

SURE

Student Undergraduate
Research Experience



Symposium

A showcase and celebration of USask undergraduate
research, scholarly, & artistic works

August 27, 2025



UNIVERSITY OF SASKATCHEWAN

Research Acceleration
and Strategic Initiatives

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Program

8:30	Registration
9:00 - 9:30	Opening Remarks: Jordan Epp, Undergraduate RSAW Coordinator
	Words of Welcome: Brette Kristoff, Professional Skills Coordinator & Future Skills Innovation Lead
9:30 - 11:00	Session One: Presenter List Below
11:00 - 11:30	Break
11:30 - 1:00	Session Two: Presenter List Below
1:00 - 1:30	Lunch
1:30 - 3:00	Session Three: Presenter List Below
3:00 - 3:30	Reception
3:30 - 4:30	Closing Congratulations: Dr. Baljit Singh, Vice-President Research
	Closing Reflections: Norah Jacobs, Vice- President Academic Affairs, USSU
	Awards Ceremony: Details, Recipients and Sponsors Below

Full List of Presenters

Session One
9:30-11:00am

Student's Name	Title of Project	Supervisor(s) and Collaborator(s)
Abrar Tarhuni	Effect of Collagen Coating Type on Human Glomerular Cell Integration in a Glomerular Basement Membrane-on-a-Chip Model	Dr. Amira Abdelrasoul
Ardalan Askarian	Enhancing Annotation Consistency and Efficiency: A Study of SIFT-Assisted Image Annotation in Computer Vision	Dr. Mark Eramian, Arash Sajjadi
Baolin Yang	ContextBridge	Dr. Banani Roy, Justin Schneider
Bilal Ahmed	Development of a Novel Point of Collection Diagnostic Assay for Plants	Dr. Christopher Eskiw, Ethan Done, Tayab Soomro, David Sizmon
Doreen Patel	Boosting Pollen Survival: Testing Nutrient and Cryoprotectant Strategies for Better Cryopreservation	Dr. Teagen Quilichini (supervisor), and Dr. Huajin Sheng (collaborator)
Doris Yim	Development of DISC1-Targeted Chemical Probes for Modulating Wnt Signaling Pathway	Dr. Robert Laprairie, Dr. Adelaine Leung, Dr. Ed Krol
Enoch Yang	Design, Construction, and Testing of a Lower Body Negative Pressure (LBNP) System for Assessing Vascular Function in Humans	Dr. Thomas J. Jurrisen, Dr. T. Dylan Olver, Dr. Corey R. Tomczak, Adam M. S. Luchkanych, Keenan Eiserman, M. Rafique Khan
Erika Mourre	Educational Interventions for Healthcare Professionals Caring for 2SLGBTQ+ Older Adults: A Scoping Review	Dr. Natasha Hubbard Murdoch, Collaborator: Steven Hall
Ethan Adams	Effects of Psilocin on Brain Inflammation Associated with Depression	Dr. Tyler Wenzel
Gabriel Swetlikoff	Effect of Wave Action Exposure on <i>S. acutus</i> Growth in Freshwater Lakes	Dr. Jeffrey Lane, Jacey Bell
Isaac McKay	Autostereoscopic Digital Plant Scan Gallery	Dr. Ian Stavness
JC Nibirantiza	Transportation Poverty	Dr. Jacob Alhassan and Timi Oni
Kashika Dhar	Characterization of Type III interferons (Interferon lambda) in bats and humans - (working title)	Dr. Arinjay Banerjee, Dr. Jenik Kristof
Khush Kakadiya	Boosting the neutrophil migration by a small molecule mimetic of ATP synthase, BTB06584	Dr. Gurpreet
Liam Elias	Deep insights into cuprates: deep-learning study of quantum spin fluctuations in high-temperature superconductors	Dr. Kaori Tanaka
Mahafujul Hamid Ananda	An Avian Influenza virus dashboard and mutation detection	Drs. Lingling Jin, Mohamed Helmy.
Maria Haneef	Effect of Hormone Replacement Therapy (HRT) on oral discomfort and salivary flow in Menopausal women: A systematic review	Dr. Elis Batistella
Mia Dionne	2-Arm Pyrene Derivative Thin Films	Dr. Amy Stevens
Nahema-Bea Tchokonté D	Biocatalytic synthesis of caffeic acid via the NahE aldolase enzyme	Dr. David R.J. Palmer (supervisor), Ahmad Reza Salehi
Nelbien Wryniell Murillo	CELEBRATING 40 YEARS OF SENIOR CO-HOUSING IN CANADA: A COMMUNITY-BASED PROJECT WITH ABBEYFELD CANADA	Dr. Natasha Hubbard Murdoch, Erika Moore

