

# Office of Research and Creative Activity

## Internal Funding Newsletter

### Academic Year 2021-2022

Dear Colleagues and Friends,

The University of Nebraska at Omaha is committed to exceptional education, groundbreaking research, and the life-long success of our students and alumni. The 2021-2022 Academic Year brought many exciting opportunities for us to invest in a multitude of funding programs that promote research and creative activity. This year's programs provided over \$600,000 for student and faculty projects that reflect the broad range of scholarly interests of the UNO community, including evaluating marmoset stress responses to music, examining factors that influence undergraduate women to leave (or remain in) computer science majors, the human experience of dementia, aging, and caregiving, and experiential research in female blacksmithing.



In the 2021-2022 Academic Year, the Fund for Undergraduate Scholarly Experiences (FUSE) and Graduate Research and Creative Activity (GRACA) programs funded 115 students to complete faculty mentored research and creative activity projects. We look forward to seeing the results of these projects showcased at the 15<sup>th</sup> Annual Student Research and Creative Activity Fair on March 24, 2023, and we invite you to join us.

Faculty internal funding opportunities through our office provide support to develop new contacts and cooperate with academic peers locally, nationally, and internally. The products of faculty research and creative activity are used to address real-world issues and are presented in peer-reviewed literature and around the world at meetings, conferences, and performances. ORCA programs give UNO faculty the opportunity to attract resources from outside the university to make scholarly activities sustainable over the long term.

Finally, under the leadership of Assistant Vice Chancellor Sara Myers, the Research Development Program involving a collaboration between ORCA, Graduate Studies and departments across UNO, is in its third year, supporting 16 graduate students this past year. We would like to congratulate all of the doctoral students awarded funding through this program. Assistant Vice Chancellors Kirsten Girten and Emily Wright also contributed to our internal funding programs by promoting the programs and working with faculty and students to increase participation across UNO's broad disciplines. We hope to continue expanding the types of projects supported by internal funds.

We look forward to working with you over the next year as you explore your interests and contribute your talents to UNO.

Best regards,

Dr. Kenneth Bayles  
Associate Vice Chancellor

UNIVERSITY OF  
**Nebraska**  
Omaha



## UNIVERSITY COMMITTEE ON RESEARCH AND CREATIVE ACTIVITY (UCRCA) Faculty Awards

The purpose of UCRCA is to expand the capacity for research and creative activity at UNO. The UCRCA supports all areas, types, and disciplines of research and creative activity by pre- and post-tenured faculty at UNO. The committee places special emphasis on seed grant funding for projects potentially leading to external funding and on grants to new faculty to help them establish programs of research/creative activity.

PI Last	PI First	College	Dept.	Project Title	Award
Battisti	Danielle	CAS	HIST	The Intergovernmental Committee for European Migration	\$5,000
Fallah Tafti	Farahnaz	CEHHS	BMCH	Validation and evaluation of a Portable Computerized Dynamic Posturography/Training System	\$10,000
Feng	Zhigang	CAS	ECON	Using Artificial Intelligence to Solve Optimal Debt Policies in Economies with Aging Population and Rising Health Care Cost	\$10,000
Gilbert	Mark	CFAM	ART	Memory Serves: The Human Experience of Dementia, Aging, and Caregiving	\$10,000
Johnson	Jeremy	CFAM	ART	Samuel Bak Biographical Comic and Graphic Novel	\$10,000
Karabon	Anne	CEHHS	TED	Investigating the impact of Museum Without Walls	\$5,000
Malcolm	Phillipe	CEHHS	BMCH	Shoe insole intervention to enhance walking performance in older adults	\$9,964
Perkinson	Mary	CFAM	MUS	Powerful Perspectives, Celebrating Music by Underrepresented Composers	\$850
Schueth	Jon	CAS	GEOG	Investigation of the Jurassic-aged (170 million years old) Sundance Formation to Determine Long-Term Consequences of the Expansion of Shallow Marine, Oxygen-Depleted Dead Zones	\$9,700
Waggener	Miles	CFAM	ART	Ghost Terrain	\$5,000
<b>Total Faculty UCRCA Awards:</b>					<b>\$75,514</b>

# Faculty Award Winner

## Dr. Christine Beard School of Music

### 2021 Award for Distinguished Research or Creative Activity

Whether inside the classroom or out of it, faculty have the opportunity to not only educate the next generation of leaders, but provide their own expertise towards expanding knowledge and understanding of important issues and experiences.

As professor of music and coordinator of woodwind studies, flute and piccolo at UNO, Christine Beard has had the opportunity to see generations of students graduate and become professional musicians all while performing around the world herself.

“As a performing musician, if I quit learning and growing as an artist, not only will I stop being current and effective, but I will no longer have anything to say in my music,” Beard

says. “As a champion of new music, it is important for me to work with living composers to bring about new music for my instrument and help to define the next generation's standard repertoire and performance practice.”

Over her 17 years as a UNO faculty member, Beard has had guest teaching residencies at the Conservatorio Giraldo Gerald and the Universidad Nacional de Cuyo (both in Argentina), the Universidad Federal do Rio Grande do Sul (Brazil), and the Leuven Academy of Music LUCA (Belgium).

To be honored with the Distinguished Research or Creative Activity Award, Beard says it reflects not only her own experiences and hard work, but the hard work and talent of her students and colleagues.

“I am honored to receive this award and to represent all of the musicians and creative artists on our campus. UNO is a special place to not only acknowledge but also reward the creative activity of their faculty on equal standing alongside traditional academic research, and I am proud to be part of a campus that values the arts in so many ways.”

(Article written by Charlie Steed, University Communications)



## WORK STUDY STUDENT RESEARCH PROGRAM AWARDS

The Office of Research and Creative Activity, by leveraging Federal Work Study funds has developed the UNO Work Study Student Research Program aimed to expand student research opportunities. The program funds work-study eligible students to work 10 hours per week on the faculty member's research and/or creative activities.

