anxiety and depression of university music majors and non-music majors. Suncoast Music Education Research Symposium XIII. Remote, Jan. 29, 2021.

Presenter/speaker. Anxiety and depression of university music majors. National Association for Music Education Music Research and Teacher Education Conference. Remote, Feb. 26, 2021.

Presenter/speaker. Action research for pre-service music educators in field experiences. South Carolina Music Educators Association Day of Research in Music Education. Remote, Apr. 24, 2021.

Nikki Gohring**Bureau of Sociological Research**

Presenter/speaker, with **Lindsey Witt-Swanson, Jolene D. Smyth**. Is there an ideal shift length that maximizes interviewer productivity? American Association of Public Opinion Research Annual Conference. Virtual, May 11-14, 2021.

Presenter/speaker, with **Lindsey Witt-Swanson, Jolene D. Smyth**. Is there an ideal shift length that maximizes interviewer productivity? International Field Directors and Technologies Annual Conference. Virtual, April 26-28, 2021.

Presenter/speaker, with **Lindsey Witt-Swanson, Jolene D. Smyth**. Is there an ideal shift length that maximizes interviewer productivity? Midwest Association of Public Opinion Research Annual Conference. Virtual, Nov. 20-21, 2020.

Matthew J. Gormley**Educational Psychology**

Presenter/speaker. Diagnosing the effectiveness of classroom-based interventions for children with ADHD. 8th World Congress on ADHD: From Child to Adult Disorder. Prague, Czech Republic (virtual), May 6-9, 2021.

Presenter/speaker. How to best prepare learners with ADHD for post-secondary education. International Conference on ADHD. Virtual, Nov. 6-8, 2020.

Presenter/speaker, with **C. Spradlin, R. Overfield, L. Scanlan, S. Sheridan**. CBC-XR: Supporting a student with ADHD across a grade-level transition. Annual Convention of the National Association of School Psychologists. Virtual, Feb. 23-26, 2021.

Presenter/speaker, with **C. Spradlin, R. Overfield, S. Sheridan**. The time and cost of classroom behavior management. Annual Convention of the National Association of School Psychologists. Virtual, Feb. 23-26, 2021.

Nicole Gray**University Libraries**

Presenter/speaker. Mari Sandoz and a pictographic history of the Oglala Sioux. Western Literature Association Annual Conference. Virtual, Oct. 21-24, 2020.

Presenter/speaker. Walt Whitman's "Pictures," again "restored to the light." Society for Textual Scholarship International Interdisciplinary Conference. Virtual, May 19-22, 2021.

Junke Guo**Civil and Environmental Engineering**

Presenter/speaker. Theoretical epidemic laws based on data of COVID-19 pandemic. 8th International Conference on the Application of Physical Modelling in Coastal and Port Engineering and Science (CoastLab20). Hangzhou, China, Dec. 9-12, 2020.

Frauke Hachtmann**Advertising and Public Relations/
Sports Media and Communication**

Presenter/speaker, with **Brandon Nutting**. The influence of successful athletic performance on institutions' admissions and persistence rates. International Association for Communication and Sport Summit. Online, March 3-7, 2021.

Tonya Haigh**Natural Resources**

Presenter/speaker. Fitting drought science into the contexts and calendars of agricultural decision-making. AMS 35th Conference on Hydrology. Virtual, Jan. 5, 2021.

Presenter/speaker, with J. Lisonbee, M. Skumovich, M. Woloszyn. Perceptions of flash drought in the U.S.: How do end-users and researchers compare? European Geosciences Union General Assembly. Virtual, April 29, 2021.

Andrew Hamann**Biological Systems Engineering**

Presenter/speaker, with Kelly Broad, Tyler Kozisek, **Angela K. Pannier**. Nonviral gene delivery of CRISPR epigenome editing system to human mesenchymal stem cells. American Society of Gene and Cell Therapy Annual Meeting. Online, May 11-14, 2021.

Presenter/speaker, with Kelly Broad, **Angela K. Pannier**. A transgenic system for active loading of miRNAs into exosomes using aptamers. American Society of Gene and Cell Therapy Annual Meeting. Online, May 11-14, 2021.

Edmund Hamann**Teaching, Learning, and Teacher Education/
Global Integrative Studies**

Keynote speaker. Lo que los maestros de México necesitan saber sobre la educación básica en los Estados Unidos. Seminario Internacional Niñez, Adolescencia y Juventud Migrante. Mexico City, Mexico (virtual), June 16, 2021.

Abla Hasan**Modern Languages and Literatures**

Presenter/speaker. Twenty reasons for rejecting domestic violence as a Qur'anic argument. Midwest American Academy of Religion Annual Conference. Virtual, April 22-30, 2021.

Carrie C. Heitman**Anthropology/Center for Digital
Research in the Humanities**

Panel discussion participant. Quintessential scholar and role model: Dr. Catherine Cameron and a life in Southwest archaeology. Annual Meeting of the Society for American Archaeology. Virtual, April 15-17, 2021.

Keynote speaker. Digital echoes of analog pasts: When 'lost' narratives collide in digital spaces. Refresh-Reset-Reformat: Giving Voice to the Past in the Digital Age. Virtual, Feb. 26, 2021.

Kristen Hoerl**Communication Studies**

Panel discussion participant. Theorizing Black power in communication studies: Reflections and considerations for the future. National Communication Association Annual Convention. Virtual, Nov. 19-22, 2020.

Presenter/speaker. Out of place and time: Television's view from nowhere. National Communication Association Annual Convention. Virtual, Nov. 19-22, 2020.

Soo-Young Hong**Child, Youth and Family Studies**

Presenter/speaker, with **Jiwon Shin**, Gisela Wajskop, **Kejin Lee**, **Erin Hamel**, Debora Maclean, **Sarah Roberts**, **Yao Yao**. Enhancing preschool teachers' reflection on science teaching and learning in the US and Brazil. Biennial Meeting of the Society for Research in Child Development. Virtual, April 7-9, 2021.

Presenter/speaker, with **Yao Yao**, **Holly Hatton-Bowers**. The role of prenatal empowerment in predicting parent and infant outcomes among working women. Biennial Meeting of the Society for Research in Child Development. Virtual, April 7-9, 2021.

Presenter/speaker, with **Jamlick Bosire**, **Yao Yao**, **Holly Hatton-Bowers**. Mothers returning to work and sustaining child routines: The role of perceived parent-caregiver partnership. Biennial Meeting of the Society for Research in Child Development. Virtual, April 7-9, 2021.

Jiong Hu**Civil and Environmental Engineering**

Presenter/speaker, with Flavia Mendonca. Performance of cellular concrete under crushing and low-velocity impact for potential EMAS applications. International Airfield and Highway Pavements Conference. Virtual, June 6-9, 2021.

Presenter/speaker, with **Temirlan Barissov**, **Yong-Rak Kim**. Effects of aggregate dusts on pavement concrete performance. International Airfield and Highway Pavements Conference. Virtual, June 6-9, 2021.

Presenter/speaker, with Flavia Mendonca. Impact of chemical admixtures on time-dependent workability, and rheological properties of UHPC. American Concrete Institute Spring 2021 Convention. Virtual, March 27-April 1, 2021.

Jamie Hyodo**Marketing**

Presenter/speaker, with Matt Hall. You didn't take my (uncertain) advice? Examining the effects of confidence and recommendation outcomes on recommender preferences. ACR Virtual Conference. Virtual, Oct. 1-4, 2020.

Diego Jarquin**Agronomy and Horticulture**

Keynote speaker. Development of a genomic selection pipeline using large matrices (3K genotypes and 14 million markers) in chickpea. XXV Scientific Meeting of the Argentinian Group of Biometry. Tandil, Argentina, Nov. 11-13, 2020.

Keynote speaker. Recent developments for embracing GxE in breeding applications. XXIV International Symposium Genotype x Environment Interactions: Novelties, Challenges and Opportunities. Universidade Federal de Lavras, Brazil (virtual), Aug. 6-8, 2020.

Presenter/speaker, with **Francisco Munoz-Arriola**, **Parisa Sarzaeim**. Improving genomic prediction of target hybrids in unobserved environments using geospatial assessment of predictive analytics derived from machine learning techniques. International Quantitative Genetics Conference 6. Brisbane, Australia (virtual), Oct. 6-8, 2020.

Jennifer Johnson Jorgensen**Textiles, Merchandising and Fashion Design**

Presenter/speaker, with **Melisa Spilinek**. Consumer perception of privacy and ad exposure on social media. American Collegiate Retailing Association Annual Conference. Virtual, March 22-25, 2021.

Presenter/speaker, with **Katelyn Sorensen**. Millennial perceptions of augmented reality: A Q Methodology study. International Textile and Apparel Association Annual Conference. Virtual, Nov. 18-20, 2020.

David Karle**Landscape Architecture**

Presenter/speaker, with **Lindsey Bahe**. Inclusive mindset: Remote professional summer experience. Association of Collegiate Schools of Architecture Conference. Virtual, March 24-26, 2021.

Presenter/speaker. Piggybacking architecture: Prototypes for a new city. The International Seminar on Urban Form. Virtual, June 29-July 3, 2021.

Sarah T. Karle**Landscape Architecture**

Presenter/speaker, with Laura Weakly and Gary Bentrup. A cultural landscape archive: Digitizing the New Deal's Prairie States Forestry Project. Council of Educators in Landscape Architecture Conference. Virtual, March 16-19, 2021.

Mckenzie Kerr**Bureau of Sociological Research**

Presenter/speaker, with **Kim Meiergerd**, **Lindsey Witt-Swanson**. Student health and risk prevention (SHARP): Transitioning student surveys from paper to web. International Field Directors and Technologies Annual Conference. Virtual, April 26-28, 2021.

Presenter/speaker, with **Kim Meiergerd**, **Lindsey Witt-Swanson**. Student health and risk prevention (SHARP): Transitioning student surveys from paper to web. Midwest Association of Public Opinion Research Annual Conference. Virtual, Nov. 20-21, 2020.

Surin Kim**Textiles, Merchandising and Fashion Design/Extension**

Presenter/speaker, with Ted Ladd. Beyond pitch competition: Rural community building through youth entrepreneurship. Teaching and Learning Conference, Academy of Management. Virtual, Aug. 7-11, 2020.

