

15th Annual
**Undergraduate
Research
Conference**

Southwest Minnesota State University

**WEDNESDAY,
DEC. 2, 2020**

**Virtual Conference
Begins at 8:30 a.m.**

PROGRAM



**15th Annual Undergraduate Research Conference
at Southwest Minnesota State University**

WELCOME AND KEYNOTE

Zoom Link: <https://minnstate.zoom.us/j/92711341351>

Password: URC2020

Room Moderator: Dr. Thomas Dilley

- 8:30 Kumara Jayasuriya, SMSU President, Opening Remarks
- 8:40 Dr. Kristen Mueller, Emergency Medicine Assistant Professor & Physician, Washington University School of Medicine, St. Louis
Keynote Address: "Firearm Violence and Injury: A Public Health Epidemic with Local Solutions"

MID-MORNING SESSIONS 9:45-11:00AM

ROOM 1: Zoom Link: <https://minnstate.zoom.us/j/94104164852>

Password: URC2020

Room Moderator: Dr. Sandy Craner

Biology Senior Seminar

- 9:45 Manoj Sapkota, Biology, Anti-cancer Effect of Fucoxanthin
- 10:15 Sarina Smith, Biology, The role of *Salmonella enterica* serovar Typhimurium Immunotherapy Treatment for Relapsed B-cell Lymphoma

ROOM 2: Zoom Link: <https://minnstate.zoom.us/j/92711341351>

Password: URC2020

Room Moderator: Dr. Thomas Dilley

Ecology

- 9:45 Amy Heibult, Caedyn Reinhardt, & Louis Lozinski, Biology, Effects of Permethrin on Dragonfly Nymph (Odonata: Libellulidae) Feeding Behavior
- 10:00 John Palmer, Biology, Insect Survey of the Richard and Irene Maertens Conservation and Research Area
- 10:15 Joey Heinen, Biology, The Effect of Ambient Temperature on the Fecundity of *Drosophila melanogaster*
- 10:30 Jayla Burt, Biology, The Effect of Major Weather Events on the Biogeochemistry of Wetlands
- 10:45 Brandon Medina, Biology, The Effects of Insect Specific Pesticides on Non-Insect Arthropods

Mid-Morning Sessions 9:45-11:00am, continued

ROOM 3: Zoom Link: <https://minnstate.zoom.us/j/96830052205>

Password: URC2020

Room Moderator: Dr. Sang Jung

Computer Science

- 9:45 Neil Podoll & Victor Adewale, Computer Science,
Subscription Tracker
- 10:00 Thomas Adegbite & Victor Ayemobuwa, Computer Science,
Responsive Restaurant Website
- 10:15 Eric Ahmann, Computer Science, My Recipe Box, A Web
Application Built with Modern Technologies
- 10:30 Hailemichael Hagos & Sulaimon Yussuf, Computer Science,
Online Athletic Market

ROOM 4: Zoom Link: <https://minnstate.zoom.us/j/95553405106>

Password: URC2020

Room Moderator: Dr. Kenneth Chuckwuba

History & English

- 9:45 Isabella Erickson, History, The Purpose and Politics of the
King James Version
- 10:00 Alisha Cooper, English, How Octavia E. Butler's Lilith's Brood
Reflects Contemporary Society
- 10:15 Bryton Dressen, History, A Comparative History of the
Geneva Convention of 1929 and the German POW Camp in
New Ulm, Minnesota
- 10:30 Levi Magnuson, History, When Goofy Met Gorbi: The Story
of the 1990 Summit between Rudy Perpich and Mikhail
Gorbachev

ROOM 5: Zoom Link: <https://minnstate.zoom.us/j/99211295450>

Password: URC2020

Room Moderator: Dr. Sheila Tabaka

Theatre

- 9:45 Domonique McPhail, Theatre, Everyman
- 10:00 Avianna McFarquhar, Theatre, The World of Love Labour's
Lost
- 10:15 Shelby Lengyel, Theatre, Coriolanus Dramaturgy Project
- 10:30 Kavon Wilborn, Theatre, The World of Antony & Cleopatra

Mid-Morning Sessions 9:45-11:00am, continued

ROOM 6: Zoom Link: <https://minnstate.zoom.us/j/98085756421>

Password: URC2020

Room Moderator: Dr. Jeffrey Bell

Exercise Science

- 9:45 Issac Fischer, Exercise Science, Comparing Landing Mechanics in Non-game Situations in Collegiate Division II Female Basketball Players Basketball Players
- 10:00 Anthony Gamez, Exercise Science, Nasal Breathing vs. Mouth Breathing and Strength Output in D2 Wrestlers
- 10:15 Erik Thorvilson, Exercise Science, Hockey Specific Performance Testing in High School Hockey Players
- 10:30 Sara Teske, Exercise Science, Comparing Landing Mechanics in Non-Game Situations in Female Division II Basketball Players