This program is intended to promote Diversity, Equity, and Inclusion in research activities, and individuals who are eligible for Federal Work-Study are included in the most recent definitions of underrepresented populations by many grant funding agencies. As such, creating research positions for work-study eligible students will provide underrepresented students with research experiences, mentorship from a research faculty, and access to professional development activities. Students in the program were expected to complete necessary training to participate in the research, including, but not limited to responsible conduct of research, IRB and/or IACUC training as appropriate.

All full-time faculty were eligible to apply and each application was reviewed for merit and mentoring experience. Positions were decided based on these criteria and funding availability. ORCA assisted faculty members in posting the student research positions and disseminating to students who qualified for Federal work study. Ultimate responsibility for screening, interviewing, and selecting students rested with each awarded faculty member. Projects that aligned with UNO Strategic Priorities, including UNO Big Ideas and NU-system collaborations were encouraged, but not required.

PI Last	PI First	College	Dept.	Project Title
Agrawal	Arvind	CBA	MKTG	Proposal for Funding Work-study Student Research Program
Aliaga-Linares	Lisette	CAS	SOC	The Electoral Politics of Street Vending in Metropolitan Lima
Bridgeford	Tracy	CAS	ENGL	Perspectives in Audience Analysis in Professional and Technical Communication
Cummins	Shannon	CBA	MKTG	Sales Performance
Harbour	Jennifer	CAS	BLKSTD	Colored Women Race for Toilets and Hang There: The World War II Western Electric Strike and Black Womens Defense of Restroom Rights and Labor Protections.
McCaffrey	Joseph	CAS	PHIL	Research and Editorial Assistant in the Philosophy of Mind / Cognitive Science
Sewell	Destynie	CBA	FINANCE	Utilizing block chain technology, specifically NFTs (non-fungible tokens), and smart contracts to help combat global poverty.
Suriano	Zachary	CAS	GEOG	Atmospheric Causes of Midwest Snowfall
Wong	Ryan	CAS	BIOL	Learning differences between bold and shy zebrafish

# Student Essay

**Amy Krejcarek**

**2020/2021 GRACA Awardee (Gerontology)**

The GRACA grant I received for distress reduction in long-term care residents included a participants' stipend. Each participant was compensated per session for time spent in individual meetings, mindful breathing and visualization practices, and follow-up interviews. The stipend was included in the budget as an incentive for residents to participate in the research study, and honor them by recognizing the time they contributed.



The paperwork to process the stipend was completed early December 2021. The checks were received at the study site and distributed prior to Christmas. With checks in hand, I met with each participant and thanked them once again for being involved in the study, showed them their checks, and said that they would be deposited into their trust accounts. They would have access to the money to pay for incidentals, such as hair appointments and items from the community store, and they could also withdraw the money for other purposes.

In addition to adding meaning and purpose to their lives (i.e., completing the study and receiving compensation), the checks were welcomed Christmas gifts to the residents. Two participants put the money towards taking their families out to eat. Another talked about buying a ceramic project. Many others were happy to have the extra money in their trust accounts to use it for however they wanted.

Without the GRACA grant, the participants would have not received a stipend. Although they said that they would have participated in the study regardless, the stipend was a kind way to honor the residents and their contributions.

# 2021-2022 Internal Funding Awardees

## Student Awards

### FUND FOR UNDERGRADUATE SCHOLARLY EXPERIENCES (FUSE)

FUSE grants support faculty-mentored undergraduate student research and creative activity. Grants of up to \$2,500 per student were available to UNO undergraduate students.

Last	First	Faculty Mentor	College	Dept.	Project Title	Award
Alsuleiman	Sarah	Davis	CAS	BIOL	Novel Compound to Combat Schistosoma mansoni Infection	\$2,500
Andersen	Alicia	Fallah Tafti	CEHHS	BMCH	Determining the impact of supervised exercise therapy on gait variability in patients with peripheral artery disease.	\$2,500
Andersen	Carly	Blaskewicz Boron	CPACS	GERO	Identifying the Impact of Building Systems on the Sleep Quality of People with MCI in Underprivileged Communities	\$2,500
Bennett	Maia	Denton	CAS	BIOL	Investigating the relationship between donor NK cell cytotoxicity profiles and NK cell killing capacity	\$2,500
Berko	Barry	Gabriel	CAS	RELG	The Paradoxical Theology of I.B. Singer: A Literary Analysis of Secular Influences on the Jewish Canon	\$2,500
Circo	Bella	Denton	CAS	BIOL	Assessing cytokine supplementation to improve lymphocyte viability after cryopreservation.	\$2,500
Dhakal	Isha	Scherer	CAS	PSYCH	The Role of Mindfulness on the Wellbeing of Nontraditional Versus Traditional College Students	\$2,050
Evans	Nate	Myers	CEHHS	BMCH	The alteration in ground reaction force while walking with assistive tennis shoes in patients with peripheral artery disease	\$2,500
Hampton	Sydney	Scherer	CAS	PSYCH	The Role of Self-Efficacy as a Mediator of the Relation between Strength of Religious or Spirituality Beliefs on Patient Adherence and Well-Being	\$2,000
Jareo	Mark	Shafer	CFAM	MUS	Microphone Emulations	\$2,480
Klucas	Sydney	Wong	CAS	BIOL	Anxiogenic effects of acute caffeine exposure on alternative stress coping styles in zebrafish (Danio rerio)	\$2,500
Maher	Tera	Toh	IST	SI2	Motivation and Value in Emergency Management Pre-Planning	\$2,451