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

Presenter/speaker, with Sungkyoung Lee. Effects of Instagram body image portrayals on attention, state body dissatisfaction, and health behavioral intentions. International Communication Association. Denver, CO (virtual), May 27-31, 2021.

Alexey Kovalev**Physics and Astronomy**

Invited presenter/speaker, with Bo Li. Topology and spin transport of magnons. Young Research Leaders Group Workshop. Mainz, Germany, Nov. 3-4, 2020.

Presenter/speaker, with Shane Sandhoefner. Boundary twists, instabilities, and (anti)skyrmion creation. Conference on Magnetism and Magnetic Materials. Virtual, Nov. 2-6, 2020.

Presenter/speaker, with Bo Li. Magnon Landau levels and spin responses in antiferromagnets. American Physical Society March Meeting. Virtual, March 15-19, 2021.

Presenter/speaker. Collinear and noncollinear antiferromagnetic insulators for spintronics applications. Magnetic North VII, The Canadian Magnetism Conference Series. University of Manitoba, June 8-9, 2021.

Michelle Krehbiel**4-H Youth Development**

Presenter/speaker, with **Lisa Franzen-Castle, Kerry Elsen, Carol Schwarz**. Using interagency partnerships and collaborations to establish the neighbor-to-neighbor task force: Supporting rural mental health. National Health Outreach Conference. Virtual, May 3-7, 2021.

Presenter/speaker, with **Lisa Franzen-Castle**, Jessie Reed. Assessing the quality of life after a major natural disaster. American Association of Family and Consumer Sciences Annual Conference. Virtual, June 16-18, 2021.

Alok Kumar**Marketing**

Presenter/speaker, with Shilpa Somraj, Alok Saboo. Alliance portfolio distance and its influence on IPO performance. AMA Winter Academic Virtual Conference. Virtual, Feb.17-19, 2021.

Yingchao Lan**Supply Chain Management and Analytics**

Presenter/speaker, with Tinging Yan, Brett Massimino. Partner selection in product development network. Academy of Management 80th Annual Conference. Virtual, Aug. 7-11, 2020.

Presenter/speaker, with D. Wani, A. Chandrasekaran, D. Walker. Collaboration structures in integrated healthcare delivery systems: An exploratory study of accountable care organizations. Decision Sciences Institute 51st Annual Conference. Virtual, Nov. 21-23, 2020.

Presenter/speaker, with Tinging Yan, Brett Massimino. Partner selection in product development network. Production and Operations Management Society Conference. Virtual, April 30-May 5, 2021.

Presenter/speaker, with D. Wani, A. Chandrasekaran. Ancillary cost implications of physicians multisiting and organizational boundary spanning during healthcare delivery. Production and Operations Management Society Conference. Virtual, April 30-May 5, 2021.

Laurie Thomas Lee**Broadcasting**

Presenter/speaker. Thunderdome 3: Prometheus v. FCC. 46th Annual Association for Education in Journalism and Mass Communication Southeast Colloquium. Elon, NC (virtual), March 18-20, 2021.

Presenter/speaker. Privacy-Telecom update 2021. Broadcast Education Association Annual Convention. Las Vegas, NV (virtual), April 12-16, 2021.

Presenter/speaker. A new era of antitrust: A means to protecting consumer data privacy? 14th World Media Economics and Management Conference. Rome, Italy (virtual), May 20-21, 2021.

Marc Libault**Agronomy and Horticulture**

Presenter/speaker. Single-nuclei multiomics to link plant cell identity and molecular landscapes. The First International Symposium on Plant Single Cell Biology. Wuhan, China, April 17-18, 2021.

Suping Lu**University Libraries**

Keynote speaker. The Nanjing massacre recorded by the American and British eyewitnesses. Recovering from Trauma: The Implementation, Impact and Remembrance of Genocides in History of Northeast Asia, an International Conference. Wonkwang University, South Korea, Dec. 16-17, 2020.

Arindam Malakar**Water Center**

Presenter/speaker, with **Chittaranjan Ray, Daniel Snow, Manny Saluja, Jennifer Cooper, Michael Kaiser, Harkamal Walia, Trenton L. Roberts**. Ferrihydrite soil amendment limit arsenic uptake in rice by promoting iron plaque formation. American Chemical Society Fall Virtual Meeting and Expo. Virtual, Aug. 17-20, 2020.

Presenter/speaker, with **Chittaranjan Ray, Daran Rudnick, Bijesh Maharjan, Daniel Snow**. Natural iron dynamics in irrigated soils. Society of Environmental Toxicology and Chemistry North America 41st Annual Meeting. Virtual, Nov. 15-19, 2020.

Maria B. Marron**Journalism**

Presenter/speaker, with Chloé S. Georas. Misogyny across global media. The Shirley E. Greenberg Chair for Women and the Legal Profession Speaker Series. Ottawa, Canada (virtual), Feb. 17, 2021.

Panel discussion participant, with Ginger Blackstone, Dorthy Bland, Dr. Charisse L'Pree Corsbie-Massay, Arien Rozelle. Discussing harassment and assault: Tools for preparing students for the workplace. Association for Education in Journalism and Mass Communication National Conference. Virtual, Aug. 6-9, 2020.

Panel discussion moderator, with Debra Mason, Dorothy Bland, Pam Creedon, Meredith Pruden. Misogyny and media in the age of Trump. Association for Education in Journalism and Mass Communication National Conference. Virtual, Aug. 6-9, 2020.

Panel discussion participant, with George Daniels, Jerry Crawford, Dorothy Bland. Is there a doctor in the house? Dr. vs. Ms. Jill Biden. Midwinter Conference, Association for Education in Journalism and Mass Communication. Virtual, March 5-6, 2021.

Bernard McCoy**Broadcasting**

Panel discussion participant. Gen Z and digital distractions in the classroom: Student classroom use of digital devices for non-class related purposes. Scholar-to-Scholar Digital Poster Session, Change to Broadcast Education Association Conference. Virtual, April 24, 2020.

George Morcous**Durham School of Architectural Engineering and Construction**

Presenter/speaker, with Fouad Jaber. Accelerated bridge construction in Nebraska. Structural Engineering Association of Nebraska Annual Meeting. Online, April 13, 2021.

Presenter/speaker. Design and construction of UHPC structural members and elements. Transportation Research Board Annual Meeting. Online, Jan. 22-25, 2021.

Regis Moreau**Nutrition and Health Sciences**

Panel discussion participant, with H. Kaur, B. He, and Z. Wang. A functional mTORC1 containing Raptor controls luminal fat processing and epithelium barrier function in Transwell Caco-2 cultures. Experimental Biology. Virtual, April 27-30, 2021.

Janet P. Near**Management**

Presenter/speaker, with Haolin Fu. Change in health in relation to change in work and family variables: A longitudinal study. Annual Meeting of the Academy of Management. Virtual, Aug. 7-11, 2020.

Glenn E. Nierman**Glenn Korff School of Music**

Keynote speaker. Using assessment to enable young musicians' musical growth—An issue of equity. XXXIV World Conference of the International Society of Music Education. Helsinki, Finland (virtual), Aug. 2-7, 2020.

Presenter/speaker. Trends in policy-making affecting music education assessment in the United States. 8th International Symposium on Assessment in Music Education: Theory, Practice & Policy. Hanover, Germany (virtual), May 14-24, 2021.

Maria E. Oliveri**Buros Center for Testing**

Presenter/speaker. What are our current values in educational test development? National Council on Measurement in Education Annual Meeting. Baltimore, MD, May 18-June 11, 2021.

Panel discussion participant. National Council on Measurement in Education's Fairness Fireside Chat. Online, March 17, 2021.

Presenter/speaker. Global considerations for technology-based assessment guidelines. National Council on Measurement in Education Annual Meeting. Baltimore, MD, May 18-June 11, 2021.

Presenter/speaker. Foundational concepts in fairness in assessment. National Council on Measurement in Education Annual Meeting. Baltimore, MD, May 18-June 11, 2021.

Presenter/speaker, with David Slomp. Examining the consequences of assessment design and use because assessment matters. National Council on Measurement in Education Annual Meeting. Baltimore, MD, May 18-June 11, 2021.

Presenter/speaker, with David Slomp. Bridging research and practice by examining the consequences of assessment design and use. National Council on Measurement in Education Annual Meeting. Baltimore, MD, May 18-June 11, 2021.

Presenter/speaker, with David Slomp, J. Corrigan. Blended integrated design and appraisal framework and theory of action frameworks to build technology-based formative assessment for learning modules of workplace English communication skills. Writing Analytics Spring Virtual Symposium. Virtual, May 18-27, 2021.

Kendra L. Ordia**Interior Design**

Presenter/speaker. DE-SCRIPTION: Framing urban biophilic interiors through design ethics. Interior Design Educators Council National Conference. Virtual, March 1-4, 2021.

Angela K. Pannier**Biological Systems Engineering**

Keynote speaker. Bacterial-derived outer membrane vesicles for gene delivery. American Society of Gene and Cell Therapy Annual Meeting. Online, May 11-14, 2021.

Keynote speaker. Nonviral gene delivery systems for stem cell and oral DNA vaccination applications. Great Plains Biomaterials Day. Online, April 17, 2021.

Presenter/speaker, with Kari Heck, **Amanda E. Ramer-Tait**. Optimization of loading outer membrane vesicles with plasmid DNA. American Society of Gene and Cell Therapy Annual Meeting. Online, May 11-14, 2021.

Presenter/speaker, with Tyler Kozisek, **Andrew Hamann**. Identifying molecular mechanisms of compounds that prime nonviral gene delivery to human mesenchymal stem cells. American Society of Gene and Cell Therapy Annual Meeting. Online, May 11-14, 2021.

Presenter/speaker, with Kari Heck, **Amanda E. Ramer-Tait**. Outer membrane vesicles derived from commensal bacteria as a vehicle for oral gene delivery. Biomedical Engineering Society Annual Meeting. Online, Oct. 14-17, 2020.