LATE-MORNING SESSIONS 11:00AM-12:30PM

ROOM 1: Zoom Link: <https://minnstate.zoom.us/j/92592933007>

Password: URC2020

Room Moderator: Dr. Tony Greenfield

Biology Senior Seminar

- 11:00 Askandar Adam, Biology, The Role of Monoclonal Antibodies in the Treatment of Alzheimer's Disease
- 11:30 Christopher Berg, Biology, Glioblastoma Multiforme Characteristics That Lead to Onset Symptoms of Epileptic Seizures

ROOM 2: Zoom Link: <https://minnstate.zoom.us/j/98085756421>

Password: URC2020

Room Moderator: Dr. Jeffrey Bell

Exercise Science

- 11:00 Kyle Richter, Exercise Science, Evaluation of FMS, Y-Balance, and Other Body Measurements in Division II Football Players
- 11:15 Morgan Frank, Exercise Science, Comparing Landing Mechanics in Non-Game Situations in Female Division II Basketball Players
- 11:30 Braeden Hanson, Exercise Science, Nasal Breathing vs. Mouth Breathing and Strength Output in D2 Wrestlers

Late-Morning Sessions 11:00am-12:30pm, continued

11:45 Jacob Fike, Exercise Science, Do Compression Sleeves Help Increase Endurance Running Performance?

ROOM 3: Zoom Link: <https://minnstate.zoom.us/j/92711341351>

Password: URC2020

Room Moderator: Dr. Thomas Dilley

Biology & Environmental Science

11:00 Alexa Smith & Erin Smith, Biology, Comparison of *Asclepias syriaca* and *Asclepias tuberosa* on Monarch Growth and Preference

11:15 Amber Wells, Biology, Antibiotic Effects on Thistle Caterpillar (*Vanessa cardui*) Gut Biomes

11:30 Brandon Parish, Biology, Comparing Insect Diversity of Flowering Prairie CRP and Woodland Habitat

11:45 Jacob Groen, Biology, Negative Effects of Reed Canary Grass (*Phalaris arundinacea*) on Plant Diversity in a Local Riparian Wetland

12:00 John Palmer, Environmental Science, Biota Survey of the Richard and Irene Maertens Conservation and Research Area

12:15 Manoj Sapkota & Askandar Adam, Environmental Science, Impact of Climate Change on Soil Hydrology and Wetland Ecology

ROOM 4: Zoom Link: <https://minnstate.zoom.us/j/94597375625>

Password: URC2020

Room Moderator: Dr. Sang Jung

Agribusiness Management

11:00 Sadie Stelter & Kaylea VanRegenmorter, Agribusiness Management, Agriculture Development in Argentina

11:15 Meghan Beckendorf & Mary Sundquist, Agribusiness Management, Analysis of Bangladesh and Myanmar

11:30 Jennifer Schulze, Management, Effective Strategies for Consulting Firms in the Upper Midwest

11:45 Hameedah Owolabi & John Duncan, Agribusiness Management, Agricultural Sector in Brazil

12:00 Hailey Nierling & Anna Kern, Agribusiness Management, Analysis of the Agriculture Sector, Economic Policies, and Issues of Madagascar

Late-Morning Sessions 11:00am-12:30pm, continued

ROOM 5: Zoom Link: <https://minnstate.zoom.us/j/92283426547>

Password: URC2020

Room Moderator: Dr. Cindy Aamlid

Sociology

- 11:00 Jaivon Cheek, Sociology, The Effects of College Homelessness
11:15 Autumn Hess, Sociology, Influence of Gender on Body
Tattooing
11:30 Kaitlyn Dordal, Sociology, Child Sex Trafficking
11:45 Hanna Vos, Sociology, The Sociology of the Secondhand
Shopper

ROOM 6: Zoom Link: <https://minnstate.zoom.us/j/99211295450>

Password: URC2020

Room Moderator: Dr. Sheila Tabaka

Theatre

- 11:00 William Stevens, Theatre, A Midsummer Night's Dream
Dramaturgy
11:15 Kevin Bowles, Theatre, The Historical Aspects of Shepherding
in Relation to the Play 'The Second Shepherds Play'
11:30 Braden Hanafee-Major, Theatre, The Aftermaths of War as
Shown in Shakespeare's Titus Andronicus
11:45 Elizabeth Zoya, Theatre, The Man of Mode