Full List of Presenters

Session One
9:30-11:00am

Student's Name	Title of Project	Supervisor(s) and Collaborator(s)
Rene Thompson	Assessment of Inhibition of Heat Shock Protein B1 Phosphorylation on Myometrial Cell Inflammation	Dr. Daniel MacPhee
Rhea Martin	APOBEC3F and APOBEC3G Hetero-oligomerization	Dr. Linda Chelico
Ronin Sawitsky	Characterization of Nucleus Accumbens Dopaminergic Activity During the Odour Span Task for Working Memory	Dr. John Howland. Collaborators: Kirk Mulatz, Ilne Barnard, Aiden Glass, Caleb White
Samantha Allan	APOBEC3B Regulates cMyc Through its Protein Interaction Network	Dr. Linda Chelico
Santiago Camacho	A Finite Element Method for SAR Radar Simulations	Dr. Alexey Shevyakov, Dr. Steve Shirtcliffe, Kwabena Nketia
Sara Pilon	Documenting Indigenous and Settler Land Use in the Redberry Lake Biosphere Region	Dr. Cheryl Troupe, Jessy Lee Saas, UNESCO Redberry Lake Biosphere Region, Aqsa Hussain, Elizabeth Martens, Sarah Trevor
Shawn Neudorf	Non-invasive evaluation of Cape Churchill caribou reproductive rates	Dr. Ryan Brook
Shelby Harris	Chimeric Lassa Virus Glycoproteins for Broad and Durable Vaccine Coverage	Dr. Chandra Bose Prabakaran, Dr. Darryl Falzarano
Stacy Kim	?Evaluating Zoonotic Potential of Chronic Wasting Disease in Transgenic Mice Using Prion Amplification Assays	Dr. Kylee J. Drever, Dr. Hermann Schaetzl, Yo-Ching Cheng,
Stefanie Kiriazopoulos	Comparing Emergency Department Pain Management Practices for Pediatric Musculoskeletal Injuries	Dr. Kyle Guild, Dr. Revathi Nair, Dr. James Stempien, Dr. Tracy Wilson
Stuti Thakkar	Characterization of iron acquisition pathways in Morganella morganii, an emerging One Health opportunistic pathogen	Dr. Jessica R Sheldon, Christine Joyce Francisco, Tanasha Iftekhar
Tanner Johnson	Behemoth Berries. Polyploidy Induction in Haskap (Lonicera caerulea) (working title)	Dr. Anže Švara
Woody Morrice	Effects of Navigation Interface on File Retrieval and Revisitation in Modern IDEs	Dr. Carl Gutwin