Presenter/speaker, with **Andrew Hamann**, Kelly Broad. A system for active loading of miRNAs into exosomes with cellular machinery. Biomedical Engineering Society Annual Meeting. Online, Oct. 14-17, 2020.

Presenter/speaker, with Tyler Kozisek, Luke Samuelson, **Andrew Hamann**. Screening DNA vectors for enhanced nonviral gene delivery to human mesenchymal stem cells. Biomedical Engineering Society Annual Meeting. Online, Oct. 14-17, 2020.

Presenter/speaker, with **Andrew Hamann**, Tyler Kozisek. Optimizing nonviral gene delivery to human mesenchymal stem cells for CRISPR epigenome editing. Biomedical Engineering Society Annual Meeting. Online, Oct. 14-17, 2020.

Presenter/speaker, with Luke Samuelson, **Beata J. Wysocki**, **Tadeusz Wysocki**. Computational modeling to uncover donor-variability in transfection of human mesenchymal stem cells. Biomedical Engineering Society Annual Meeting. Online, Oct. 14-17, 2020.

Presenter/speaker, with Sophie Walsh, Jeremy R. Miles, Elane C. Wright-Johnson, Brittney N. Keel, Lea A. Rempel. Utilization of a 3D hydrogel culture system to study reproductive process of conceptus elongation *in vitro*. Biomedical Engineering Society Annual Meeting. Online, Oct. 14-17, 2020.

Sophia Perdikaris **Global Integrative Studies**

Panel discussion participant, with John Mussington and Mike Trevor Walker. Disaster capitalism and climate emergency: Lessons from Barbuda. Climate Litigation Accelerator's (CLX) Community of Practice Strategic Webinar. Virtual, Dec. 3, 2020.

Panel discussion participant. Culture matters: Archaeology, environment and forensic interpretation. International Lecture Series: 24. Virtual, Oct. 10, 2020.

Zachary T. Porter **Architecture**

Presenter/speaker. Retooling the classroom: Pedagogies of making in the history/theory seminar. Teaching-Learning-Research: Design and Environments. Virtual, Dec. 2-4, 2020.

Presenter/speaker. Manual of suburban subversion. Expanding the View: 109th Annual Meeting of the Association of Collegiate Schools of Architecture. Virtual, March 24-26, 2021.

Presenter/speaker. Piles of bits: Notes on the virtual grounds of post-digital practice. Expanding the View: 109th Annual Meeting of the Association of Collegiate Schools of Architecture. Virtual, March 24-26, 2021.

Presenter/speaker. Slabs, piles, and rocks: A genealogy of groundforms (after the digital). After Form: 36th Annual Conference on the Beginning Design Student. Virtual, April 1-3, 2021.

Presenter/speaker. Abstractions in suburbia: The pleasures of quotidian form. After Form: 36th Annual Conference on the Beginning Design Student. Virtual, April 1-3, 2021.

Panel discussion participant, with Constance Vale (moderator), M. Casey Rehm, Ryan Tyler Martinez, Chandler Ahrens, Manuel Jimenez Garcia, Kelley Van Dyck Murphy. Speculative practice in pedagogy. Expanding the View: 109th Annual Meeting of the Association of Collegiate Schools of Architecture. Virtual, March 24-26, 2021.

Panel discussion moderator, with Marianna Janowicz, Vahid Vahdat, Roohid Novinrooz, James Kerestes. Domesticity in film. Architecture and Film Symposium. Virtual, Feb. 20-21, 2021.

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

Panel discussion participant. Multiscalar approaches to extrapolating sociopolitical boundaries in the Maya Lowlands. 86th Annual Society for American Archaeology Meeting. San Francisco, CA (virtual), April 14-18, 2021.

Presenter/speaker, with Kristy Primeau, David Witt. Incorporating vegetation reconstruction in computational landscape archaeoacoustics: An ancient Maya case study. 86th Annual Society for American Archaeology Meeting. San Francisco, CA (virtual), April 14-18, 2021.

Traci Robison **University Libraries**

Presenter/speaker, with **Katie Jones**, Rachel Seale, Bryan Whitledge. Archivists adapt: Off-site but still reaching out. Midwest Archives Conference Annual Meeting. Virtual, May 13-14, 2021.

Arman Roohi **Computer Science and Engineering**

Presenter/speaker. Normally-off computing design methodology using spintronics: From devices to architectures. Workshop on Computing with Unconventional Technologies: From Processing to Interconnects, and Beyond. Virtual, Oct. 19-22, 2020.

Amit Saini**Marketing**

Presenter/speaker, with **Alok Kumar**, Huanhuan Shi, Jennifer Skiba. Diverse applications of B2B marketing. American Marketing Association Winter Academic Virtual Conference. Virtual, Feb.17-19, 2021.

K. Kelli Saunders**Accountancy**

Presenter/speaker. Re-examining the outcome effect: Do performance evaluations discourage auditors' professional skepticism? Auditing Section Midyear Meeting. Online, Jan. 14-16, 2021.

Lloyd Shenefelt**Architecture**

Presenter/speaker. Equitable design education in the post-COVID American Great Plains. International Perspectives on the Future of Architecture and Urbanism in the Post-COVID Age. Online, Jan. 29-30, 2021.

Presenter/speaker. Isolated voids: Volume as the framework for form. National Conference on the Beginning Design Student #36. Online, April 1-3, 2021.

Presenter/speaker. A peri-COVID pedagogical response to beginning design studio with rural and frontier learning applications. Online Education: Teaching in a Time of Change. Online, April 21-23, 2021.

Janel Simons**University Libraries**

Presenter/speaker, with Kelly Payne. Siding with whiteness: Frances Willard's betrayal of Black reformers and the limits of her "Do Everything" policy. Nineteenth-Century Studies Association Annual Conference: Discovery. Virtual, March 11-13, 2021.

Sunil Singh**Marketing**

Presenter/speaker. Underlying dynamics of review text dimensions. American Marketing Association Winter Academic Virtual Conference. Virtual, Feb. 17-19, 2021.

Ash Eliza Smith**Johnny Carson Center for Emerging Media Arts/
Art, Art History and Design**

Panel discussion participant, with Chris Cornelius, Wes Jackson, Joar Nango (Sámi), moderated by Mimi Zeiger. New middles: Indigenous futures and radical thinking. New Middles: What is the Future of the Middle City? Online, Sept. 15-29, 2020.

Presenter/speaker. Speculative rural flyover. PRIMER: Activating Futures. Online, June 22-July 1, 2020.

Hans Sturm**Glenn Korff School of Music**

Keynote speaker. Project 80/90: Supporting musicians in need in the time of COVID. International Society of Bassists Biennial Convention. Virtual, June 8-12, 2021.

Robert Twomey**Johnny Carson Center for Emerging Media Arts**

Panel discussion moderator, with Allison Parrish, Devi Parikh, Aaron Hertzmann, Roger Dannenberg, Fabrizio Poltronieri, Haru Ji, Jun-Yan Zhu, Ahmed Elgammal. Collaboratively designing metrics to evaluate creative machines. ISEA2020: Why Sentence? Online, Oct. 13-18, 2020.

Panel discussion moderator, with David Bau, Kazon Grace, Ali Jahanian, Kristen Grauman, Ellen Pearlman, Mark Riedl, Carolyn Rose, Kenneth Stanley. Bridging the gap between subjective and computational measurements of machine creativity. Computer Vision and Pattern Recognition. Online, June 19-25, 2021.

Mark van Rooijen**Philosophy**

Presenter/speaker. Rationalism without formalism. Central Division Meetings of the American Philosophical Association. New Orleans, LA (virtual), Feb. 22-27, 2021.

Susan Vanderplas**Statistics**

Presenter/speaker, with **Emily Robinson**, **Reka Howard**. Perception and visual communication in a global pandemic. Data Science, Statistics, and Visualization Conference. Online, July 29-31, 2020.

Presenter/speaker. Welcome to forensic statistics. Data Mishaps Night. Online, Feb. 5, 2021.

Alex J. Vecchio**Biochemistry**

Presenter/speaker, with **Sewwandi S. Rathnayake**, Robert M. Stroud. Molecular and structural basis underlying selective targeting of claudins by *Clostridium perfringens* enterotoxin in mammalian gut. American Society for Biochemistry and Molecular Biology Annual Meeting. Virtual, April 27-30, 2021.

Ana M. Vélez**Entomology**

Presenter/speaker. Enhancing biological control and IPM through specific RNAi-based pest control technologies. Second International Congress of Biological Control. Davos, Switzerland, April 26-30, 2021.

Panel discussion moderator. New insights into the development of RNA products for controlling agricultural and medically important insect pests. Entomological Society of America National Meeting. Virtual, Nov. 15-18, 2020.

Yujia Wang**Landscape Architecture**

Keynote speaker. Strategic landscape: Adaptation of scenario and spatial planning tools to teach landscape planning and design in studio. Council of Educators in Landscape Architecture. Remote, March 17-19, 2021.

Keynote speaker. Impression, process, systems, application: A four step framework for teaching design thinking at introductory level. Council of Educators in Landscape Architecture. Remote, March 17-19, 2021.

Panel discussion moderator, with Sara Hadavi, Sarah E. Little, Bryce C. Lowery, Timothy Keane, Jessica Canfield. Grounding the Green New Deal: A multi-scale approach. Council of Educators in Landscape Architecture. Remote, March 17-19, 2021.

Panel discussion moderator. Career under the pandemic and beyond. American Society of Landscape Architects Annual Conference. Remote, Nov. 16-18, 2020.

Laura K. Weakly**University Libraries**

Presenter/speaker, with Jessica Dussault. From silo to repo: Enforcing file structure to improve workflow and access. Digital Humanities 2020. Ottawa, Canada, July 22-24, 2020.

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

Presenter/speaker, with Susan Sheridan, Donna Chen, Karalynn E. Brown, Amanda L. Witte, Renata T. M. Gomes. Family-school partnership as a preventive-intervention for Latinx parents and students. Annual Conference for the Society for Prevention Science. Virtual, June 2-4, 2021.

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

Presenter/speaker. The collective nature of grief: Memorial walls from the AIDS epidemic to George Floyd. Southwest Popular/American Culture Association. Virtual, Feb. 22-27, 2021.

