<table>
<thead>
<tr>
<th>Proposal Title</th>
<th>Researchers</th>
<th>Campus</th>
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</table>
| Bacterial production of antibiotics through gene activation by plasma-activated water | Barry Cheung  
Liangcheng Du | PI  
UNL  
UNL |
| Brain Molecular Network Using CEST MRI                                       | Yutong Liu  
Dongming Peng  
Jane Meza  
Subodh Lele  
Jixin Dong  
Vimla Band | PI  
UNMC  
UNL  
UNMC  
UNMC  
UNMC |
| Ceramic Coatings by Laser Sintering                                          | Bai Cui  
Yongfeng Lu | PI  
UNL  
UNL |
| Chemical Decontamination Hydrogel                                             | Daniel Van Buren  
Martha Morton  
Scott Darveau  
Eric Markvicka  
Barry Cheung | PI  
UNOP  
UNL  
UNK  
UNL  
UNL |
| Computational Modeling of Thrombosis in Calcified Peripheral Arteries         | Alexey Kamenskiy  
Nitesh Nama  
Jason MacTaggart | PI  
UNO  
UNL  
UNMC |
| Develop a One-Health Surveillance System on Antimicrobial Resistance          | Xu Li  
Peter Iwen  
Dustin Loy  
Galen Erickson | PI  
UNL  
UNMC  
UNL  
UNL |
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<tr>
<td>Development of a social marketing intervention to improve screening rates for colorectal cancer among agricultural operators</td>
<td>Shinobu Watanabe-Galloway Aaron Yoder JY Kim Cheryl Beseler Roma Subramanian</td>
<td>PI UNMC UNMC UNMC UNMC UNO</td>
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<td>Development of postoperative peritoneal adhesion porcine model to evaluate the efficacy of novel multifunctional microgel-based cream hydrogels</td>
<td>Bin Duan Mark Carlson</td>
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<tr>
<td>Development of Target-Specific, Real-Time Sequencing and Genomic Characterization of PRRSV for Active Surveillance in Nebraskan Swine Herds.</td>
<td>Shaun Cross Hiep Vu</td>
<td>PI UNMC UNL</td>
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<tr>
<td>Elucidation and co-targeting of two distinct mechano-adaptation modules in metastatic breast cancer</td>
<td>Hamid Band Jung Yul Lim</td>
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<tr>
<td>Elucidation of the transport phenomena of insect wing circulation using in vitro models</td>
<td>Sangjin Ryu Mahboub Baccouch</td>
<td>PI UNL UNO</td>
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<tr>
<td>Enhancing thermal insulation with nanofibrous materials</td>
<td>Yury Salkovskiy Aaron Likens Jingwei Xie</td>
<td>PI UNO UNO UNMC</td>
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<tr>
<td>Exploring an interplay between hemodynamics and hemorheology during the no-reflow phenomenon in cerebral ischemia</td>
<td>Jae Sung Park Bin Duan Ruiguo Yang</td>
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# Collaboration Initiative
## Nebraska Research Initiative Initiative
### Grants
#### July 1, 2023

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<tr>
<th>Proposal Title</th>
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<tbody>
<tr>
<td>Exploring Neurodevelopmental Disorders as Risk Factors for Extremist Beliefs, Targeted Violence, and Terrorism</td>
<td>Melissa Hunter&lt;br&gt;Samuel Hunter</td>
<td>PI UNMC&lt;br&gt;UNO</td>
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<tr>
<td>Exploring non-canonical adaptations across the domains of life in alkaline lakes systems in the Sandhills of Nebraska</td>
<td>Paul Ayayee&lt;br&gt;Thomas Powers&lt;br&gt;David Dunigan</td>
<td>PI UNO&lt;br&gt;UNL&lt;br&gt;UNL</td>
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<td>Femtosecond laser processed surfaces to enable strong direct bonding of low surface energy polymers to metals</td>
<td>Lucia Fernandez Ballester&lt;br&gt;Craig Zuhlke</td>
<td>PI UNL&lt;br&gt;UNL</td>
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<td>High fiber wheat for a healthier society</td>
<td>Devin Rose&lt;br&gt;Katherine Frels&lt;br&gt;Corri Hanson&lt;br&gt;Amanda Ramer-Tait</td>
<td>PI UNL&lt;br&gt;UNL&lt;br&gt;UNMC&lt;br&gt;UNL</td>
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<td>Identification of coagulation risks and correlation with disease severity and treatment response in patients with autoimmune blistering diseases</td>
<td>Erin Barrett&lt;br&gt;Corey Georgesen&lt;br&gt;Christopher Barrett&lt;br&gt;Xiaoyue Zoe Cheng</td>
<td>PI UNMC&lt;br&gt;UNMC&lt;br&gt;UNMC&lt;br&gt;UNO</td>
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<tr>
<td>Improving walking in peripheral artery disease using oxygen-guided supervised exercise therapy</td>
<td>Farahnaz Fallah Tafti&lt;br&gt;Iraklis Pipinos&lt;br&gt;Sara Myers</td>
<td>PI UNO&lt;br&gt;UNMC&lt;br&gt;UNO</td>
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<td>Intransal oxytocin intervention for caregivers to persons with dementia</td>
<td>Soonjo Hwang, David Warren, Daniel Murman, Janelle Beadle</td>
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<td>Laser Vibrational Resonance Excitation of Ammonia Molecules for High-Efficiency Surface Nitrization of Solid Materials</td>
<td>Bai Cui, Wai-Ning Mei, Yongfeng Lu</td>
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<td>Localized Electroporation to Generate Functional mRNA Loaded Exosomes for Enhancing Peripheral Nerve Regeneration</td>
<td>Bin Duan, Ruiguo Yang</td>
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<tr>
<td>A Machine-Learning Approach to API Usage Learning for Detecting API Misuse Errors</td>