Full List of Presenters

Session Two
11:30-1:00pm

Student's Name	Title of Project	Supervisor(s) and Collaborator(s)
Aaron Su	Investigating the interplay between sepsis and lipid profiles	Dr. Scott Widenmaier
Adam Webster	Flat Becomes Her: Assessing the Feasibility of Pressed Leaves for Spectral Analysis	Dr. Reisha Peters
Andrew Delainey	Investigation of the Understudied Phages of <i>Borrelia burgdorferi</i>	Dr. Jenny Wachter (Supervisor, Satyendar Hansra, Supriya Ramesh)
Angi Patel	Lived experiences of Métis cancer patients, survivors, and caregivers in Saskatchewan	Dr. Tracey Carr, Terri Hansen-Gardiner, Andre Letendre, Rachel Hewitt, Tegan Brock
Anthony Blower	Visualization of Uncertainty in Isoline Ensembles	Dr. Carl Gutwin
Cameron Beattie	KeyChords: Chording as a Viable Alternative to Traditional Modifier-Based Shortcuts	Dr. Carl Gutwin, Dr. Andy Cockburn: University of Canterbury
Hao Li	Haskap Nutritional Profile, Bioactivity, and Sensory Attributes Evaluation	Dr. Haixia Zhang
Izza Shahid	Mapping Mental Health Resources for Indigenous Children and Youth	Supervisor: Dr. Kristy Kowatch; Collaborators: Dr. Cari McIlduff, Dr. Megan O'Connell, Karen LaRocque (Les Filles De Madeleine); Students: Kylee Haglee, Iman Dar
Jay Patel	Exploring the Interactome of Mesencephalic Astrocyte-Derived Neurotrophic Factor using BioID Technique	Dr. Anand Krishnan
John Miller	Extending Regular Expressions: Parallel Expressions	Dr. Ian McQuillan
Kaitland Fior	Evaluating alternative splicing of synaptic targets in primary neurons with hnRNP A1 knockout	Dr. Michael Levin, Miranda Messmer
Karar Al-Shanoon	Greenskeye Web Application	Dr. Ian Stavness, Dr. Lingling Jin
Kenny Ta	Investigating How Voluntary Long-Term Exercise Modulates Physical and Cognitive Health in Young and Aging Mice in Both Sexes	Dr. Kenny Ta, Rachel Digneau, Qurat Ul Ain, Jian Park, Marzi Sedighipour Chafijiri, Tanisha Mehra, Mitchell Anstey, Dr. Justin Botterill, Dr. John Howland, Dr. Yifei Dong
Kirstyn Robertson	Exploring the Self-Compassion Intervention Preferences of Athletes with Intersecting and Unfolding Identities	Dr. Kent Kowalski, Lucie Blackburn, Kianna Cadman
Lucie Blackburn	Exploring the Role of Intersecting Identities on Self-Compassion Intervention Preferences of Athletes: Considering Sport Context	Dr. Kent Kowalski, Kirstyn Robertson, Kianna Cadman
Olivia Robinson	How Point Cloud Orientation Influences Percentile-Based Canopy Height Estimation in Wheat	Dr. Scott Noble, Keith Halcro, Kara Walz
Pahul Singh	Twists and Turns in Matrix-Valued Polynomials	Dr. Steven Rayan, Jeremy Bell, Jason Main, Anna McQuillan
Patrick Sarmiento	Influence of Brain Adenosine Dysregulation in the Non-Motor Symptoms of Parkinson's Disease	Dr. Francisco Cayabyab, Mahboubah Pordeli, Genre Sanfuego
Pratheesh Soman	Investigations into the deep phylogeny of Angiosperms.	Dr. Lingling Jin

Full List of Presenters

Session Two
11:30-1:00pm

Student's Name	Title of Project	Supervisor(s) and Collaborator(s)
Raina Owen	Determining the Characteristics that Cause Lodging of Mature Wheat Through Oscillation	Dr. Ian Stavness, Dr. Scott Noble, and Keith Halcro
Reed Simonson	Expression of multiple sclerosis patient derived hnRNP A1 mutants induces a neurodegenerative phenotype in a neuronal cell line, implications for mechanisms of neurodegeneration in MS.	Dr. Michael Levin
Riley Lesyk	Identification of Neutrophil Subtypes in Canine Hemangiosarcoma cases	Dr. Gurpreet Aulakh
Samantha Jelfimow	Identifying the genes Salmonella requires for long-term environmental persistence using a water survival assay (working title)	Dr. Aaron P. White (supervisor), Rylan D. Bahrey, Sylvia Li, Michelle Gerber, Jessica Sparrow, Young Min Kwon, Mohamed Helmy
Sierra Siedlecki	Monounsaturated Fatty Acids	Dr. Scott Widenmaier
Spencer Dmytruk	Exploring the Correlation Between Immune Activation Biomarkers and Physical Symptoms in Hemodialysis Patients	Dr. Ahmed Shoker, Dr. Amira Abdelrasoul, Jumanah Bahig
Taylor Swistun	Improving the Synthesis of Copper Hydride Nanoclusters and Investigating their Role as a Heterogeneous Catalyst in Hydrogenation Reactions	Dr. Rob Scott
Teigan McDonald	HOW TATTOO ARTISTS MAINTAIN LEGITIMACY IN ABSENCE OF MARKET STRUCTURES	Dr. Adam Slobodzian
Varun Mundi	Meewasin: Life and Living in the Saskatoon River Valley	Dr. Luke Heidebrecht, Craig Harkema
Vianne Chang	Flow cytometric detection of cells productively infected with HIV in blood and tissues of humanized immune system mice	Dr. Kerry Lavender
Vivek Nrusimhadevara	Adolescent flourishing in Uganda	Dr. Carol Henry, Dr. Jessica Leifers
Will Rice	HIV-1 Vif Subtype-Specific Mutations Differentially Impact APOBEC3F and APOBEC3G Degradation	Dr. Linda Chelico
Zeel Gandhi	Investigation of Fumagillin degradation products for residual monitoring in honey.	Supervisors: Dr. Randy Purves and Dr. Anas El Aneed; Collaborators: Bryn Shurmer, Fatma Ellessawy, Michelle West