Lindsey Witt-Swanson**Bureau of Sociological Research**

Presenter/speaker, with Amanda Ganshert, Jolene D. Smyth. The effects of mail, web, push-to-web and mode choice on response rates and survey cost. American Association of Public Opinion Research Annual Conference. Virtual, May 11-14, 2021.

Presenter/speaker, with Amanda Ganshert, Jolene D. Smyth. The effects of mail, web, push-to-web and mode choice on response rates and survey cost. International Field Directors and Technologies Annual Conference. Virtual, April 26-28, 2021.

Presenter/speaker, with Amanda Ganshert, Jolene D. Smyth. The effects of mail, web, push-to-web and mode choice on response rates and survey cost. Midwest Association of Public Opinion Research Annual Conference. Virtual, Nov. 20-21, 2020.

Biyu Wu**Accountancy**

Presenter/speaker. Multimarket contact and earnings management: Evidence from the insurance industry. The American Accounting Association 2020 Annual Meeting. Virtual, Aug. 10-13, 2020.

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

Presenter/speaker, with Yifeng Hu. Impacts of faults on unitary air conditioners. ASHRAE Annual Conference. Virtual, June 28-May 30, 2021.

Presenter/speaker, with Amir Ebrahimifakhar. An inverse method to estimate bulk density and specific heat of cereal grains during heat pump drying. 18th International Refrigeration and Air Conditioning Conference. Virtual, May 24-28, 2021.

Presenter/speaker, with Yifeng Hu, Yuxuan Chen. Impacts and detection of non-condensable gas in a residential air source heat pump. 18th International Refrigeration and Air Conditioning Conference. Virtual, May 24-28, 2021.

Presenter/speaker, with Amir Ebrahimifakhar, Adel Kabirikopaie. Application of machine learning classification methods in fault detection and diagnosis of rooftop units. 18th International Refrigeration and Air Conditioning Conference. Virtual, May 24-28, 2021.

Presenter/speaker, with Yifeng Hu. Investigation of air-side fouling of split system outdoor heat exchangers: Characterization, performance effects, and frost formation interactions. 18th International Refrigeration and Air Conditioning Conference. Virtual, May 24-28, 2021.

Presenter/speaker. Analysis of automated fault detection and diagnostics records as an indicator of HVAC fault prevalence: Methodology and preliminary results. 6th International High Performance Buildings Conference. Virtual, May 24-28, 2021.

Presenter/speaker, with Yifeng Hu, Yuxuan Chen. Experimental quantification of liquid line temperature drop as a feature to detect liquid line restriction faults in a residential heat pump. 18th International Refrigeration and Air Conditioning Conference. Virtual, May 24-28, 2021.

Presenter/speaker, with Yifeng Hu. Interactions between refrigerant charge and other installation faults on the behavior of a residential heat pump in cooling mode. 18th International Refrigeration and Air Conditioning Conference. Virtual, May 24-28, 2021.

Janos Zemleni

Nutrition and Health Sciences

Presenter/speaker, with Afsana Khanam, Jiujiu Yu. Loss of maternal microRNA biogenesis impairs gut health in wild-type pups fostered to Dicer knockout dams. Nutrition 2021 Conference. Virtual, June 7-10, 2021.

Presenter/speaker, with Shu Wang, Jennifer Auchtung. Milk exosomes protect human microbiota associated-mice against *Clostridioides difficile* infection. Nutrition 2021 Conference. Virtual, June 7-10, 2021.

Presenter/speaker, with Mojisola Ogunnaike. Bovine mammary alveolar Mac-T cells secrete exosomes with properties similar to bovine milk exosomes (BMEs). Nutrition 2021 Conference. Virtual, June 7-10, 2021.

Presenter/speaker, with Fang Zhou, Haluk Dogan, Juan Cui. Divergence of gut bacteria through the selection of genetic variations by extracellular vesicles in milk. International Society for Extracellular Vesicles Annual Conference. Virtual, May 18-21, 2021.

Presenter/speaker. Milk exosome-driven evolution of antibiotic-resistant gut pathogens. National Institute of Food and Agriculture Program Directors' Meeting. Kansas City, KS (virtual), May 4, 2021.

Presenter/speaker, with Afsana Khanam, Jiujiu Yu. Class A scavenger receptor-1/2 facilitates the uptake and clearance of bovine milk exosomes in murine bone marrow-derived macrophages and C57BL/6J mice. Nebraska Center for the Prevention of Obesity Diseases through Dietary Molecules 12th Annual Spring Research Retreat. Virtual, April 14, 2021.

Presenter/speaker. NPOD's transition from Phase I to Phase II. Rural Drug Addiction Research Center Seminar. Lincoln, NE (virtual), April 8, 2021.

Presenter/speaker. Novel bioactive compounds in milk: Exosomes. UNL Animal Science Seminar. Lincoln, NE (virtual), April 6, 2021.

Presenter/speaker. Biological activities of natural nanoparticles (exosomes) in milk. Penn State Hershey Medical Center Seminar. Hershey, PA (virtual), Feb. 17, 2021.

Presenter/speaker. Milk exosomes and their microRNA cargos: Infants, gut and brain. University of Michigan Seminar. Virtual, Feb. 10, 2021.

Invited presenter/speaker. W-4002 progress report Zemleni lab: Milk exosomes. Annual W-4002 Multistate Group Meeting. Virtual, Jan. 27, 2021.

Presenter/speaker, with Fang Zhou, Haluk Dogan, Juan Cui. Divergence of gut bacteria through the selection of genetic variations by milk exosomes. Keystone Symposia: The Microbiome: From Mother to Child. Virtual, Jan. 17-21, 2021.

Presenter/speaker, with Mahrou Sadri, Fang Zhou. Exosomes and microRNAs in maternal milk are important for growth and gut health during lactation in murine pups. American Society for Exosomes and Microvesicles Annual Meeting. Virtual, Nov. 16-19, 2020.

Presenter/speaker. Exosomes and microRNAs in maternal milk are important for growth and gut health during weaning in murine pup. Chapman University Seminar. Virtual, Nov. 11, 2020.

Presenter/speaker. The role of milk exosomes and their RNA cargos in neonatal health. Life Span Diseases Mini Summit in the Child Health Research Institute, UNMC. Virtual, Nov. 13, 2020.

Presenter/speaker. Resources in the Nebraska Center for the Prevention of Obesity Diseases through Dietary Molecules. Life Span Diseases Mini Summit in the Child Health Research Institute, UNMC. Virtual, Nov. 13, 2020.

Presenter/speaker, with Mahrou Sadri, Fang Zhou. Exosomes and microRNAs in maternal milk are important for growth and gut health during lactation in murine pups. Keystone Symposia: Optimizing Nutrition for Maternal, Newborn and Child Health. Virtual, Oct. 21-23, 2020.

Presenter/speaker, with Mahrou Sadri, Fang Zhou. Exosomes and microRNAs in maternal milk are important for growth and gut health in neonate mice. Cell Bio 2020 Conference. Virtual, Dec. 14-16, 2020.

Craig Zuhlke**Electrical and Computer Engineering**

Presenter/speaker, with Mark Anderson, Edwin Peng, Alfred Tsubaki, Aaron Ediger, Andrew Reicks, Corey Kruse, **George Gogos**, **Jeffrey Shield**, **Dennis Alexander**. Subsurface analysis of grain structure and nanoparticle layering of micro/nanostructures formed on metals using femtosecond laser surface processing. International High Power Laser Ablation Symposium. Virtual, April 13-15, 2021.

Presenter/speaker, with Alfred Tsubaki, Mark Anderson, Andrew Reicks, **Jeffrey Shield**, **Dennis Alexander**. Multi-material, multi-layer femtosecond laser surface processing. Photonics West, Laser-based Micro- and Nanoprocessing XV. Virtual, March 6-11, 2021.

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 2020 and/or the 2020-2021 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 Graduate Studies

Shireen Adenwalla

Physics and Astronomy

Aashish Subedi, physics. To Examine the Tunneling Electroresistance Effects in Ferroelectric Layer of Oligomer Vinylidene Fluoride

Peter Angeletti

Biological Sciences

Patience Gihozo, integrated science. The Role of Ocular Surface Squamous Neoplasia (OSSN) among HIV+ and HIV- Zambians

Salan Preet Kaur, biological sciences. The Role of HPV and Other DNA Tumor Viruses (DNATVs) in the Development of Ocular Surface Squamous Neoplasia (OSSN)

Byron Anway

Art, Art History and Design

Noah Giron, graphic design. Studio Assistant in Painting and Design

Alyssa Kobza, art. Collaborative Lithography

Enrique Martinez, art. Drawing from Memory – Watercolor on Paper

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

Joselyn Andreasen, art/painting (FYRE)

Effie Athanassopoulos

Anthropology/Global Integrative Studies

Zoe Battaglia, history. The UNL Campus Archaeology Project: Lincoln's Heritage through Material Culture, History and Digital Exhibits

Alexander Kuehler, anthropology/classics and religious studies. The Perry-Campbell Coin Collection at the Nebraska State Museum: Documenting the Coin Collection

Ayla Volante, anthropology. UNL Campus Archaeology Project: Building a Digital Exhibit

Raul Barletta

Veterinary and Biomedical Sciences

Alexander Belashchenko, microbiology/biochemistry. Functional Analysis of Enzymes Involved in D-Amino Acid Biosynthesis in *Mycobacteria* as Targets for Potential Therapeutics

Tim Kaftan, biological sciences. Functional Analysis of Enzymes in *Mycobacteria* to Find Potential Inhibitory Drugs Involved in Peptidoglycan Synthesis; Functional Analysis of Enzymes Involved in D-amino Acid Biosynthesis in *Mycobacteria* as Targets for Potential Therapeutics.