# Student Essay

**Skylar Muller**

**2015/2016 FUSE Awardee (Psychology)**

I was awarded a FUSE grant some years ago, however, it is an award that has impacted me to this day. During my time at UNO, I was able to work with some incredible professors, including my mentor Dr. Rose Strasser. Thanks to the funding of the FUSE grant and the guidance of Dr. Strasser, I was able to accomplish many milestones I never imagined surpassing in my undergraduate years. With the aide of Dr. Strasser and her team of graduates, we were able to complete original research on human behavior in a zoo setting. I gained experience on how to submit a project for the IRB and IACUC to review, how to make a budget with the money I would be awarded, and how to manage my time to complete the project in a timely manner. This opportunity allowed me to present at a conference, giving me experience in using a poster to present research and important findings to the public and professionals. I took this experience to the 2017 UNO Fall Research and Creativity Fair, in which I won Third place for poster presentations in the undergraduate category. I used the knowledge and skills I gained from my experience at UNO to move on to a graduate program and get my master's degree. The benefits of the FUSE grant did not end there. In the spring of 2021, Dr. Strasser contacted me to ask if I wanted to publish the work we completed with the FUSE grant. I happily agreed and by November 2021 we were published in a special edition of Animal Behavior and Cognition Journal. Publishing in a peer reviewed journal as first author was a major goal of mine that I can say I have accomplished due to the mentorship and funding of the Fuse program. I am extremely grateful for this program and the experiences I have gained from it. Thanks to this grant and Dr. Strasser, I am able to apply the skills I have gained to current and prospective jobs in my field.



The FUSE program at UNO is an incredible program that can aide young professionals and kick start their careers by providing important resources in their field, knowledge and firsthand experience with research, as well as a lifelong mentor. I recommend this program to any up-and-coming students and encourage them to spread the word to their friends as well. I think it is essential that young researchers hear about the FUSE grant so they too can advance their careers early on. I hope in the future, I can be the mentor to the next generation as Dr. Strasser and this program has been for me.

## FUND FOR UNDERGRADUATE SCHOLARLY EXPERIENCES (FUSE)

Last	First	Faculty Mentor	College	Dept.	Project Title	Award
Majok	Amou	Dinkel	CEHHS	HK	Development of a Health Literacy Tool for Mental Health App Use	\$2,500
Mann	Alaina	Mustoe	CAS	BIOL	Under Pressure: Evaluating Marmoset Stress Responses to Music	\$2,500
Mavrov	Kalina	Curtze	CEHHS	BMCH	Eye opening insights into postural sway and dual tasking	\$2,000
Mellick	She Na	Rowen	CAS	BIOL	Characterization of the Role of PA5189 of Pseudomonas aeruginosa in Resistance to an Antimicrobial Peptide	\$2,500
Mitchell	Abigail	Mustoe	CAS	BIOL	Modulation of Responses to Third-Party Reciprocity via Oxytocin Signaling	\$2,500
Pecka	Caleb	Bastola	IST	SI2	Understanding Gene Regulation with Chromatin Accessibility	\$2,000
Plantenberg	Korryn	Girten	CAS	ENGL	Ecofeminist Analysis: Mary Shelleys Frankenstein	\$2,000
Powers	Marie	Slivka	CAS	HK	Impact of Topical Capsaicin Cream on Thermoregulation and Perception During exercise Within a Hot Environment	\$2,500
Rains	Alexia	Mukherjee	CEHHS	BMCH	The Effect of Tactile Augmented Insole Stimulation in a Sequential Pattern on Healthy Walking	\$2,000
Rice	Sage	Shafer	CFAM	MUS	Digital Mimicry: A Sonically Neutral Comparison Between Guitar Amplifiers and IR-Based Emulation	\$2,500
Rogalska	Dominika	Rowen	CAS	BIOL	Testing the impact of a pmrB mutation on antimicrobial peptide resistance in the bacterium Pseudomonas aeruginosa	\$2,500
Salrin	Sabrina	Kim	CAS	POLIS-CI	The Fight for Gender Equality and its Repercussions in South Korea	\$2,500
Stogdill	Hannah	Mukherjee	CEHHS	BMCH	Bilateral Passive Hip Exoskeleton for Stroke Survivors	\$2,000
Swiniarski	Max	Nedungadi	CAS	CHEM	Efficacy of Undergraduate Organic Chemistry Laboratories	\$2,150
Uppala	Lavanya	Tapprich	CAS	BIOL	Characterization of UNO-SLW2 infection of Pseudomonas fluorescens using bioinformatics analyses	\$2,500
Walters	Matthias	Slivka	CEHHS	HK	The Influence of Topical Menthol Cream on Thermoregulatory and Perceptual Outcomes During Exercise Within the Heat	\$2,500



# Faculty Mentor Reflection

**Dr. Kathryn Cooper**

**Bioinformatics and Biomedical Informatics**

I have had the pleasure of mentoring multiple students through multiple FUSE and GRACA awards during my time at UNO. It is one of my favorite mechanisms to offer to our students who are looking for a bit of research experience, for a few reasons: The commitment is only for one semester. I think for the student, the guarantee of a built-in, easy exit if the project (or the mentor!) isn't working out for them is reassuring. The limited commitment means they have choices on how to move forward after their project is complete. The application process for a FUSE or GRAVA gives the student a peek into the practice of grant writing in a simple, low stakes format. Finally, I always present the FUSE and GRACA awards as an opportunity to “self-fund” projects that they may want to perform in their domain of expertise. While the projects need to be in alignment with my research interests, there is a degree of freedom there for the student to become an expert in their very niche project space.

Once a student has been awarded, I ask the student to work with me to set up weekly or biweekly meetings. We map the timeline that they had proposed in their grant application to the semester calendar in front of us, working backwards from their project endpoint and ultimately, the UNO Creative Research and Activity Fair. Once our schedule has been established, the work begins. A favorite “lightbulb” moment is when a student new to research begins to problem solve and think critically without my prompting. At the beginning, they come to me with the problem, but soon they begin to solve the problem before they walk through my door, and only need my counsel to discuss their thought process before moving forward. Learning by doing, of course, helps students hone their critical thinking skills and their technical skills, but it also offers the opportunity to develop the confidence that they can problem solve on their own using the knowledge gained from their coursework. One of the biggest opportunities for students afforded by the FUSE/GRACA program is the opportunity to develop that confidence.