Full List of Presenters

Session Three
1:30-3:00pm

Student's Name	Title of Project	Supervisor(s) and Collaborator(s)
Abdel Malek Etagiuri	Revisiting the Climatic Impact of El Chichon: AOD Analysis from Lidar and other Datasets	Dr. Matthew Toohey
Abigail Essilfie-Dughan	Warnings and explanations of e-commerce sites explored through a simulated interactive e-commerce site	Dr. Julita Vassileva, Elaheh Jafari
Aesha Patel	The study of the Maintenance and Use of ba- and bei- Constructions in Bilingual Children	Dr. Chantale Cenerini
Amanda Ewen	Stripe Rust Analysis using GreenSkEye Continuous Imaging	Dr. Lingling Jin, Dr. Ian Stavness, Dr. Randy Kutcher, Dr. Lipu Wang, Kara Glor, Alejandra Maria
Anaëlle Chilton	Uncovering Methodological Innovations and Barriers in Nature Prescription Research: A PRISMA-ScR Scoping Review	Dr. Varuni Jayasooriya
Anmoldeep Sandhu	Survival of the fittest: comparative study of network libraries	Dr. Natalia Stakhanova
Arika Block	Simulations of FCC-ee Dynamic Aperture with Tune Changes	Dr. Mark Boland, Patrick Hunchak, Dr. Jacqueline Keintzel
Autumn Carr	Validation of ActiGraph wGT3X-BT at High Accelerations	Dr. Saija Kontulainen, Dr. James (J.D.) Johnston
Brian Digneau	Symmetric Tensor Portal to Dark Matter	Dr. Rainer Dick and Alex Magnus
Cain Klassen	Physics Building Cosmic Ray Detector Overhaul	Dr. Mark Boland
Caleb White	Validation of an open-source software for scoring novel object recognition tests in rodents	Dr. John Howland and Dr. Kirk Mulatz
Camiryn Kardal	Screening for Resistance to the Antiparasitic Ivermectin in Canadian Prairie Cattle Feedlots with <i>C. elegans</i>	Dr. Michael Wu and Dr. Tony Ruzzini
Chase Hall	Pumping Up the Grid: Simulating The Impact of Residential Air-Source Heat Pumps on Saskatchewan's Electrical Grid	Dr. Melanie Fauchoux, Dr. Carey Simonson, Siddhartha Gollamudi, Tahmid Sayeed. University of Regina: Dr. Zhanle Wang, Dr. Raman Paranjape.
Diep "Veronica" Nguyen	Public Drug Coverage of Aripiprazole and Brexpiprazole for Major Depressive Disorder: A Canadian Environmental Scan	Dr. Katelyn Halpape and Amy Soubolsky
Emma Gaudet	The mechanisms of NaX mediated osmoregulation and sodium sensing in superoptic neurons	Dr. Thomas Fisher and Kirk Haan
Graeme Hopkins	Taenidium barretti from Quaternary Proglacial Varved Silts in Saskatchewan	Dr. Luis Buatois
Hasnain Ali	Role of NUCB1 in starvation and refeeding in Drosophila	Dr. Adelaine Leung, Narsimha Pujari, Yona Al Tahir
Hermela Kiflay	Tissue-specific role of integrator complex unit (INTS11) in the development of <i>C. elegans</i>	Dr. Wu
Jehan Kashem	Determining Subgenome Dominance in Flixweed	Dr. Lingling Jin, Dr. Ian McQuillan