EARLY AFTERNOON SESSIONS 1:00-2:30PM

ROOM 1: Zoom Link: <https://minnstate.zoom.us/j/94104164852>

Password: URC2020

Room Moderator: Dr. Sandy Craner

Biology Senior Seminar

- 1:00 Jacob Groen, Biology, Efficacy and Mechanisms of Resveratrol
as a Potential Treatment for Malignant Melanoma
1:30 Amber Wells, Biology, The Efficacy of Inhaled Nitric Oxide for
Treating Pulmonary Hypertension in Pre-Term Neonates
2:00 Joey Heinen, Biology, Aggressive Behavior in Pet Dogs: Nature
or Nurture?

Early Afternoon Sessions 1:00-2:30pm, continued

ROOM 2: Zoom Link: <https://minnstate.zoom.us/j/92559493353>

Password: URC2020

Room Moderator: Dr. Shelby Flint

Botany

- 1:00 Nicholas Putnam, Biology, Effects of Garlic on Legumes
- 1:15 Patrick Rhoads & Hunter McFall, Biology, The Allelopathic Effects of Citrus Peels on Sweet Corn Plants
- 1:30 Addison Schroeder, Biology, The Effects of Carbonated Water on the Growth of Barley and Radish Seedlings
- 1:45 Kaytlen Heacock & Hope DeNeui, Biology, Allelopathy Effects of Marigold Extracts on Zinnia Germination
- 2:00 Askandar Adam & Edward Nkumeh, Biology, Allelopathic Effects of Coffee Arabica Extracts Due to its Resistance to Pests and Herbicides

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Environmental Science

- 1:00 Rachel Miller, Environmental Science, Development of Growth Curves for Two Lichen Species, *Xanthoria elegans* and *Dimelaena oreina*, on Tombstones in Southwestern Minnesota Using Lichenometry Methods
- 1:15 Jason Turner, Environmental Science, Geomorphology, Channel Characteristics, and Land use Patterns Along Bluebird Creek in Southwest Minnesota
- 1:30 Katherine Knights, Environmental Science, The Geomorphology of Three River Canyons formed in the Sioux Quartzite of Southeast South Dakota
- 1:45 Oluwaseun Famakinwa, Environmental Science, Evaluating Water Chemistry in Lake Sarah, Murray County, Minnesota
- 2:00 Michael Luke, Environmental Science, Habitat Evaluation of Ditch Ecosystems in Yellow Medicine River Watershed District

Early Afternoon Sessions 1:00-2:30pm, continued

ROOM 4: Zoom Link: <https://minnstate.zoom.us/j/94583354439>

Password: URC2020

Room Moderator: Dr. Heather Moreland

Math & Computer Science

1:00..... Krischal Lageju & Abinash Thapa, Computer Science,
International Student Community (ISC)

1:15..... Priyanka Shrestha, Computer Science, COFFEE PLUG

1:30..... Cora Engels, Math, A Mathematical Model of Chemical
Kinetics

1:45..... Logan Pankonin, Math, Modeling Basketball Free Throws

2:00..... Sean Knight, Computer Science, ASUAndroid

ROOM 5: Zoom Link: <https://minnstate.zoom.us/j/92283426547>

Password: URC2020

Room Moderator: Dr. Cindy Aamlid

Sociology & Psychology

1:00..... Zoe Hess, Psychology, Effects of Dynamic Visual Noise on
Mental Comparison of Objects

1:15..... Taylor Himley, Sociology, Representation of Race, Sexuality,
Disability, and Class in Animated Films

1:30..... Norah King, Sociology, Experiences of LGBTQ Youth in Foster
Care

1:45..... Faviola Cid, Sociology, Analysis of Social Change During the
COVID-19 Pandemic

2:00..... Chanelle Walker, Sociology, Family Estrangement as a Social
Issue

2:15..... Olivia Smith, Sociology, The Foster Care to Prison Pipeline
and the Benefits of Restorative Justice Programs

ROOM 6: Zoom Link: <https://minnstate.zoom.us/j/99211295450>

Password: URC2020

Room Moderator: Dr. Sheila Tabaka

Theatre

1:00..... Jaimon Cheek, Theatre, Othello

1:15..... Emma Stringer, Theatre, Twelfth Night

Early Afternoon Sessions 1:00-2:30pm, continued

- 1:30..... Leah Graham, Theatre, Dramaturgy of Shakespeare's Macbeth
- 1:45..... Claudia Wahl, Theatre, The Tempest: A Study of the English Renaissance and Roman Mythology
- 2:00..... Mary Porter, Theatre, A Dramaturgical Look at the Life and Times of Ben Jonson
- 2:15..... Zachary Hastad, Theatre, The Bacchae: A Dramaturgical Look at Greek History