The FUSE/GRACA experience offers an entry point to the transition from trainee to independent researcher. The experience of conceptualizing a project idea, writing the application, implementing the project, and presenting the results is a wonderful exercise in project design and management. The majority of students that I work with tend to think **BIG** initially for their proposed project (which is always wonderful, yet many times scope is infeasible). Moving through the FUSE/GRACA process, they begin to understand why consideration of project scope and feasibility is so important. We can't (and shouldn't) always promise the moon. They also begin to understand the importance of collaboration, provision of resources, and the value of their time. While these skills are important for any researcher, these skills will serve them in any career path that they choose.



## FUND FOR UNDERGRADUATE SCHOLARLY EXPERIENCES (FUSE)

Last	First	Faculty Mentor	College	Dept.	Project Title	Award
White	Jacob	Matache	CAS	MATH	Operators on Analytic Function Spaces	\$2,500
Wilkinson	Casey	Blaskewicz Boron	CPACS	GERO	Planning for Retirement: The Implications of Realistic Retirement Previews	\$2,500
Wobser	Grace	Karabon	CEHHS	TED	Examining language development through play: How young children verbally interact while engaging with mobile exhibits in Museum Without Walls	\$2,500
Woods	Megan	Fallah Tafti	CEHHS	BMCH	The changes in gait variability pattern after revascularization in patients with peripheral artery disease.	\$2,500
Yanovich	Ben	Gift	CAS	CHEM	Designing a Cost-Effective 3D Printed Visible Spectrometer	\$2,500
<b>Total FUSE Awards:</b>						<b>\$78,631</b>
<b>Total FUSE Mentor Awards:</b>						<b>\$15,500</b>



2020/2021 FUSE Awardee Zach Jeppesen presents at the 2022 Student Research and Creative Activity Fair

## GRADUATE RESEARCH AND CREATIVE ACTIVITY (GRACA)

GRACA grants support faculty-mentored graduate student research and creative activity. Grants of up to \$5,000 per student were available to UNO graduate students.

Last	First	Faculty Mentor	College	Dept.	Project Title	Award
Adjei	Naomi	Beadle	CPACS	GERO	Characterizing Risk Factors for Burden in Caregivers to Individuals with Alzheimers Disease and Frontotemporal Dementia	\$4,426
Ahmadreza Razian	Sayed	Kamenskiy	CEHHS	BMCH	The Effects of Demographics and Risk Factors on the Biomechanical Characteristics of Human Femoropopliteal Arteries	\$5,000
Akbar Ahmadi	Ali	Desyatova	CEHHS	BMCH	Effect of Femoropopliteal Artery Deformations on the Intramural Arterial Stresses	\$5,000
Almaghrebi	Ahmad	Alahmad	ENGR (UNL)	ARCH	Plug-in Electric Vehicle Charging Demand Prediction Using Artificial Intelligence	\$5,000
Anderson	Cody	Park	CEHHS	HK	Evaluation of endothelial function, oxygenation, and foot thermodynamics in response to heated-water walking and ambient treadmill walking conditions in patients with PAD	\$5,000
Anderson	Angela	Clouther	CFAM	WRW	If You Cant Take the Heat, Stay Out of the Forge: Experiential Research in Female Blacksmithing	\$5,000
Ashaduzzaman	Md	Subramaniam	IST	CS	Semantic Segmentation of LNPs from (Cryo-TEM) images using Self-supervised learning techniques and automatic LNPs size distribution quantification	\$5,000
Azadmanesh	Shayda	Mustoe	CAS	BIOL	The Effect of Dietary Gum on Bifidobacterium Abundance in the Marmoset Gut	\$5,000
Briardy	Missy	Mustoe	CAS	BIOL	The Impact of Social Isolation on Cognitive Performance in Marmoset Monkeys	\$4,808
Burton	India	Clouther	CFAM	WRW	Black Women Queer Playwright Festival	\$5,000
Chapman	Melanie	Eikenberry	CPACS	PA	"Now it's time to do the work": Interpretive Policy Analysis of Douglas County's Declaration of Racism as a Public Health Crisis	\$5,000

# Student Essay

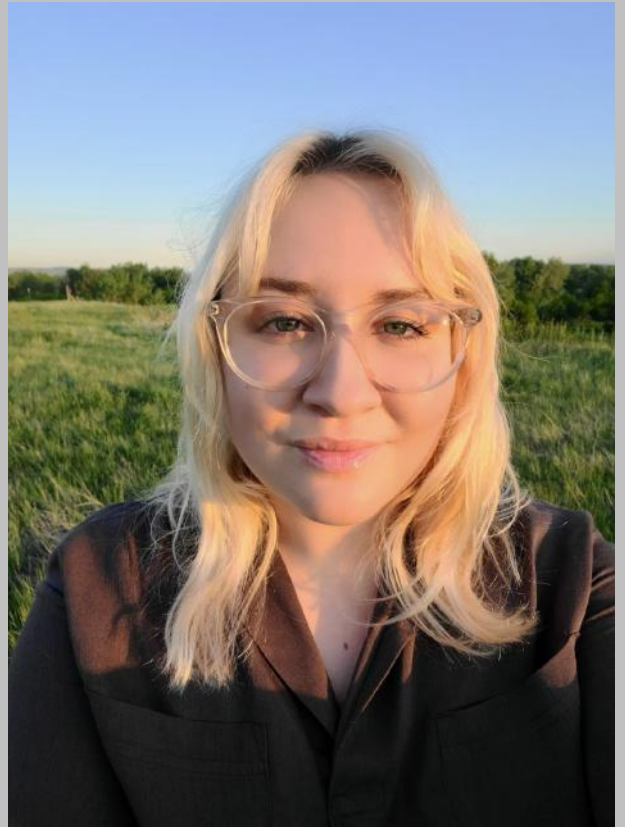
## Madeline Strong

### 2020/2021 FUSE Awardee (Criminology and Criminal Justice)

Being a FUSE recipient gave me the incredible opportunity to conduct research about the often overlooked issue of Missing and Murdered Indigenous Women (MMIW). My project, “An Inquiry into the Scope of MMIW on the Pine Ridge Indian Reservation and its Border Towns”, aimed to identify ways in which women go missing in this area and develop culturally informed intervention and prevention methods. It was an honor to work on this project under the mentorship of UNO’s Criminology and Criminal Justice Department’s Dr. Emily Wright, a member of the Cherokee Nation who is at the forefront of MMIW research. This project also allowed me to network with other individuals who are advocating for the same issue.