Full List of Presenters

Session Three
1:30-3:00pm

Student's Name	Title of Project	Supervisor(s) and Collaborator(s)
Katherine Chang	TRAPing hippocampal-dependent fear memories	Dr. Justin Botterill, Royce Hermanson, Alina Trofimova, Sarah Shaban, Dara Kwochka
Kevin Kolbinson	Potent Potential: Using Synchrotron Radiation Micro-Computed Tomography (SRμCT) to analyze trichome diversity in two Cannabis Sativa cultivars.	Dr. Teagen Quilichini
Kyran McKnight-Woods	Optimization of EV charging stations using Machine Learning	Dr. Varuni Jayasooriya
Lara New	Profiling Muscarinic Signaling and Perineural Invasion in Lung Cancer Metastasis	Dr. Anand Krishnan
Livia Blechinger	Use of a cannabigerol (CBG) and cannabidiol (CBD) formulation on motor coordination in mice	Dr. Robert B. Laprairie, Cameron Macleod
Logan Fossenier	Valence and Arousal Based Productivity Assessment	Dr. Banani Roy, Parnian Eslamoo
Natalie Vanidour	Pedaling forward: Development of an interprovincial functional electrical stimulation cycling community of practice	Supervisor: Dr. Hope Jervis-Rademeyer. Collaborators: D Guliak, K Musselman, S Forrester, M Riendeau, W Tung, S Marshall, C Cunningham, J D'Amico, J Leo, P Andrews, S Donkers, I English, C Ho
Olivia Numedahl	R-loop Modelling Using Lattice Polygons	Dr. Chris Soteros, Margherita Ferrari, Matthew Schmirler, Rob Scharein
Richard Bassey	Toward Trustworthy Explanations: Reducing Disagreement in Post-hoc XAI	Dr. Banani Roy, Saumendu Roy, Parnian Eslamloo
Roman Lalach	Semi targeted approaches in mass spectrometry	Dr. Anas El-Aneed, Emma Finch, Maryam Alyari
Sara Shakeel	Phishing scams in Steam	Dr. Natalia Stakhanova, Dr. Carl Gutwin
Shruti Kaur	Modelling Cellular Connectivity Stochastic Simulations to Determine Cutoff Distances	Dr. James Benson
Simranpreet Kaur	Piloting the Vitality Assessment in ALC Care	Dr. Roslyn Compton
Theodor Zaharia	Refinement of allosteric modulators at the type 1 cannabinoid receptor	Robert B. Laprairie, Theodor S. Zaharia, Harvens Beauzile, Haley Anderson, Dr. Ganesh A. Thakur (Northeastern University)
Vivek Nrusimhadevara	Vestibular disorders and nutrition	Dr. Jessica Leifers and Dr. Carol Henry
Zachary Uchacz	UAV Canola Height Analysis	Dr. Sally Vail, Dr. Ian Stavness

2025 SURE Symposium Awards

Award Sponsors

Office of the Vice-President Research
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College of Graduate and Postdoctoral Studies

The OVPR Promising Future Scholar Award - 1st Place

- Awarded to an undergraduate student whose project demonstrates excellence in all components of the research, scholarly, or artistic process, from asking original questions to sharing the story of their project in a meaningful way.
- One award of \$500 will be offered. The student will also receive a certificate generated by OVPR and signed and presented by Dr. Baljit Singh, Vice-President Research.

Award Recipient for the 2025 SURE Symposium:

Katherine Chang

Poster Title: TRAPing hippocampal-dependent fear memories.

Supervisors and Collaborators: Dr. Justin Botterill, Royce Hermanson, Alina Trofimova, Sarah Shaban, Dara Kwochka

Description of Research:

We used a transgenic mouse (TRAP2) which allows for conditional and permanent labeling of recently activated neurons. Mice underwent a hippocampal-dependent fear conditioning followed by genetic labeling. We then used immunofluorescence staining and microscopy to quantify hippocampal cells involved in learning and memory retrieval.

2025 SURE Symposium Awards

The OVPR Promising Future Scholar Award - 2nd Place

- Awarded to an undergraduate student whose project demonstrates excellence in all components of the research, scholarly, or artistic process, from asking original questions to sharing the story of their project in a meaningful way.
- One award of \$300 will be offered. The student will also receive a certificate generated by OVPR and signed and presented by Dr. Baljit Singh, Vice-President Research.

Award Recipient for the 2025 SURE Symposium: Kevin Kolibinson

Poster Title: Potent Potential: Using Synchrotron Radiation Micro-Computed Tomography (SR μ CT) to analyze trichome diversity in two Cannabis Sativa cultivars.