Olivia Taylor, biological sciences. Functional Analysis of Enzymes in *Mycobacteria* to Find Potential Inhibitory Drugs Involved in Peptidoglycan Synthesis

Scott Barrett

Psychology

Austin Osborn, psychology/forensic science. Sex Differences in the Reward-enhancing Effects of Nicotine on Ethanol Reinforcement: A Reinforcer Demand Analysis

Shannon Bartelt-Hunt

Civil and Environmental Engineering

Stephanie Perez, civil engineering. Assessing the Transport of Nano Plastics in Soil Horizons and Groundwater System

Andrea Basche

Agronomy and Horticulture

Aime Tuyishime, integrated science. Reducing Weeds' Seed Banks with Cover Crops

Greg Bashford

Biological Systems Engineering

Nate Iverson, biological systems engineering. Transcranial Doppler Ultrasound Headset

Theo Joseph, biological systems engineering. Validating a Novel Index for Spatial Frequency Analysis of Human Tendons using Quantitative Ultrasound

John Benson

Natural Resources

Payton Geschke, psychology/biological sciences. Temporal Overlap between Deer and Their Predators throughout Western Nebraska

Rick Bevins

Psychology

Kenedi Holck, biological sciences. Nicotine Enhancement of Ethanol Reinforcement

Eve Brank

Psychology

Corrie Day, psychology/sociology. Warm or Competent: Perceptions of Gender and How They Influence Consent to Search Situations

Gabriel Bruguier **Mid-America Transportation Center**

Kaitlan Wong, political science/sociology. The Impact of History Nebraska Programs on Nebraska Legislative Districts

Kelsy Burke **Sociology**

Jordan Malzer, women's and gender studies/sociology. Feminist Perspectives on Pornography: Comparing 80's Sex War to Current Opinion

Justin Bradley **Computer Science and Engineering**

Jack Cosson, mechanical engineering (FYRE)

Derick Vasquez, mechanical engineering (FYRE)

Hau Chan **Computer Science and Engineering**

Keith Tran, computer science. Predicting Politician's Re-Electability Based on Voting History

James Checco **Chemistry**

Cole Blasing, biochemistry/chemistry. Synthesis of Aryl Diazonium Tags for use in Tyrosine Residue-targeted Affinity-guided Labeling

Amelia Long, environmental studies. Using Azo Coupling to Identify Cell Receptors for Pancreastatin

Kathy Chiou **Psychology**

Grace Amadon, psychology. Metacognitive Function in Moderate to Severe Traumatic Brain Injury

Valeriya Dedushkevich, biological sciences/psychology. Relationship between Mild Traumatic Brain Injury Coupled with Poor Sleep on Executive Functioning

Lauren Weis, biological sciences/psychology. Perceived Task Load and Physiological Response to Stress in Traumatic Brain Injury

Alan Christensen **Biological Sciences**

David Campbell, biochemistry. Knocking out Genes Required for DNA Repair in Plant Mitochondria with CRISPR

Cambelle Johnson, undeclared. Infusing Mutations in Plant Mitochondrial and Chloroplast DNA

Jacqueline Korth, biological sciences. Inducing Mutations in Plant Mitochondrial and Chloroplast DNA

Byron Chaves Elizondo **Food Science and Technology**

Grace Gatima Mahoro, integrated science. Assessing the Risk of *Salmonella* and *Campylobacter* in Non-conventional Poultry Products

Albert Casullo **Philosophy**

Crystal Seet, philosophy/mathematics. Pragmatics in Epistemic Justification

Barry Cheung **Chemistry**

Ema Shaker, chemistry. Analyzing the Uptake of Metals and Ceria Nanoparticles by Microgreens of Brassicaceae

Berthe Choueiry **Computer Science and Engineering**

Chase Resio, computer science. Controlling Search Algorithms via Visualizations

Carrie Clark **Educational Psychology**

Brandon Ee, psychology. Heart-rate Variability as a Predictor of Emotion Regulation and Mental Health

Jennifer Clarke **Food Science and Technology**

Jonathan Askey, biochemistry/French. The Relationship between Protein Structure and Low Barrier Hydrogen Bonds

Matt Cohen **English**

Bianca Swift, English. Charles Chesnutt and the 21st Century American

Brian Couch **Biological Sciences**

Kenny Shuman, science (7-12). Cataloguing Instructors' Use of Data in Undergraduate Introductory STEM Education

Clay Cressler **Biological Sciences**

Kristina Amato, fisheries and wildlife. Trait-mediated Effects of Non-consumptive Predation on *Daphnia dentifera*

Freddy Gonzalez, microbiology. Understanding How Starvation Changes Community Composition of the Bacterial Microbiome and Virome in the Model System *Daphnia magna*

Catherine Veseth, biological sciences. The Effect of *Daphnia pulex* on Harmful Algal Blooms Mycrocystin and Aphanizomenon

Lisa Crockett **Psychology**

Alec Ziebarth, psychology. Influences of Socioeconomic Status and Religiosity on Condom Use Consistency

Andrea Cupp

Elizabeth McGibbon, animal science. Altered Cytokine Production in Plasma and Follicular Fluid of High A4 Cows

Katherine Hoffman, biochemistry. Vascular Endothelial Growth Factor's Effect on Anti-Mullerian Hormone Levels within Conditional Knockout and Control Mice

Animal Science**Lory Dance**

Batool Ibrahim, global studies/international business. Black Barriers in Higher Education: An Effort to Improve Black Undergraduate Retention at the University of Nebraska-Lincoln

Sociology**Jeffrey Day**

Ethan Boerner, architectural studies. FACT Book

Architecture**Bo Deng**

Jesse Osnes, mathematics/actuarial sciences. Mathematical Epidemic Modeling of Coronavirus COVID-19

Mathematics**Angela Dietsch****Special Education and Communication Disorders**

Sam Galligan, speech-language pathology. Trajectory of Recovery of Dysphagia in Traumatic Brain Injury and Cerebrovascular Accident

Abbigale Rae, speech-language pathology. Trajectory of Recovery of Dysphagia in Traumatic Brain Injury and Cerebrovascular Accident

David DiLillo

Mitch Sack, psychology (FYRE)

Psychology**Shudipto Dishari****Chemical and Biomolecular Engineering**

Kai Shen Choong, chemical engineering. Studying the Antibacterial Activity of Polymeric Membranes against Antibiotic-resistant Bacteria

Michael Dodd

Justin Frandsen, psychology. An Examination of the Flanker Effect in Virtual Reality; An Examination of the Ternus Illusion in a Virtual Reality Paradigm

Psychology

Joshua Magee, psychology. An Examination of the Flanker Effect in Virtual Reality

Logan Miller, psychology. An Examination of the Flanker Effect in Virtual Reality

Eddie Dominguez

Kinga Aletto, fisheries and wildlife/pre-veterinary medicine. Bringing Awareness to Endangered Animals through Art: The Plight of the Javan Blue Banded Kingfisher

Tyra Carstens, art. Translucent Porcelain at Cone 6

Art, Art History and Design**Ellen Donnelly**

Olivia Epstein, architectural studies. Exhibition: Form Over Concept

Allie McAndrews, architectural studies. Exhibition: Form Over Content

Seyedeh Golsa Motevalli, architectural studies. Exhibition: Form Over Content

Architecture**Matthew Douglass**

Tristan Powell, broadcasting. Video Documentation of the Daasanach Tribe Lifestyle Changes in Northern Kenya

Natural Resources**Huijing Du**

Allison Cruikshank, mathematics/biochemistry. The Use of Mathematical Models in Analyzing the Effects of Treatment of Pancreatic Cancer

Mathematics**Mary Ellen Ducey**

Jake Borgmann, history/ethnic studies. UNL Archives Indigenous History

University Libraries**Brittany Duncan**

Nathan Simms, mechanical engineering. Identifying How People Tend to Distance Themselves from Drones

Computer Science and Engineering

Gerson Uriarte, computer engineering. Interactions with UAVs Based on UAV/Environmental Qualities

Maliik Jones, mechanical engineering (FYRE)

Clara Perez, software engineering (FYRE)

Bruce Dvorak

Nate Mead, civil engineering. Derivatization of Formaldehyde using PFBHA Vacuum-assisted Sorbent Extraction

Civil and Environmental Engineering

Catherine Eichhorn**Chemistry**

Amr Mohamed, biochemistry. Generating HEK293 Stable Cell Line Transfected with Tagged Larp7 in T-Rex Inducible Protein Expression System for 7SK RNP Purification; Tagging and Purifying 7SK RNP in HEK293 Cells for RNA-Protein Interaction Analysis

Jacob Sorensen, biochemistry. Protein Function in 7SK RNA Secondary Structure; Chemical Map of the Secondary Structure of 7SK RNA and Identification of the Optimal Conditions in Which the Structure Is Formed

Luke Buettner, actuarial science (FYRE)

Ece Erdogan Skourup**Architectural Engineering**

Ryan Ehresman, architectural engineering. Prediction of Settlement-induced Damage Progression in Masonry Walls with Different Morphology

Collen Findall, architectural engineering. Prediction of Settlement-induced Damage Progression in Masonry Walls with Different Morphology

Nathan Taylor, architectural engineering. Prediction of Settlement Induced Damage Progression in Masonry Walls with Different Morphology

Lucia Fernandez Ballester**Mechanical & Materials Engineering**

Garrett Brockman, mechanical engineering. Optimization of 3D Printing Parameters for Semicrystalline Polymers

Dawson Eckhardt, mechanical engineering. Effects of 3D Printing Parameters on Material Properties

Tucker Loosbrock, mechanical engineering. Crystallization of Poly(3-hexylthiophene-2,5-diyl) Thin Films

Dennis Ferraro**Natural Resources**

Emma Chesley, fisheries and wildlife. Herpetofauna Survey for Conservation Determinations at Wagon Tongue Creek Preserve

Miguel Avila Garcia, fisheries and wildlife. Prey Selection in Cope's Gray Tree Frog (*Hyla chrysoscelis*)

Abigail Horner, veterinary science. Effect of Calcium Supplements on the Eyesight of Western Tiger Salamanders

Phuong Minh Tu Le, environmental restoration science/fisheries and wildlife. Herpetofauna Survey on the Prairie Corridor Project-Tracking Biodiversity Impact of Restoring Prairies

Irina Filina**Earth and Atmospheric Sciences**

Alexa Fernandez Bravo, chemistry/geology. Integrated Geophysical Analysis of the Bathymetric Seamounts in the Atlantic Ocean and Geophysical Mapping of the Bathymetric Seamounts in the Atlantic Ocean.