Research within Native communities has historically been extractive and/or exploitive, and it was important keeping this in mind throughout the study to ensure it was beneficial to the community. This included respecting tribal sovereignty and going through the tribe-specific research review processes, which act as a safeguard to maintain accountability and oversight of the various research projects on tribal lands. Another consideration I had to make was creating culturally specific and relevant questions to better understand how the topics I was researching impacted the specific locality I was studying. While MMIW is an issue affecting all Native peoples, tribes are not a monolith. While Native communities may share an overlap of problems that contribute to the crisis of MMIW, each community has its own unique issues. It was important to keep this in mind when crafting the interview questions and understanding the specific history of the reservation and border towns when inquiring about such things as police-community relations and the ongoing racial tensions in the border towns. It was important to know the trauma that certain questions carry and how to word them to minimize any harmful effects.

The entire process illuminated how to conduct research on tribal lands, specifically with the Oglala Sioux Tribe. I am grateful to have been a part of the crucial research being conducted concerning MMIW and look forward to future research projects in this field. For my fellow undergraduate students, if there is a topic you are passionate about, consider applying for FUSE and turning your interest into direct action. Having a variety of voices and perspectives benefits our Criminology and Criminal Justice department and puts UNO on the map as a leader in innovation, progress, and change.



## GRADUATE RESEARCH AND CREATIVE ACTIVITY (GRACA)

Last	First	Faculty Mentor	College	Dept.	Project Title	Award
Charles	Anaelle	Likens	CEHHS	BMCH	Mind Wandering and Gait Variability in Young and Older Adults	\$5,000
Choi	Ji Yeon	Rosen	CEHHS	HK	Changes in Physical Activity Behavior in Chronic Ankle Instability Patients after Episodes of "Giving-Way"	\$5,000
Copeland	Chris	Zuniga Ulloa	CEHHS	BMCH	The Influence of Prosthesis Use on Cortical Activation and Movement Variability	\$5,000
Corcoran	Jamie	Wong	CAS	BIOL	Associative Learning and Personality in Zebrafish	\$5,000
d'Amato	Alexis	Hunter	CAS	PSYCH	Creative Problem Solving: Toward Understanding Affectivity and Malevolent Creativity	\$5,000
Das Mohapatra	Anshuman	Oh	IST	CS	SWAN: Distributed Analytics and Smart Workload Prediction with Scalable Wide Area Network	\$5,000
David	Randall	Clouther	CFAM	WRW	"Miss Julie, Remixed"	\$5,000
Davis	Heather	House	IST	ISQA	Identifying Factors that Influence Undergraduate Women to Leave (or Remain	\$4,995
Delgado	Liliana	Zuniga Ulloa	CEHHS	BMCH	Comparing Coactivation Levels of Children with Congenital Upper Limb Reductions Before and After 8-week Prosthesis Use	\$5,000
D'Ovidio	Andrew	Zuniga Ulloa	CEHHS	BMCH	Development of Polymer Recycling Protocols and Mechanical Testing of Recycled Antimicrobial Polymers for Additive Manufacturing with Applications in	\$5,000
Engsberg	Chris	Mukherjee	CEHHS	BMCH	The Brain Correlates of Tactile Augmented Insole Stimulation in Sequential Patterns During Walking	\$5,000
Fichter	Katie	Wilkins	CEHHS	HK	The Relationship Between Post-Operative ACL Reconstruction Progress and Depression and Anxiety Scores in Collegiate Athletes	\$5,000
Fraser	Kaitlin	Zuniga Ulloa	CEHHS	BMCH	The Influence of 3D Printed Prostheses on Neural Activation Patterns of the Primary Motor Cortex in Children with Unilateral Congenital Upper-limb Reductions	\$5,000
Gochenour	Danielle	Wilkins	CEHHS	HK	The Relationship Between Hamstring Tightness and Pelvis Movement in College Softball Pitchers	\$5,000

## GRADUATE RESEARCH AND CREATIVE ACTIVITY (GRACA)

Last	First	Faculty Mentor	College	Dept.	Project Title	Award
Goldsmith	Michaela	Richards	CPACS	CJUS	Negative Emotionality, Anger, and Strain: A GST Approach to Intimate Partner Violence	\$5,000
Granatowicz	Zach	Zuniga Ulloa	CEHHS	BMCH	Development and Validation of a Low-Cost 3D Printed Upper Limb Prosthetic Simulator	\$5,000
Grunkemeyer	Alli	Likens	CEHHS	BMCH	Stochastic Resonance and Heaviness Perception of an Occluded Object	\$5,000
Hagge	Brayton	Osborn	CAS	ENGL	Not So Novice?: Evaluating Multilingual Students' Competencies During Peer Review in First-Year Writing	\$5,000
Hassan	Mahdi	Myers	CEHHS	BMCH	Peak pressure distribution between a custom-made cushion and a regular chair	\$5,000
Hegdahl	Tiffany	Wilson	CAS	BIOL	Genome-wide analysis of introgression between <i>Sciurus</i> species and investigation of melanism and aggression genes from whole genome sequencing	\$5,000
Hultine	Shane	Knarr	CEHHS	BMCH	Wearable Mobile Arm Support	\$5,000
Hyland	Mackenzie	Wilson	CAS	BIOL	Development of a Body Condition Index in Zoo-managed Male African Elephants ( <i>Loxodonta africana</i> ) Validated by Metabolic Hormones	\$5,000
Johnson	Theodore	Eikenberry	CPACS	PA	Quieted Voices: A Phenomenological analysis of the experiences of Black/ African-American collegiate aviation students	\$5,000
Kazim	Madiah	Jadidi	CEHHS	BMCH	Co-registration of intravascular ultrasound with the conventional histology images in the femoropopliteal artery	\$5,000
Kersten	Emily	Christensen	CAS	ENGL	Analyzing Multimodal Projects in the UNO Composition Classroom	\$5,000
Kodali	Akhil	Song	IST	CS	Tool Support for Validating Machine Learning Applications	\$5,000
Koelzer	Jared	Petrow	CAS	POLI	A Study on Anger in Politics: How Political Candidate Diversity Affects The Perceptions of their Anger Expressions	\$5,000
Krushas	Amber	Kulig	CPACS	CJUS	Examining Theoretical Correlates of Recurrent Victimization in Adulthood	\$5,000
LeVan	Dana	Weaver	CFAM	MUS	What's the Big Gyl?	\$1,360