The OVPR Promising Future Scholar Award - 3rd Place

- Awarded to an undergraduate student whose project demonstrates excellence in all components of the research, scholarly, or artistic process, from asking original questions to sharing the story of their project in a meaningful way.
- One award of \$200 will be offered. The student will also receive a certificate generated by OVPR and signed and presented by Dr. Baljit Singh, Vice-President Research.

Award Recipient for the 2025 SURE Symposium: Graeme Hopkins

Poster Title: Taenidium barretti from Quaternary Proglacial Varved Silts in Saskatchewan.

The OVPR Community Engagement Award

- Awarded to an undergraduate student whose project work has strong potential for community benefit, with a preference given to projects that have engaged with appropriate community members.
- One award of \$500 will be offered. The student will also receive a certificate generated by OVPR and signed and presented by Dr. Baljit Singh, Vice-President Research.

Award Recipient for the 2025 SURE Symposium: Enoch Yang

Poster Title: Design, Construction, and Testing of a Lower Body Negative Pressure (LBNP) System for Assessing Vascular Function in Humans.

2025 SURE Symposium Awards

Career Services and the FUSION Future Skills Innovation Network: Peoples' Choice Award

- Awarded to the student whose work is voted as the people's choice by the attendees of the symposium.
- One award of \$500 will be offered. The student will also receive a certificate generated by uRSAW and signed by Kim Matheson, Director of Career Services and presented by Brette Kristoff, FUSION Skills Innovation Lead.

Award Recipient for the 2025 SURE Symposium: Angi Patel

Poster Title: Lived experiences of Métis cancer patients, survivors, and caregivers in Saskatchewan.

Career Services and the FUSION Future Skills Innovation Network: Skills Articulation Award

- Awarded to the student that is best able to articulate how their research experiences have supported their development of the USask Student Competencies.
- One award of \$500 will be offered. The student will also receive a certificate generated by uRSAW and signed by Kimberly Matheson, Director of Career Services and presented by Brette Kristoff, FUSION Skills Innovation Lead.

Award Recipient for the 2025 SURE Symposium: Stefanie Kiriazopoulos

Poster Title: Comparing Emergency Department Pain Management Practices for Pediatric Musculoskeletal Injuries.

The 2025 uRSAW Storytelling Competition Award: sponsored by CGPS

- Awarded to the student who demonstrates excellence in communicating their research, scholarly, or artistic work through the Storytelling Pitch Submission.
- One award of \$500 will be offered. The student will also receive a Certificate generated by uRSAW and signed by Dr. Burshtyn, Dean of the College of Graduate and Postdoctoral Studies and presented by Lori Lisitza, Executive Officer, CGPS.

Award Recipient for the 2025 SURE Symposium: Natalie Vanidour

Poster Title: Pedaling forward: Development of an inter-provincial functional electrical stimulation cycling community of practice.

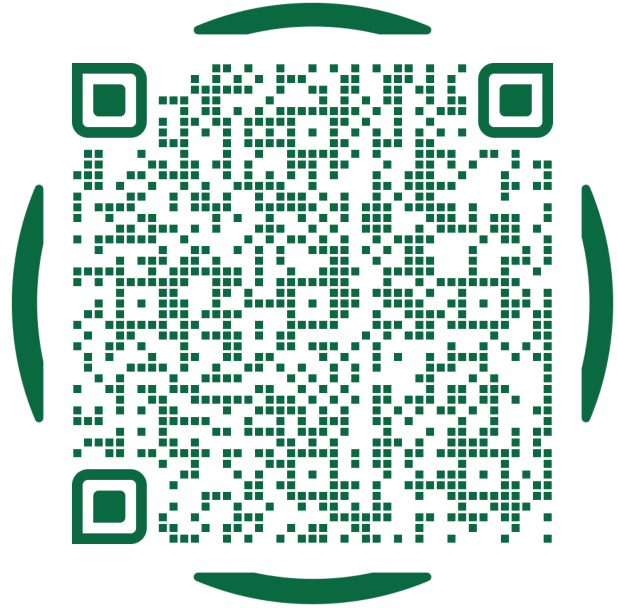


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Undergraduate Research, Scholarly, and Artistic Works

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