Courtney Robb, geology. Developing the HUSKERS Seismometer

Jenna Finch**Psychology**

Rachelle Johnson, psychology. Motivation and Self-concept of Second-grade Students with Learning Disabilities

NaKeysha Olson, psychology. Socioeconomic Status, Family Structure and Persistence in Second Graders

Jesse Fleming**Johnny Carson Center for Emerging Media Arts**

Josiah Morgan, emerging media arts. Dancers in Space

Matthew Barrett, computer science (FYRE)

Hernan Garcia-Ruiz**Plant Pathology**

Benjamin Downing, microbiology. Non-transgenic Approaches of Activating Viral Defense in Plants; Using Artificial microRNAs to Prevent Virus Infection in Plants

Erica Schufeldt, microbiology. Non-Transgenic Approaches of Activating Viral Defense in Plants; Using Artificial microRNAs to Prevent Virus Infection in Plants

Timothy Gay**Physics and Astronomy**

Sarah Reyes, physics. Deriving the Equation for Rectangular Helmholtz Coils

Sarah Gervais**Psychology**

Nhi Dao, pre-health (FYRE)

Kimberly Gnocchi Carrasco**Sociology**

Grace de Laitre, graphic design. Design Thinking for Addiction Communication

George Gogos**Mechanical & Materials Engineering**

Logan Pettit, mechanical engineering. Minichannel Flow-Boiling Heat Transfer Enhancement Using Metallic Surfaces Functionalized with a Femtosecond Laser

Marc Goodrich **Special Education and Communication Disorders**

Alyssa Borson, elementary education/special education (K-6). Language Proficiency and Self-Regulation in Early Elementary Monolingual and DLL Students

Megan Groth, speech-language pathology. Language Proficiency and Self-Regulation in Early Elementary Monolingual and DLL Students

Dominique Hyler, special education (7-12). Language Proficiency and Self-Regulation in Early Elementary Monolingual and DLL Students/Working Memory

Frank Golf **Physics and Astronomy**

Hayden Swanson, physics. Development of a Visual System for the Automated Assembly of Silicon Detectors

Cassidy Adams, physics (FYRE)

Kendall Coleman, physics (FYRE)

Douglas Golick **Entomology**

Courtney Wallner, insect science/pre-veterinary medicine. Interest, Apprehension, and Perspectives on Incorporating Honeybees (*Apis mellifera*) into Veterinary Practices

Piyush Grover **Mechanical & Materials Engineering**

Izzat Bin Ahmad Adly, mathematics. Using Dynamical Systems (ODEs) to Study Dynamics and Training of Generative Adversarial Networks (GAN)

Ahmed Sulaiman Al Rawahi, mechanical engineering. Dynamical Systems Analysis of Generative Adversarial Networks

Sifat Syed, computer science. Dynamical Systems Analysis of Generative Adversarial Networks

Alexei Gruverman **Physics and Astronomy**

David Rittenhouse, physics/mathematics. Investigation of the Switching Behavior of Hafnium Oxide Thin Films for Ferroelectric Memory Application

David Hall **Glenn Korff School of Music**

Jonah Payne, music. The Acculturation of Steel Pans into Western Music

Edward Harris **Biochemistry**

Carissa Caraway, biochemistry. Determining the Role of Protein O-Fucosyltransferase-1 in Stabilin-2 Receptor Expression in Human Cells

Aiah Nour, biochemistry. Determining the Role of Protein O-Fucosyltransferase-1 in Stabilin-2 Receptor Expression in Human Cells

Patrick Habecker **Sociology**

Clarice Ann Santos, economics/sociology. Differences in Positive and Negative Affect Among Rural Persons Who Inject Drugs (PWID) in Puerto Rico Who Are in and out of Treatment

Christine Haney **Natural Resources**

Madison Whitney, global studies/environmental studies. The Impact of Environmental Advocacy between the Daasanach Community and NGOs

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

Brigid Moynihan, criminology and criminal justice. Professional Teamwork and Family Court Outcomes in Domestic Violence Court

Chelsey Wisehart, psychology/communication studies. Professional Teamwork and Family Court Outcomes in Domestic Violence Court

Michael Hebert **Special Education and Communication Disorders**

Madison Bosilevac, speech-language pathology. Project VIEW

Derek Heeren **Biological Systems Engineering**

Elizabeth Uwase, integrated science. The Significance of Soil-Water Relations Knowledge to Rwandan Agriculture Management Decisions

Michael Herman **Biological Sciences**

Eric Nelson, biological sciences. Gene Localization in *Caenorhabditis elegans* Immune Response to *Stenotrophomonas maltophilia*

Betty Dessie, pre-health (FYRE)

Blake Lindgren, geology (FYRE)

Gary Hein **Entomology**

Pierce Leef, chemistry. Determining the Transmission Rate of Red Fluorescent Protein-tagged (RFP) and Green Fluorescent Protein-tagged (GFP) Wheat Streak Mosaic Virus (WSMV) to Susceptible Wheat Varieties along with Susceptible and Resistant Corn Varieties through Infected Wheat Curl Mites as a Virus Vector

Courtney Hillebrecht **Political Science**
Cole Kovarik, global studies/Spanish/political science. Explaining Variations in Legal Mobilization at the European Court of Human Rights

David Holding **Agronomy and Horticulture**
Caleb Wehrbein, plant biology. Improvement of Nutritional Qualities in Non-transgenic Sorghum Varieties

Aaron Holz **Art, Art History and Design**
Sofia Fernandez Echeverri, art. Native Colombian Tribes' Art as a Means of Inspiration

Xia Hong **Physics and Astronomy**
Alyssa Simpson, physics. Constructing Novel van der Waals Heterostructures for High Performance Nanoelectronics; Fabrication of Van der Waals Heterostructures
Hailey Anderson, physics (FYRE)

Debra Hope **Psychology**
Christen Seyl, psychology/microbiology. Project Rise

Adam Houston **Earth and Atmospheric Sciences**
Ryan Martz, meteorology-climatology/computer science. Evaluation of Multi-rotor Sensor Housing Compared with Fixed-wing Sensors in Atmospheric Boundary Layers

Peisi Huang **Physics and Astronomy**
Kenneth Buffo, physics/mathematics. Probing the Dark Matter Direct Detection Blind Spot Scenario Using Directional Detection

Cheryl Immethun **Chemical and Biomolecular Engineering**
Dylan Hoppner, chemical engineering. Inducing Increased Bioplastic Production in *Rhodopseudomonas palustris* CGA009
Cameron Gilley, chemical engineering. Robust Bioplastic Production in *Rhodopseudomonas palustris* CGA009 Enabled by CRISPR

Nicole Iverson **Biological Systems Engineering**
Becca Francis, biological systems engineering. Quantifying Extracellular Nitric Oxide Concentrations in Healthy and Cancerous Breast Tissue Cells; Determination of Isocyanide Impact on Nitric Oxide Levels in *S. cerevisiae* Cells

Abigail Haworth, biological systems engineering. Design and Development of a Multi-well Liquid Core Hydrogel System for Carbon Nanotube Sensors

Katrina Jagodinsky **History**
Zoe Battaglia, history. Petitioning for Freedom: Habeas Corpus in the American West

Lauren Hinton, history/communication studies. Petitioning For Freedom: Habeas Corpus in the American West

Jill Fougeron, pre-law. Petitioning For Freedom: Habeas Corpus in the American West

Grace Rittscher, elementary education. Petitioning For Freedom: Habeas Corpus in the American West

Salma Silva, psychology. Petitioning for Freedom: Habeas Corpus in the American West

Melanie Coronado Amaya, pre-health (FYRE)

Uchechukwu Jarrett **Economics**
Hwanhee Choi, economics. The Relationship between the Exchange Rate of Foreign Currencies and the U.S Dollar

Andrew Jewell **University Libraries/Center for Digital Research in the Humanities**
Shea Cortez, English. The Complete Letters of Willa Cather

Margaret Rieckman, English/anthropology. The Complete Letters of Willa Cather

Gayle Rocz, dance/English. The Complete Letters of Willa Cather

Yu Jin **Mathematics**
Ana Podariu, physics/mathematics. Controlling a Stage-structured Pest Population within Two Patches

Georgia Jones **Nutrition and Health Sciences**
Cameron Hucke, nutritional science and dietetics. Identifying Barriers and Implementing Solutions to Healthy Eating among College-aged Students

David Karle **Architecture**
Morgan Davis, architectural studies. Design for Decline
Olena Yarmolyuk, architectural studies. Design for Decline

Sarah Karle **Architecture**
Jessi Kleinschmit, landscape architecture. Prairie States Forestry Archive

Shelby Warrick, landscape architecture. Prairie States Shelterbelt Archive

Brian Kelly **Architecture**
 Geneva Sinkula, architectural studies. Nebraska Underground

Oleh Khalimonchuk **Biochemistry**
 Alexander Belashchenko, microbiology/biochemistry. Functional Analysis of Mitochondrial Ion Homeostasis-regulating Factor Mdm38

Drew Harrahill, biochemistry. Analysis of ALS-associated Mutation in the Mitochondrial Metalloprotease Oma1 in Yeast Genetic Model

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

Jooeun Song, biochemistry. The Role of Mitochondrial Inner Membrane Morphology on Heme Biosynthesis and Transport

Zoe Keese, biochemistry. Analysis of Physical Interactions of Mitochondrial AAA+ Unfoldase Afg1

Srivatsan Kidambi **Chemical and Biomolecular Engineering**
 Noha Algahimi, chemical engineering. Biometric Uterine Modeling for the Study of Umbilical Cell Alteration Under Preeclamptic Conditions

Zoe Erickson, biochemistry. Mechanotransduction in Preeclampsia: The Role of Stiffness in Driving Changes in the Placenta during Preeclampsia

Purnima Ghotikar, chemical engineering. Mechanotransduction in Liver Fibrosis: The Role of Stiffness in Driving Changes in Hepatocytes-Stellate Cell Communication during Liver Fibrosis

Samantha Harvat, chemical engineering. The Role of Liver Stiffness in Driving Changes in Liver Cell Function during Liver Fibrosis and Cancer