LATE AFTERNOON SESSIONS 2:30-4:00PM

ROOM 1: Zoom Link: <https://minnstate.zoom.us/j/97166792602>

Password: URC2020

Room Moderator: Dr. Vaughn Gehle

Biology Senior Seminar

- 2:30..... Alexa Smith, Biology, The Role of the Ketogenic Diet in Refractory Epilepsy
- 3:00..... Nicholas Putnam, Biology, Effects of Deficiency of Hath6 (Math6) Function in Reproductive System
- 3:30..... Caedyn Reinhardt, Biology, The Role of Ursodeoxycholic Acid in the Treatment of Intrahepatic Cholestasis of Pregnancy

ROOM 2: Zoom Link: <https://minnstate.zoom.us/j/92559493353>

Password: URC2020

Room Moderator: Dr. Shelby Flint

Botany & Ecology

- 2:30..... Lileya Kebos, Biology, Effects of Light Intensity on plant *Zinnia elegans*
- 2:45..... Kyle Richter, Biology, Seeding Density Effectiveness On Weed Suppression
- 3:00..... Alexander Hillesheim & Blain Dilly, Biology, The Influence of Various Light Intensities on Barley Plants
- 3:15..... Emma Grote & Patia Wolfe, Biology, The Allelopathic Effect of Coffee on Sunflowers
- 3:30..... Brandon Medina, Environmental Science, Isopod Substrate Preference

Late Afternoon Sessions 2:30-4:00pm, continued

ROOM 3: Zoom Link: <https://minnstate.zoom.us/j/94583354439>

Password: URC2020

Room Moderator: Dr. Heather Moreland

Math & Computer Science

- 2:30 Jenna Lambrecht, Math, An SIR Model of the Spread of the Hong Kong Flu in the 1960s
- 2:45 Shane Birdsall, Computer Science, Play Pal! A Desktop Application for Performance Arts
- 3:00 Jordan Mueller, Computer Science, Designing and Building a More Useful Website for the SMSU Residence Hall Association
- 3:15 Rachel Engels, Math, The Axioms of Topology

ROOM 4: Zoom Link: <https://minnstate.zoom.us/j/95424657022>

Password: URC2020

Room Moderator: Dr. David Sturrock

Political Science

- 2:30 Colten Minkel, Political Science, Expanding Access to Affordable Insulin in Greater Minnesota
- 2:45 Esther Oluborode, Political Science, Immigration Policy in Greater Minnesota
- 3:00 Abuk Akoi, Political Science, Minnesota's Response to the Opioid Crisis
- 3:15 Isabella Erickson, Political Science, The Politics of the Line 3 Replacement Project in Minnesota
- 3:30 Shawn Merry, Political Science, Has the Paycheck Protection Program Helped Small Businesses Who Have Suffered From the COVID Pandemic?
- 3:45 James Hardy, Political Science, The Effects of Broadband Gaps on E-Learning in Greater Minnesota
- 4:00 Godwin Kakada, Political Science, The Effects of the COVID Pandemic on the Greater Marshall Economy

Late Afternoon Sessions 2:30-4:00pm, continued

ROOM 5: Zoom Link: <https://minnstate.zoom.us/j/98085756421>

Password: URC2020

Room Moderator: Dr. Jeffrey Bell

History & Exercise Science

- 2:30 Nick Kline, History, New Ideas Come to Town: Social Movements and the Beginnings of Southwest Minnesota State College
- 2:45 Whitney McCamish, History, The Push Towards Prohibition in Blooming Prairie, Minnesota
- 3:00 Trey Johnson, Exercise Science, Nasal Breathing vs. Mouth Breathing and Strength Output in D2 Wrestlers
- 3:15 Derek Smith, Exercise Science, Hockey Specific Performance Testing in High School Hockey Players
- 3:30 Erin Schneider, Exercise Science, Comparing Landing Mechanics in Non-game Situations in Collegiate Division II Female Basketball Players Basketball Players

CLOSING SESSIONS AND LIBRARY RESEARCH AWARD ANNOUNCEMENT

Zoom Link: <https://minnstate.zoom.us/j/92711341351>

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- 4:30 Closing Remarks and Presentation of Library Research Award

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For more information contact conference coordinators:
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Dr. Thomas Dilley (Tom.Dilley@SMSU.edu)
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