## GRADUATE RESEARCH AND CREATIVE ACTIVITY (GRACA)

Last	First	Faculty Mentor	College	Dept.	Project Title	Award
Lilley	Olivia	Clouther	CFAM	WRW	My Thesis Feature Film: A Twin Flames Project	\$5,000
Lindquist	Isaac	Kramer	CAS	PSYCH	Examining Trust and Friendship Networks within Collegiate Baseball Teams	\$5,000
Mahr	Anna	Denton	CAS	BIOL	Agonism of TLR9 and TLR7 to enhance NK cell-mediated clearance of B-cell lymphoma	\$5,000
McGlynn	Mark	Slivka	CEHHS	HK	Saliva-Derived Molecular and Hormonal Responses to Acute Endurance Exercise	\$5,000
McWilliams	Jarold	Feng	CBA	BA	A New Economic Development Model: Better Than the East Asian Model	\$5,000
Millier	Meagan	Reiter-Palmon	CAS	PSYCH	The Effects of Family Support on the Relationship Between Workplace Stressors and Creativity	\$5,000
Mingo	Maddie	Knarr	CEHHS	BMCH	Retest Reliability of Bilateral and Isolated Force Control Tasks in a Healthy Population	\$5,000
Miyazaki	Atsuhito	Burcal	CEHHS	HK	The relationship between muscle activity or weakness and plantar pressure	\$5,000
Moayedi	Sam	Alahmad	ENGR (UNL)	ARCH	Analysis and statistical prediction of buildings load profile variability	\$5,000
Mun	Seongwoo	Hunt	CEHHS	BMCH	ADAPTATION TO THE CONSTANTLY REPEATED MEDIOLATERAL FOOT PLACEMENT PERTURBATIONS	\$5,000
Nandy	Gargi	House	IST	ISQA	Telehealth Security from a Users Perspective: Moving Beyond COVID-19 and Into A New Normal	\$5,000
Nkrumah	Richard	Maher	CPACS	PA	Rethinking public financing of public projects: Exploring civic crowdfunding in local governments	\$4,999
Odanye	Oluwaseye	Knarr	CEHHS	BMCH	THE IMPACT OF REGULATED AFO PLANTARFLEXION AND DORSIFLEXION RESISTANCE ON BIOMECHANICS AND MUSCLE ACTIVITY OF INDIVIDUALS POST-STROKE.	\$5,000
Odd	Kali	Blaskewicz Boron	CPACS	GERO	Retirement Planning and Preparation in the COVID-19 Era: A Holistic Approach	\$5,000
Parker	Sheridan	Knarr	CEHHS	BMCH	Impact of Virtual Reality Use on Neural Activations for Individuals Post-Stroke	\$5,000
Pekas	Liz	Park	CEHHS	HK	Cardiovascular and autonomic responses to acute exposure to mild hypercapnic conditions	\$5,000

## GRADUATE RESEARCH AND CREATIVE ACTIVITY (GRACA)

Last	First	Faculty Mentor	College	Dept.	Project Title	Award
Poomulna	Jutharat	Kingston	CEHHS	BMCH	Comparison of lower limb 3D kinematic outcomes between markerless and marker-based systems during overground walking in children cerebral palsy (CP).	\$5,000
Pradhan Newar	Dip Kiran	Song	IST	CS	Tool Support for Validating API Usages for Software Reliability	\$5,000
Quick	Michelle	Clouther	CFAM	WRW	The Howler Project	\$5,000
Reyes Nunez	Reyna	Mwarumba	CPACS	PA	Comparative Analysis of Risk Perception and Sense-Making of COVID-19 interventions: Case Study of Muhoroni, Kenya	\$5,000
Sado	Takashi	Mukherjee	CEHHS	BMCH	The Effect of Tactile Stimulation on brain activity during walking: The effect of walking speed	\$5,000
Salamifar	Seyedeh Zahra	Myers	CEHHS	BMCH	Assistive exoskeleton footwear to improve functional performance and muscle oxygenation in individuals with calf muscle weakness.	\$5,000
Sarwar	Shifat	Mastorakis	IST	CS	Computation Graph Anonymization in Edge Computing	\$5,000
Seamann	Austin	Gheresi	IST	SI2	Computational Tools for Developing Peptide-based Viral Inhibitors	\$5,000
Sexton	Jennifer	Strasser	CAS	PSYCH	Measuring neurodevelopmental effects of polygenic risk for Alzheimers disease via longitudinal study of brain and cognitive variables in periadolescent children	\$5,000
Shahbad	Ramin	Desyatova	CEHHS	BMCH	The effect of nitinol treatment and stent shape design factors on the mechanical performance of stent rings: A parametric study	\$5,000
Shuvo	Nahid	Zhu	IST	CS	Object Trajectory Prediction using Hybrid Deep Learning based Approach for Autonomous Vehicles	\$5,000
Song	Xiaowei	Ebdon	CPACS	PA	The Mediation Effect of Airport Capital Expenditure on the Relationship between Federal Aid and Airport Efficiency: Evidence from Primary Commercial Service Airports in the U.S.	\$5,000
Sperflage	April	Wilson	CAS	BIOL	Survey for Eastern Spotted Skunks (Spilogale putorius) in Nebraska	\$5,000