Allyson Henry, chemical engineering. *In Vitro* Engineering Models of Diseased Brains that Abnormally Demyelinate; Improving Brain Models for Demyelinating Diseases such as Multiple Sclerosis

Roarick Schollmeyer, biological sciences/biochemistry/microbiology. Investigation of the Tumor Microenvironments Effect on Glioblastoma Multiforme Progression

Trenton Tulloss, chemical engineering. Biomimetic Multicellular Liver Model to Study the Regenerative Abilities of Primary Hepatocytes; Biomimetic Multicellular Liver Model to Study the Influence of Varying Substrate Stiffnesses in Primary Hepatocyte Co-culture

Joshua Wortman, chemical engineering. The Mechanism of Glial Cells in the Brain; Metal Toxicity in the Brain

Maddie Steele, forensic science (FYRE)

Forrest Kievit **Biological Systems Engineering**
 Chandler Brock, biological systems engineering. Drug Treatment Coupled with X-Ray Irradiation to Determine Cancer Cell Kill

Jenna Nekl, biological systems engineering. Immunostaining and Fluorescence Imaging of Nanoparticles and Cells in the Brain

Talon Drake, chemical engineering (FYRE)

Lisa Knoche **Nebraska Center for Research on Children, Youth, Families and Schools**
 Evelyn Estrada-Gonzalez, psychology. The Well-being and Parenting Behaviors of Parents in Early Childhood

Megan Kobiela **Biological Sciences**
 Alexis Hansen, biological sciences. Combined Effects of Ethanol and Temperature on Survival and Behavior in *Drosophila melanogaster*

Sam Kline, nutritional science and dietetics. Plasticity in Ethanol Tolerance in the Fruit Fly *Drosophila melanogaster*

Ari Kohen **Political Science**
 Ethan Tylski, history. Nebraska Stories of Humanity

Lisa Kort-Butler **Sociology**
 Hannah Ross, psychology/French. Gaps in Student Depression Knowledge

Ilya Kravchenko **Physics and Astronomy**
 Jesse Osborn, physics/mathematics. Further Development of Radio Pulse Reception Analysis Based on New Spice Core Pulser Data in the ARA Experiment; Validation and Further Development of 2019 Multivariate Analysis in the ARA Experiment

Adam Larios **Mathematics**
 Diego Galvan, mathematics. Disruption of Flocking Patterns Due to Turbulent Wind

Jennifer Lather **Architectural Engineering**
 Richard Batelaan, music/physics. Sound Propagation in a Virtual and Augmented Classroom

Donald Lee **Agronomy and Horticulture**
 Sam Polk, plant biology. Differences between Upland and Lowland Switchgrass (*Panicum virgatum*) Varieties Responses to Infection from Rust (*Puccinia*) Pathogens

Jaekwon Lee**Biochemistry**

Thomas Hugo, biochemistry. Exacerbation of Fatty Acid-induced Metabolic Disorder by Copper Limitation; Aggravation of High Fat Diet-induced Liver Damage by Mineral Deficiency

Matthew Silver, biological sciences/Russian. Identification of Novel Cellular Factors Involved in Cold-induced Thermogenesis in Mammals

Jacob Stewart, biochemistry. Suppression of EGFR Gene Transcription by Copper Limitation; Copper-dependent Regulation of Cell Proliferation Signaling Pathways

Gang Li**Plant Pathology**

Thien Thao Ngoc Pham, biochemistry. Genetic Manipulation of *Magnaporthe oryzae* to Determine Its Pathogenicity in Rice Plants

Michael Lippman**Classics and Religious Studies**

Andrew Malesker, classical languages. An Interactive, Multimedia eBook on Ancient Drama

Ellen Kratzer, English/graphic design/classical languages. Didaskalia

Vanessa Larsen, classics and religious studies. An Interactive, Multimedia eBook on Ancient Drama

Cameron Ramsey, computer science/mathematics. An Interactive, Multimedia eBook on Ancient Drama

Andrew Little**Natural Resources**

Kaitlyn Dozler, fisheries and wildlife. Estimating Whitetail Fawn Recruitment Using a Novel Camera Trap Procedure in an Agriculturally Dominated Landscape

Jana Malene, fisheries and wildlife. Do Summer Cover Crop Fields Benefit Small Mammal Communities?

Tierney Lorenz**Psychology**

Sophi Sanchez, psychology. A Mixed-methods Investigation of Young People's Communication with Healthcare Providers about Sexual Wellbeing

Dustin Loy**Veterinary Medicine and Biomedical Sciences**

Macy Rasmussen, microbiology/veterinary science. Utilization of Fourier Transform-Infrared (FT-IR) Spectroscopy to Distinguish *Salmonella Typhimurium* from other *Salmonella* Serotypes in Veterinary Isolates

Carlos Tavira, psychology (FYRE)

Joe Luck**Biological Systems Engineering**

Micah Erickson, mechanized systems management. Nitrogen Tissue Sampling

Christopher Mann**Economics**

Zachary Cheek, economics/music. Marijuana Markets and Tax Revenue

Justin Ho, computer science/economics. Human Capital Growth and Labor Market Flexibility

Eric Markvicka**Mechanical & Materials Engineering**

Jun Hong Vince Chong, mechanical engineering. Electrostatic Actuator for Soft Robotics

Aaron Haake, mechanical engineering. 3D Printing of Electrically Addressable Liquid Crystal Elastomer Actuators for Versatile Soft Robotic Actuation

L.J. McElravy**Agricultural Leadership,
Education and Communication**

Britney Salcedo-Gutierrez, business administration (FYRE)

Patrice McMahon**Political Science**

Jessica Stump, political science/psychology. The Glocalization of Water Development Networks

Justin McMechan**Entomology**

Genereuse Turabawe, integrated science. Using Soil Samples to Track the Movement of Soybean Gall Midge Larvae under Field Conditions

Rupal Mehta**Political Science**

Lee Paulson, political science/communication studies. Hate Crimes' Inevitable Intertwinement with the Evolution of Free Speech in the United States

Colin Meiklejohn**Biological Sciences**

Peyton Alder, biological sciences/psychology. Meiotic Drive: Suppressors and Distorters in *Drosophila*

Violetta Bakunina, microbiology. The Effects of Temperature and Mitochondrial Function on Male Fertility in *Drosophila*

Tiffany Messer **Biological Systems Engineering**

Jacob Stover, architectural engineering. Influence of Agrochemical Mixtures on Treatment Wetland Ecosystems Services

Benjamin Worden, chemical engineering. Floating Treatment Wetlands to Remove Current Use Pesticides

Kristi Montooth **Biological Sciences**

Haley DeWitt, biological sciences. Using an Environmental Toxin Model to Understand Mitochondrial Uncoupling Mechanisms and Conceptualize Neurodegenerative Diseases

Miranda Shreves, psychology. Migratory Physiology of Monarch Butterflies (*Danaus plexippus*)

Joey Sum, biological sciences. Uncoupling the Mitochondria as a Cellular Defense Mechanism

Nicole Valentina Acosta Sandoval, biochemistry. Response of Hot- and Cold-evolved *Drosophila melanogaster* to Fluctuating Temperatures

Kennedy Whiting, biochemistry (FYRE)

Alena Moon **Chemistry**

Archer Harrold, chemistry. Analysis of Undergraduate STEM Students' Understanding of Light-Matter Interactions

Bud Jenkins, biochemistry. Students' Understanding of Light-Matter Interactions

Keegan Moore **Mechanical & Materials Engineering**

Anna Allen, mechanical engineering. Multi-harmonic Vibration Mitigation through the Exploitation of Structural Instability

Ben Franco, mechanical engineering/music. Reduced-order Modeling of Bolted Joint Loosening: Torque Stiffness and Torque Loss Modeling

Guilherme Mainieri Eymael, mechanical engineering. Estimation of Contact Areas in Bolted Lap Joints through External Strain Measurements

Stephanie Vavra, mechanical engineering. Targeted Vibration Isolation of Airline Interior Cabins from External Disturbances

Hideaki Moriyama **Biological Sciences**

Megan Coffman, fisheries and wildlife (FYRE)

Avery Miller, biochemistry (FYRE)

Hope Hixson, biochemistry (FYRE)

Max Mueller **Classics and Religious Studies**

Pierce Bower, philosophy. Resource Mapping Lincoln's Underserved Communities of Faith

Tessa Faust, classics and religious studies. Resource Mapping Lincoln's Underserved Communities of Faith

Morgan Hurtz, classics and religious studies/psychology. Resource Mapping Lincoln's Underserved Communities of Faith

Ashna Anilkumar Gehlot, global studies. Resource Mapping Lincoln's Underserved Communities of Faith

Francisco Muñoz-Arriola **Biological Systems Engineering**

Garret Williams, biological systems engineering. Quantifying Environmental Effects on Maize Yield by Hybrid Using G2F Data

Jessica Namkung **Special Education and Communication Disorders**

Liyuan Zhang, mathematics. Working Memory and Academic Achievement

Sathish Kumar Natarajan **Nutrition and Health Sciences**

Jillian Power, microbiology. Maternal Obesity Induces Activation of FoxO Transcription Factors Downstream Target, MicroRNA 34a, during Free Fatty Acid-induced Human Primary Placental Trophoblast Lipopoptosis

Carl Nelson **Mechanical & Materials Engineering**

Alberto Alaniz, mechanical engineering. Regenerative Braking for a Sustainable World

Timothy Nelson **Psychology**

Ashlyn McGhee, psychology (FYRE)

ThanhVu Nguyen **Computer Science and Engineering**

Kim Hao Nguyen, computer science/mathematics. Analyzing the Linux's Build System

Quan Nguyen, computer science. Using Dynamic Analysis to Infer Program Invariants for Complex Data Structures

Wei Niu **Chemical and Biomolecular Engineering**

Xuan Le, chemical engineering. Structure-guided Engineering of Carboxylic Acid Reductases

Peter Olshavsky IV **Architecture**

Weston Ellerbrake, architectural studies. Steven Holl's Agency in Art

Hasan Otu **Electrical and Computer Engineering**

Kyle Hancock, electrical engineering. Pathway Coverage in Bacterial Species

Angela Palmer-Wackerly **Communication Studies**

Carter Bracht, biochemistry. An Analysis of the Behaviors Utilized by Physicians and (Pre)Medical Students to Cope with Stress

