

Collaboration Initiative
Preliminary Data and Application Preparation Grants
July 1, 2022



Proposal Title	Researchers	PI	Campus
Age-Related Differences in Cytokine and MicroRNA Expression Following Acute Exercise	Julie Blaskewicz Boron Matthew Heesch Jana Ponce Joseph Siu	PI	UNO UNO UNMC UNMC
At-Home Stroke Rehabilitation Using Low-Cost Asymmetric Exosuits	Philippe Malcolm Marco Gonzalez Castellon Mukul Mukherjee	PI	UNO UNMC UNO
Autonomous Repair and Maintenance of Spacecraft (ARMS)	Ada-Rhodes Short Carl Nelson	PI	UNO UNL
Biopsychosocial Risk Factors in the Perinatal Period: Basic and Clinical Research Implications	Ashley Blount Gurudutt Pendyala	PI	UNO UNMC
Comparison of 3D Kinematic Outcomes Between Marker-Less and Marker-Based Systems During Overground Walking in Children with Cerebral Palsy	David Kingston Brian Knarr Hope Voto	PI	UNO UNO UNMC
Considering the Effects of Variation in Configurations of Trust	Lisa Pytlak Zillig Andrew Little Guoqing Lu Dustin Ranglack Elizabeth VanWormer	PI	UNL UNL UNO UNK UNL
Destruction of Chemical Warfare Agent Simulants Using Falling Film Plasma Reactors	Barry Cheung Daniel Van Buren Wai-Ning Mei	PI	UNL UNCA UNO
Development of a Multi-Pocket Hydrogel Platform for Carbon Nanotube Sensors	Nicole Iverson Bin Duan	PI	UNL UNMC

Collaboration Initiative
Preliminary Data and Application Preparation Grants

July 1, 2022



Proposal Title	Researchers	PI	Campus
Development of Targeted Antiviral Drugs Against SARS-CoV-2 Variants	Siddappa Byrareddy Sathish Kumar Natarajan	PI	UNMC UNL
Discovery of a Novel Bacteriophage-Based Treatment for Multi-Drug Resistant Combat Wound Infections	Eric Carnes April Shea	PI	UNMC UNCA
Empowering Diverse Communities of Women Affected by Breast Cancer to Achieve Optimal Survivorship Using eHealth Support	Robin Lally Deepak Khazanchi Kevin Kupzyk Elizabeth Reed	PI	UNMC UNO UNMC UNMC
Evaluating and Assessing Social Interaction Between Parents and Their Children with Autism Spectrum Disorder During the Current Pandemic	Philip Lai Seth Walker Yingying Wang HyeonJin Yoon Amanda Zangrillo Yiwei Zhang	PI	UNK UNMC UNL UNL UNMC UNO
Evaluating the Interaction of Dietary Gamma-Glutamyl Peptide and Gut Microbiota for Improvement of Metabolic Syndrome	Regis Moreau Kaustav Majumder Mahesh Pattabiraman	PI	UNL UNL UNK
Examining Physical Activity and Weight-Related Developmental Complications in Infants At-Risk for Obesity	Danae Dinkel Su Chen Shari DeVeney Sara Garcia Alyson Hanish Brian Knarr Michaela Schenkelberg Jong-Hoon Youn	PI	UNO UNMC UNO UNMC UNMC UNO UNO UNO

Collaboration Initiative
Preliminary Data and Application Preparation Grants
July 1, 2022



Proposal Title	Researchers		Campus
Exploring the Antimicrobial Potential of Novel Neutrophil-Enhancing Compounds	Paul H Davis Jonathan Vennerstrom	PI	UNO UNMC
Feasibility of Direct High-Rate Large-Area Deposition of Nanoencapsulated Agrochemicals	Yuris Dzenis Tamra Jackson-Ziems Jayne Jonas-Bratten Justin McMechan Christopher Proctor Neal Woollen	PI	UNL UNL UNK UNL UNL UNCA
Fundamental Mechanisms of Laser Ablation Patterning of Ceramic Materials for Mitigation of Lunar Dust Adhesion and Wear	Bai Cui Wai-Ning Mei	PI	UNL UNO
Generation of Potent Anti-MRSA Antibiotics Through Hybrid Chemical and Biological Synthesis	Liangcheng Du Patrick Dussault Martin Conda Sheridan	PI	UNL UNL UNMC
Hearing Loss, Mobility, and Fall Risk in Aging Agricultural Workers	Joseph Siu Jan Moore Jong-Hoon Youn	PI	UNMC UNK UNO
Identification of Pathology Based on Human Walking	Spyridon Mastorakis Iason Konstantzos Aaron Likens Iraklis Pipinos Nikolaos Stergiou	PI	UNO UNL UNO UNMC UNO
Identifying Synergistic Activities between Bactericidal Compounds and Biofilm Deispersal Agents	Kurt Piepenbrink Liangcheng Du Martin Conda Sheridan	PI	UNL UNL UNMC