## GRADUATE RESEARCH AND CREATIVE ACTIVITY (GRACA)

Last	First	Faculty Mentor	College	Dept.	Project Title	Award
Steffensen	Emily	Knarr	CEHHS	BMCH	High-Intensity Gait Training in Early Subacute Stoke Survivors	\$5,000
Stehl	Mollie	Stamatis	CEHHS	TED	Omaha Urban Thinkscapes (OUT) Project	\$4,303
Takallou	Mohammad Ali	Cheng	CAS	MATH	Prediction of the Number of COVID-19 Cases Using LSTM Model and Combination of Different Data Streams	\$5,000
Thelagathoti	Rama Krishna	Ali	IST	CS	A Population Analysis Approach for the Detection of Various Mental Disorders using Correlation Networks and Mobility Data	\$5,000
Tisko	Mary	Casas	CAS	PSYCH	An Examination of the Effects of Different Body Image Content on Instagram	\$5,000
Vogel	Colleen	Rosen	CEHHS	HK	The Relationship Between Chronic Ankle Instability and Sleep Behavior	\$5,000
Wang	Yi-Fan	Chen	CPACS	PA	Artificial Intelligence in Public Governance: Chatbot Applications in	\$5,000
Weber	Nick	Sollars	CAS	PSYCH	Effects of Nerve Transection on Taste Nerve Function	\$5,000
Weiss	Alicia	Scheffel	CEHHS	SPEECH	The use of quality-of-life surveys to measure the efficacy of SPEAK OUT! therapy on individuals with Parkinsons Disease	\$5,000
Wijesooriya	Pubudu	Mastorakis	IST	CS	Mixed Reality-Based Gait Training Application with Microsoft HoloLens 2	\$5,000
Yang	Rui	Farhat	IST	CS	Convergence of Multi-Robot Formation in ROS	\$5,000
Yoo	Takhyun	Burcal	CEHHS	HK	Correlation between Center of Pressure Deviation and Proprioception Performance in those with Chronic Ankle Instability.	\$5,000
Zahan	Hasniuj	Mastorakis	IST	CS	Malicious Device Detection in a Smart Home	\$5,000
<b>Total GRACA Awards:</b>						<b>\$404,891</b>
<b>Total GRACA Mentor Awards:</b>						<b>\$34,000</b>

## **“On the Value of Student Research and Creative Activity”**

**Caralin Branscum**

**2020/2021 GRACA Awardee (Criminology and Criminal Justice)**

I am going into my third year in a Ph.D. program with the School of Criminology and Criminal Justice, and I was awarded a GRACA grant in 2020. I am incredibly grateful for this experience. I was aware of UNO ORCA's FUSE/GRACA programs before attending UNO because the Ph.D. students in the School of Criminology and Criminal Justice raved about them. As a result of the GRACA grant, I was afforded a unique opportunity to dedicate an entire summer to a research project that I was passionate about and could explore my questions. My GRACA mentor, Dr. Tara Richards, was also incredible. She provided invaluable information that helped guide my analyses and the write-up of an eventual publication based on the data used for the GRACA grant (Branscum & Richards, 2022). The "GRACA experience" helped me learn and grow my research skills, and I will always be grateful for the experience.



**Branscum C. & Richards, T. (2022).** An Updated Examination of the Predictors of Running Away from Foster Care in the United States and Trends over Ten Years



### **Faculty Mentor Statement**

**Troy Romero, Ph.D.**

**Goodrich Scholarship Program**

Being a FUSE mentor completes the circle of what I “imagined” being a college professor was, long before I actually became one. I love being in a classroom, working with students who are learning material for the first time and developing skills that will be the foundation for the kind of thinkers and citizens they will be long after they complete their degrees. Being a FUSE mentor is a concentrate of that experience. Working on a FUSE project can be arduous, as is any prolonged and advancing research is, but few things in higher education are as rewarding. I remember when I was an undergraduate, working on research, honing my skills, and seeing my potential future as a psychologist. Working as a FUSE mentor provided me a chance to relive that experience and guide the future researcher.

## UNIVERSITY COMMITTEE ON RESEARCH AND CREATIVE ACTIVITY (UCRCA) Student Awards

The purpose of the UCRCA is to expand the capacity for research and creative activity at UNO. UCRCA supports all areas, types, and disciplines of research and creative activity by pre- and post- tenured faculty and graduate and undergraduate students.

Last	First	Faculty Mentor	College	Dept.	Project Title	Award
Evans	Nate	Myers	CEHHS	BMCH	Physical Activity Impacts Walking Distances and Energy Consumption of Patients with Peripheral Artery Disease	\$500
Larson	Brianna	Melanson	CAS	PHIL	A DEFENSE OF GRADED ACCESS CONSCIOUSNESS: Observations on Emotion, Nonconscious Processing, and Global Workspace Theory	\$500
Lea	Monica	Heckler	CPACS	PA	Exploring Administrative Evil, the Ethics of Dissent, and Guerrilla Government in The Good Place	\$500
Lea	Monica	Heckler	CPACS	PA	Employing Social Equity: Analyzing the Roles and Responsibilities of Chief Diversity Officers in State Governments	\$500
Lee	Michael	Maher	CPACS	PA	Social Equity, Transparency and Accountability, and Ethics Theories on Public Budgeting in Cross-sector Collaboration: Fresh Perspectives on Best Practices	\$500
Ouattas	Abderrahman	Hunt	CEHHS	BMCH	Kinematic factors that best discriminate falls from recoveries following unconstrained slips	\$500
Rasmussen	Corbin	Hunt	CEHHS	BMCH	Mechanisms of Fall Resistance to Diverse	\$500
Reyes Nunez	Reyna	Jamieson	CPACS	PA	The crossroads of social equity, public health, and public administration in a post-pandemic era: lessons from H. George Frederickson work	\$500
Staudacher	Elizabeth	Myers	CEHHS	BMCH	Ankle-foot orthoses prevent ankles excessive range of motion in patients with peripheral artery disease before and after 3 months intervention	\$150
Williamson	Tori	Nedungadi	CAS	CHEM	Bridging the Learning Gap between Undergraduate General Chemistry and Organic Chemistry	\$500
Wong	Jonathan	Benenson	CPACS	PA	Employing Social Equity: Analyzing the Roles and Responsibilities of Chief Diversity Officers in State Governments	\$500
<b>Total UCRCA Student Awards:</b>						<b>\$5,150</b>

## 2021-2022 FACULTY MENTORS

FUSE grants support faculty-mentored undergraduate student research and creative activity.