<td>Myoungkyu Song, Xin Zhong, Kwangsung Oh, Yeongjin Gwon, Harvey Siy, Madhu Srinivasan</td>
<td>UNO UNO UNO UNMC UNO UNO</td>
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<tr>
<td>Maternal Dietary OFA Supplementation Impact in Oxycodone Exposed Pregnancies: Animal and Clinical Implications on Placental Ultrastructure and Function; Proteomics of Neurodevelopmental and Behavior Deficits and Clinical Acceptability of Supplementation</td>
<td>Ann Anderson Berry, Ashley Blount, Corri Hanson, Gurudutt Pendyala</td>
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<td>mHealth Effects for Addressing Socio-economic Inequities</td>
<td>Sajda Qureshi, Melanie Cozad, Martina Clarke, Timi Barone, John Windle</td>
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<td>Multi-Actor Risk Analysis Methodology</td>
<td>Deanna House, Elsbeth Magilton, Tyler White, Lana Obradovic, Michelle Black</td>
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<td>Myocardial cell death mechanisms due to TEVAR-induced aortic stiffening</td>
<td>Anastasia Desyatova, Jason MacTaggart, Paras Kumar Mishra</td>
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<td>Nebraska Healthcare By Design</td>
<td>Tyler Scherr, Luther Mardock, Carl Nelson, Brian Knarr, Harnoor Singh, Emily Glenn, Bethany Lowndes, Kati Bravo, Jen Kallio, TJ Welniak</td>
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<tr>
<td>Nitrate transport in playa wetlands and their substratum soils of the Rainwater Basin and the implications for groundwater aquifer contamination</td>
<td>John Hribljan, Kelly Deuerling, Troy Gilmore, Paul Ayayee</td>
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<td>Optimizing prescribed fire management for forest diversity and ecosystem resilience</td>
<td>Sabrina Russo, Thomas Bragg, Daniel Uden, Yufeng Ge, Richard Wood</td>
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<tr>
<td>Pilot and Assessment of Cyberinfrastructure for Image-based Environmental Monitoring and Education</td>
<td>Heather Akin, Jenny Keshwani, Mary Harner, Troy Gilmore</td>
<td>PI UNL UNL UNK UNL</td>
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<td>Prototyping of a ruggedized powered air purifying respirator (PAPR) for healthcare use in austere conditions</td>
<td>Beth Beam, Bethany Lowndes</td>
<td>PI UNMC UNMC</td>
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<td>Real-World Assessment of Knee Performance After Anterior Cruciate Ligament Injury</td>
<td>Liz Wellsandt, Eric Markvicka, Sandra Starkey, Matthew McManigal, Christopher Wichman, Michael Rosenthal, Matthew Tao, Jong-Hoon Youn</td>
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| Reducing Disease Burden after Acute Exacerbation Chronic Obstructive Pulmonary Disease (REBOUND) | Susan Barnason  
Kevin Kupzyk  
Julie Lanz  
Sue Schuelke  
Joseph Siu | PI  
UNMC  
UNMC  
UNK  
UNMC  
UNMC |
| Role of Stabilin-1 in the development of colorectal liver metastasis         | Edward Harris  
Paul W Denton  
Benita McVicker | PI  
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| The Roles of Wnt5a-TRPV1 Interactions in Modulating Chemotherapy Induced Neuropathic Pain | Yihe Huang  
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UNL  
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| Signatures of a polymer going to chaos                                       | Li Tan  
Wai-Ning Mei  
Alexey Krasnoslobodtsev  
Renat Sabirianov  
Joseph Turner  
Mehrdad Negahban  
Yuris Dzenis  
Lucia Ballester | PI  
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UNL  
UNL |
| Social Defeat (bullying) during adolescence and opioid addiction: Novel markers and mechanisms | Gurudutt Pendyala  
Rick Bevins  
Sowmya Yelamanchili | PI  
UNMC  
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<td>Technique to Interrogate the Mechanical Crosstalk between the Cell-Cell and Cell-ECM Adhesions under Defined Mechanical Stimuli</td>
<td>Ruiguo Yang</td>
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<td>Therapeutic efficacy of mesenchymal stem cells derived extracellular vesicles to treat methamphetamine addiction</td>
<td>Sowmya Yelamanchili, Rick Bevins, Gurudutt Pendyala</td>
<td>PI UNMC UNL UNMC</td>
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<td>Therapeutic efficacy of STAT3 nanoparticle in pediatric brain tumor Medulloblastoma.</td>
<td>Sutapa Ray, Forrest Kievit</td>
<td>PI UNMC UNL</td>
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<tr>
<td>Transitioning from a Linear to a Circular Bioeconomy Opportunities within the Beef System</td>
<td>Tala Awada, George Grispos, Makki Khorchani, Jason Hawkins, Sruti Das Choudhury, Ahmed Chennak, Hongfeng Yu, Andrea Watson, Zhenghong Tang, Andy Suyker, Mark Riley, Santosh Pitla, Joe Luck, Rumiko Handa</td>
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| Translational Effects of Language and Exercise Interventions on Cognitive Aging | Ladan Ghazi Saidi  
Alfred Fisher  
Cary Savage  
Douglas Schultz                     | PI      
UNK    
UNMC    
UNL    
UNL |
| Using AI-powered chatbots to enhance health equity and patient-centered care for low socioeconomic status communities. | Chun-Hua Tsai  
Ann Anderson Berry               | PI            
UNO    
UNMC |
| Virus infection of macrophages and severity of motor neuron disease in a murine ALS model | Tom Petro  
James Van Etten  
Irina Agarkova  
Ahmed Esmael  
David Dunigan | PI            
UNMC  
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