Angela Pannier **Biological Systems Engineering**

Madison Seefeld, biological systems engineering. Development of an Oral Gene Delivery System Using Bacterial Outer Membrane Vesicles

Jae Sung Park **Mechanical & Materials Engineering**

Josh Allen, mechanical engineering. Exploring Laminar-to-Turbulent Transition

Lenin Stephenpaul Joshua, mechanical engineering. Predictive Dynamics in Turbulence for Energy Saving Engineering

Ryan Pedrigi **Mechanical & Materials Engineering**

Ian McCue, biochemistry/microbiology. Low-intensity Pulsed Ultrasound as a Mechanotherapy for Impeding Perpetual Inflammation of Endothelial Cells in Atherosclerosis; Low-intensity Pulsed Ultrasound as a Mechanotherapy for Chronic Inflammation Attributed to Atherosclerosis

Thomas Ripperda, biological systems engineering. Differential Nanoparticle Accumulation Kinetics in a Mouse Model of Atherosclerotic Plaque Phenotypes; Smooth Muscle Proliferation in a Hemodynamic Environment of Atherosclerosis

Mark Pegg **Natural Resources**

Sam Aguilera Robledo, biochemistry (FYRE)

Nathan Petro **Psychology**

Joshua Warren, psychology/English. Detecting Mind Wandering While Reading

Kurt Piepenbrink **Biochemistry/Food Science and Technology**

Alexander Meyer, biochemistry. *Clostridium perfringens* Adhesion through Type IV Pili

Santosh Pitla **Biological Systems Engineering**

Peace Mugeni, integrated sciences. Introducing a Smart Kitchen Garden in Rwanda and Examining its Economic Benefits to the Farmers

Zac Porter **Architecture**

Scott Lafferty, architectural studies. Slabs, Negatives, Piles, Rocks, and Platforms: Architectures Emerging Typologies of Ground

Caleb Laurence, architectural studies. Architectural Landings: An Investigation of the Relationship between Building and Ground

Nick Olsen, architectural studies. Figure and Frame in Modern and Contemporary Architecture

Thomas Powers **Plant Pathology**

Innocent Byiringiro, integrated science. Examining the Characteristics of Nematodes in the Agriculture and Natural Soils of Rwanda

Cassidy Thomas, animal science/veterinary technology systems (equine health). The Development of a Field Guide to the Microinvertebrates of the Antarctic Dry Valleys

Katie Burton, nutrition and health sciences (FYRE)

Wei Qiao **Electrical and Computer Engineering**

Nick Swerczek, mechanical engineering/music. Design and Analysis of a Crosswind Kite Power System

Petronela Radu **Mathematics**

Andrew Haar, mathematics. Nonlocal Vector Calculus

Andrzej Rajca **Chemistry**

Elise Ackerman, chemistry. Synthesis of Organic Radical Contrast Agent (ORCA) for MRI

Amanda Ramer-Tait **Food Science and Technology**

Duncan Works, biochemistry. *Gordonibacter urolithinfaciens* and Its Ability to Reduce Obesity-driven NAFLD and Type 2 Diabetes in High Fat Diets

Prahalada Rao **Mechanical & Materials Engineering**

Bethany Krull, computer engineering. Defect Detecting Using Machine Learning in Metal Additive Manufacturing

Mohammad Rashedul Hasan **Computer Science and Engineering**

Taher Ahmed, software engineering. A Machine Learning-based Software Application for Improving Performance in Large Undergraduate Classes

Eylon Caplan, physics. Identification of Animals with Deep Neural Networks

Fateh Sandhu, computer science. A Machine Learning-based Software Application for Improving Performance in Large Undergraduate Classes

Richard Rebarber

Mathematics

Geigh Zollicoffer, computer science/mathematics. Numerical Simulations of Fish Populations

Martha Rhoades

Natural Resources

Kaili Jorgens, biological sciences. Research Participation Barriers and Facilitators of the Birth Outcomes and Water Study

Ashley Thyges, actuarial science. Nitrosatable Agrichemicals in Nebraska's Water Supply and Possible Correlation to Adverse Birth Outcomes

Wayne Riekhof

Biological Sciences

Mia Kennedy, biological sciences (FYRE)

Beverley Rilett

English

Michaela Brown, English. George Eliot Archive

Rose Kottwitz, English. Advancing the George Eliot Archive

Kaylen Michaelis, English. George Eliot Archive Project

Kayleigh Ryan, English. Advancing the George Eliot Archive

Tanima Shrivastava, computer science/English. Advancing the George Eliot Archive

Brandon Unverfeth, English/classics and religious studies. Advancing the George Eliot Archive Project

Seung-Hyun Ro

Biochemistry

Cesar Iturere Cyuzuzo, integrated science. Significance of Sestrin2 in the Protection of Mammalian Cells against Mitochondria-damaging Stresses

Dat Lai, biochemistry. Significance of Sestrin2 in the Protection of Mammalian Cells against Mitochondria-damaging Stresses

Traci Robison

University Libraries

Isabella Kane, environmental studies (FYRE)

Derek Rodgers

Special Education and Communication Disorders

Claire Kubicek, communication sciences and disorders.

Understanding and Improving the Literacy Skills of Students with Intellectual and Developmental Disabilities; Reading and Writing Profiles of Students with Intellectual and Developmental Disabilities

Anna Suppes, speech-language pathology. Understanding and Improving the Literacy Skills of Students with Intellectual and Developmental Disabilities

Isabeau Tholen, child, youth and family studies. Understanding and Improving the Literacy Skills of Students with Intellectual and Developmental Disabilities

Naomi Rodgers

Special Education and Communication Disorders

Chloe Strong, speech-language pathology. Speech-Language Pathologists' Current Practices for Facilitating Skill Generalization among School-age Students Who Stutter

Jennifer Rome

Communication Studies

Lauryl Hebenstreit, psychology. Genital Mutilation and Its Effects on Lincoln Refugees

Sangjin Ryu

Mechanical & Materials Engineering

Hyeonggeun Bak, mechanical engineering. Laser Ablation Setup for Intracellular Delivery and Its Test Using Hydrogel

Dilziba Kizghin, biological systems engineering. Characterization of Swimming Patterns of *Vorticella*, a Model Unicellular Animal for Microscale Swimmers; How Does the Swimming Pattern of *Vorticella* Change Between its Sessile Form and Swimming Form?

Rajib Saha

Chemical and Biomolecular Engineering

Leila Ba, chemical engineering. Developing Stress Tolerance in Rice Leaf Using Computational Tools

Andrea Goertzen, chemical engineering. Assessing the Metabolic Landscape of Human Pancreatic Cells through Genome-scale Metabolic Modeling

Ashok Samal

Computer Science and Engineering

Utkarsh Hardia, computer science/mathematics. Analyzing and Mapping Human Rights Violation from Fast Data

Cary Savage

Zach Headley, biochemistry/Spanish. Using Functional Brain Connectivity Changes to Predict Clinical Outcomes in Sports-related Concussion.

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

Bridget Leutzinger, elementary education/special education (K-6). Project VIEW: Visual Impairment Education on Writing

Madison Thompson, elementary education/special education (K-6). Project VIEW

Amy Schmidt**Biological Systems Engineering**

Jacob Richardson, biological systems engineering. Differences in Nutrient Uptake and Ability to Create Surface Barrier against Volatilization between Species of Duckweed within Feedlot Runoff

Anne Schutte**Psychology**

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Glossary of Federal Agency Abbreviations

DHHS	Department of Health and Human Services
ACF	Administration for Children and Families
CDC	Centers for Disease Control
SAMHSA	Substance Abuse and Mental Health Services Administration
DOC	Department of Commerce
EDA	Economic Development Administration
NIST	National Institute of Standards and Technology
NOAA	National Oceanic and Atmospheric Administration
DoD	Department of Defense
AFOSR	Air Force Office of Scientific Research
ARO	Army Research Office
ARI	Aviation Restructuring Initiative
DTRA	Defense Threat Reduction Agency
DURIP	Defense University Research Instrumentation Program
MDA	Missile Defense Agency
NAVSEA	Naval Sea Systems Command
ONR	Office of Naval Research
STRATCOM	U.S. Strategic Command
DOE	Department of Energy
ARPA-E	Advanced Research Projects Agency-Energy
NETL	National Energy Technology Laboratory
NEUP	Nuclear Energy University Programs
DOI	Department of Interior
FWS	Fish and Wildlife Service
NPS	National Park Service
DOJ	Department of Justice
NIJ	National Institute of Justice
DOT	Department of Transportation
FHWA	Federal Highway Administration
PHMSA	Pipeline and Hazardous Materials Safety Administration
FRA	Federal Railroad Administration
ED	Department of Education
IES	Institute of Education Sciences
EPA	Environmental Protection Agency

IMLS	Institute of Museum and Library Services
NASA	National Aeronautics and Space Administration
NCHRP	National Cooperative Highway Research Program
NEA	National Endowment for the Arts
NEH	National Endowment for the Humanities
NIH	National Institutes of Health
FIC	Fogarty International Center
NCI	National Cancer Institute
NHLBI	National Heart, Lung and Blood Institute
NIAAA	National Institute on Alcohol Abuse and Alcoholism
NIAID	National Institute on Allergy and Infectious Diseases
NIBIB	National Institute of Biomedical Imaging and Bioengineering
NICHD	National Institute of Child Health and Human Development
NIDA	National Institute on Drug Abuse
NIDCD	National Institute on Deafness and Communication Disorders
NIDDK	National Institute of Diabetes, Digestive and Kidney Disease
NIGMS	National Institute on General Medical Sciences
NIMH	National Institute of Mental Health
NINDS	National Institute of Neurological Disorders and Stroke
NSF	National Science Foundation
EPSCoR	Established Program to Stimulate Competitive Research
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
AFRI	Agriculture and Food Research Initiative
AMS	Agricultural Marketing Service
ARS	Agricultural Research Service
FNS	Food and Nutrition Service
FS	Forestry Service
NIFA	National Institute for Food and Agriculture
NRCS	Natural Resources Conservation Service
OCE	Office of the Chief Economist



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