Collaboration Initiative
Preliminary Data and Application Preparation Grants

July 1, 2022



Proposal Title	Researchers	PI	Campus
Impacts of Precipitation Extremes on Water Quality in Nebraska	Azar Mohammad Abadi Kamar Shannon Bartelt-Hunt Jesse Bell Yeongjin Gwon Jooho Lee Yusong Li Eleanor Rogan Changsoo Song Ashley Votruba Karrie Weber	PI	UNMC UNL UNMC UNMC UNO UNL UNMC UNL UNL UNL
An Innovative AI-Augmented Real-Time Remote Access Engineering Lab Using Robotics and Computer Vision	Hamid Vakilzadian Brian Dorn Mohammad Rashedul Hasan Eric Markvicka Benjamin Riggan Hamid Sharif-Kashani	PI	UNL UNO UNL UNL UNL UNL
An Intelligent Building Framework to Promote Adaptive Building Operation	Iason Konstantzos Spyridon Mastorakis	PI	UNL UNO

Collaboration Initiative
Preliminary Data and Application Preparation Grants

July 1, 2022



Proposal Title	Researchers	PI	Campus
Introduction of Humanities and Arts in Physician Assistant Education (IHAPAE)	Pam Dickey Sam Ammons Timi Barone Melissa Berke Beth Culross Adrian Duran Daniel Hawkins Shaun Horak Steve Langan Joseph McCaffrey Amy Morris	PI	UNMC UNO UNO UNO UNMC UNO UNO UNMC UNO UNO UNO
Model-Guided Control of Nanofiber Orientation in Nanomanufacturing of Next Generation Air Filters	Yury Salkovskiy Kevin Crown Yuris Dzenis	PI	UNO UNCA UNL
Molecular Characterization of Peripheral Arterial Disease	Majid Jadidi Rebekah Gundry	PI	UNO UNMC
Music Experiences and Autobiographical Memory Organization	Vaishali Phatak Mary Perkins	PI	UNMC UNO
Mycobacterium Avium's Iron Uptake Through Heme Metabolism and Its Inhibition	Praba Narayanasamy Raul Barletta Bradley Britigan	PI	UNMC UNL UNMC

Collaboration Initiative
Preliminary Data and Application Preparation Grants
July 1, 2022



Proposal Title	Researchers		Campus
The Nebraska Insect Microbiome Initiative (NiMBi): Building Capacity for Insect-Microbiome-Environment Interaction Research at NU to Advance the Science of Emerging Pests, Biodiversity in a Changing World, and the Gut-Brain Axis	Kristi Montooth Ana Maria Velez Arango Paul Ayayee Clay Cressler Joseph Fauver Ian Keesey Justin McMechan Benjamin Pelissie	PI	UNL UNL UNO UNL UNMC UNL UNL UNK
Non-Contact Structural Health Monitoring for Onshore and Offshore Wind Farms	Richard Wood Yayu Peng Christine Wittich	PI	UNL UNK UNL
Nonlinear Ultrasound Evaluation of Bone in the Lower Extremity of Young Adults	Michael Rosenthal Matthew Halanski Ling Li Jinying Zhu	PI	UNMC UNMC UNMC UNL
Novel Management of Arthropod Vectors to Reduce Incidence of Zoonotic Disease Transmission.	Georgina Bingham Sean Avedissian Roberto Cortinas	PI	UNL UNMC UNL
Nuclear Deterrence Theory for a Multi-Polar World	Dustin White Jacques Bou Abdo Christopher Yeaw	PI	UNO UNK UNCA

Collaboration Initiative
Preliminary Data and Application Preparation Grants

July 1, 2022



Proposal Title	Researchers		Campus
Nutrition Phenotyping: An Advanced Tool for Accurate Dietary Assessment in Cancer Survivors	Corri Hanson Laura Bilek Teresa Cochran Christopher D'Angelo Diane Ehlers Laura Graeff-Armas Mariah Jackson Sathish Kumar Natarajan Heather Rasmussen Bing Wang	PI	UNMC UNMC UNMC UNMC UNMC UNMC UNMC UNL UNL UNL
Overcoming Barriers to Telehealth Services Among Low-Income Urban Women	Shannon Maloney Tzeyu Michaud Elizabeth Mollard Sharon Obasi Lisa Pytlik Zillig	PI	UNMC UNMC UNMC UNK UNL
Protective Effect of Sestrin2-Regulated Autophagy Against Arsenic-Induced Metabolic Dysfunction	Seung-Hyun Ro Samuel Cohen Jaekwon Lee Xinghui Sun	PI	UNL UNMC UNL UNL
SARS-CoV-2 in Wildlife and Potential Threats of Zoonotic Transmission to Humans	Etsuko Moriyama Hideaki Moriyama Luwen Zhang	PI	UNL UNL UNL

Collaboration Initiative
Preliminary Data and Application Preparation Grants
July 1, 2022



Proposal Title	Researchers		Campus
Tactile-Augmented Walking in Stroke Survivors: Biomechanics and Brain Control	Mukul Mukherjee Steven Barlow Pierre Fayad Carl Nelson Yingying Wang Cheng Zheng	PI	UNO UNL UNMC UNL UNL UNMC
Targeting Amino Acid Metabolism in the Treatment of Pancreatic Cancer	Saraswathi Viswanathan Robert Powers Satya Rachagani	PI	UNMC UNL UNMC
Toward Noninvasive Posterior Vitreoretinal Eye Surgery Using Femtosecond Lasers	Matthias Fuchs Ronald Krueger	PI	UNL UNMC
Understanding Competency-Based Education Delivery Models for Early Childhood Teachers through Large-Scale Research	Dawn Mollenkopf Kelley Buchheister Tonya Jolley Anne Karabon Marisa Macy Lisa Roy Guy Trainin	PI	UNK UNL UNCA UNO UNK UNCA UNL