GRACA grants support faculty-mentored graduate student research and creative activity.

The purpose of the UCRCA is to expand the capacity for research and creative activity at UNO. UCRCA supports all areas, types, and disciplines of research and creative activity by pre- and post- tenured faculty and graduate and undergraduate students.

A special thank you to the following faculty mentors.

Moe Alahmad	Zhigang Feng	Spyridon Mastorakis	Myoungkyu Song
Hesham Ali	Jeanette Gabriel	Valentin Matache	Kristina Stamatis
Dhundy Bastola	Dario Gherzi	William Melanson	Rose Strasser
Janelle Beadle	Alan Gift	Mukul Mukherjee	Mahadevan
Jodi Benenson	Kristin Girten	Aaryn Mustoe	Subramaniam
Julie Blaskewicz Boron	Nuriel Heckler	Njoki Mwarumba	William Tapprich
Christopher Burcal	Deanna House	Sara Myers	Christine Toh
Juan Casas	Nathaniel Hunt	Sachin Nedungadi	Hannah Weaver
Yu-Che Chen	Samuel Hunter	Kwangsung Oh	Sam Wilkins
Xiaoyue Zoe Cheng	Majid Jadidi	Sarah Osborn	James Wilson
Margarette Christensen	Tom Jamieson	Song-Young Park	Ryan Wong
Kevin Clouther	Alexey Kamenskiy	Gregory Petrow	Qiuming Zhu
Carolin Curtze	Anne Karabon	Roni Reiter-Palmon	Jorge Zuniga Ulloa
Paul H. Davis	Hannah Kim	Tara Richards	
Paul W. Denton	David Kingston	Adam Rosen	
Anastasia Desyatova	Brian Knarr	Donald Rowen	
Danae Dinkel	William Kramer	Lucia Scheffel	
Carol Ebdon	Teresa Kulig	Lisa Scherer	
Angela Eikenberry	JooHo Lee	Seth Shafer	
Farahnaz Fallah Tafti	Aaron Likens	Dustin Slivka	
Hassan Farhat	Craig Maher	Suzanne Sollars	

# OFFICE OF RESEARCH & CREATIVE ACTIVITY

## INTERNAL FUNDING OPPORTUNITIES AND SUMMARY

The University of Nebraska at Omaha shall not discriminate based upon age, race, ethnicity, color, national origin, gender-identity, sex, pregnancy, disability, sexual orientation, genetic information, veteran's status,

**Contact Us:**  
**Phone: 402.554.2286**  
**Email: [unoorca@unomaha.edu](mailto:unoorca@unomaha.edu)**

### University Committee on Research and Creative Activity (UCRCA)

The purpose of the UCRCA is to expand the capacity for research and creative activity at UNO. UCRCA supports all areas, types and disciplines of research and creative activity by pre- and post- tenured faculty and graduate and undergraduate students.

The award strives to recognize and honor preeminent achievement in research or creative activity by faculty members of UNO.

Additional information and guidelines at [unomaha.edu/ORCA](http://unomaha.edu/ORCA)

### Fund for Undergraduate Scholarly Experiences (FUSE)

FUSE grants support faculty-mentored, undergraduate student research and creative activity. Grants of up to \$2,500 per student are available to currently enrolled UNO undergraduate students. Additional information and guidelines at [unomaha.edu/ORCA](http://unomaha.edu/ORCA)

### Graduate Research and Creative Activity (GRACA)

GRACA grants support faculty-mentored, graduate student research and creative activity. Grants of up to \$5,000 per student are available to currently enrolled UNO graduate students. Additional information and guidelines at [unomaha.edu/ORCA](http://unomaha.edu/ORCA)

### Research Development Program

The Research Development Program provides support for a 12-month, doctoral level GRA, including 75% of the stipend, fringe benefits, health insurance, and tuition for two years to successful applicants. This funding is provided by the University of Nebraska Central Administration, the Office of Research and Creative Activity, and Graduate Studies. The remaining 25% must be provided by the College and/or Department as a cost-share. Any student who will be accepted and enrolled in a UNO doctoral program is eligible to be supported by the program, including international students. If students do not receive a fellowship to replace this GRA within the two years of support, the faculty can reapply for two more years, the department can fund the student, or the student can fill a teaching assistantship. Assistantships may begin as early July 1, 2023.

### UNO Work Study Student Research Program

This program is intended to promote Diversity, Equity, and Inclusion in research activities, and individuals who are eligible for Federal Work-Study are included in the most recent definitions of underrepresented populations by grant funding agencies. As such, creating research positions for work-study eligible students will provide and underrepresent students with research experiences, mentorship from a research faculty, and access to professional development activities. Students in the program are expected to complete necessary training to participate in the research, including, but not limited to responsible conduct of research, IRB and/or IACUC training as appropriate. Funding will support a total of 10 students at \$10/hour for 150 hours each during the Spring and Summer terms. Any student must be a UNO student eligible for Federal Work Study. Funding may begin as early as January 2023 and can be used until June 30, 2023

## 2021- 2022 Internal Funding Program Totals

PROGRAM	TOTAL	Number of Awards
UCRCA Faculty	\$75,514	10
UCRCA Student	\$5,150	11
FUSE Student	\$78,631	33
FUSE and GRACA Faculty Mentor	\$49,500	68
GRACA Student	\$404,891	82
<b>Grand Total</b>	<b>\$613,686</b>	<b>204</b>