

12th Annual
**undergraduate
research
conference**



SOUTHWEST MINNESOTA STATE UNIVERSITY

**Wednesday,
November 29, 2017**

Starting at 8:30 a.m.
SMSU Conference Center

PROGRAM

Welcome and Keynote

SMSU Conference Center Upper Level

- 8:30..... **Dr. Connie J. Gores, SMSU President**, Opening Remarks
- 8:45..... **Wokil Bam, SMSU Alumnus, Class of 2012**
Environmental Science and Chemistry majors.
Oceanography PhD student at Louisiana State University.
Keynote Address: Active Learning- making the most of a college experience through research

50 Denotes research projects related to SMSU's 50th Anniversary

ORAL SESSION A

SMSU Conference Center Upper Level

Agronomy, Biology, Creative Writing, Environmental Science

- 9:45..... Justin Hill, Environmental Science, Using gravestones as a means to estimate the growth rates of *Dimelaena oreina* and *Xanthoria elegans* lichens in Southwest Minnesota
- 10:00..... Beau Swenson, Environmental Science, Differences in invertebrate populations as influenced by water quality at four locations in Lake Titow, Sibley County Minnesota
- 10:15..... Brayden Anderson, Environmental Science, Distribution of Lichen on Granite Outcrops in the Minnesota River Valley
- 10:30..... BREAK
- 10:45..... Melissa Klecker, Environmental Science, Characterization of Tree Species in the ADM-SMSU Environmental Learning Area at Southwest Minnesota State University **50**
- 11:00..... Garrett Wee, Environmental Science, Bird Surveys in the ADM-SMSU Environmental Learning Area **50**
- 11:15..... Taylor Olson, Environmental Science, Characterization of bacterial populations in soils of different ages after land use changes
- 11:30-..... Matthew D. Steinbronn, Environmental Science, Guide to Glacial Ridge Scenic Trail, Southwest Minnesota
- 11:45..... Aditya W. Harsono, Environmental Science, Soil island development on granitic outcrops in the Minnesota River Valley
- 12:00-1:15 ... Brittnei Branch, Alexandra Krohn & Kaleigh Farrelly, Creative Writing- Original Works, Telling Secrets to the Trees: A Senior Portfolio Reading
- 1:15..... Matthew D. Steinbronn, Tou Soua Vue & Courtney Popowski, Biology, Comparison of Lyme Disease Incident Rate in Lyon County and Hennepin County, Minnesota

- 1:30..... Taylor Olson & Matt Mattson, Biology, Comparison of goldenrod plant height and biomass from two soil types
- 1:45..... Lauren Kerr, Margaret Provo & Alan Zimmerli, Biology, Comparing Plant Density in a Restored Prairie vs. Old Field in the SMSU Wildlife Area
- 2:00..... Paige Hendrickson, Selena Herr & Anthonia Ameho, Biology, Comparison of Earthworm Densities in a Deciduous and a Coniferous Forest in the SMSU Wildlife Area
- 2:15..... Michelle Williams, Taylor Holicky & Beau Swenson, Biology, Comparison of macroinvertebrates in a coniferous versus deciduous forest in the SMSU wildlife area
- 2:30..... Matt Mattson, Environmental Science, Trends in soil temperature of different habitats through time at the ADM-SMSU Environmental Learning Area Marshall, MN
- 2:45..... Troy Filzen, Javin Medenwaldt & Stephan Ameyaw, Biology, Comparison of Aerial Insects in a Prairie vs. a Wetland in the SMSU Wildlife Area
- 3:00..... BREAK
- 3:15..... Chelsea Wiese & McKenzie Besel, Biology, Animal densities of a wetland and a field habitat based on road kill
- 3:30..... Brayden Anderson, Easton Popma & Steven Yang, Biology, Using Bird Strikes to Determine Bird Diversity on the SMSU Campus During Fall Migration
- 3:45..... Jakob Hicks, Agronomy, On site soil sampling and GIS analysis of accuracy
- 4:00..... Arthur Baur, Agronomy, The use of cover crops
- 4:45..... Awards Ceremony

ORAL SESSION B

Charter Hall 201

*Agronomy, English, History, Literature,
Political Science, Sociology and Theatre*

- 10:00..... Ryan Koopman, Political Science, Wins and Losses: Community Involvement and School Referendum Outcomes in Southwest Minnesota
- 10:15..... Jenna Miller, Theatre, Quick Change Makeup: The Art of Becoming Multiple People On Stage
- 10:30..... BREAK
- 10:45..... Jakob Hicks, Agronomy, Efficacy and Affordability of Dicamba Adjuvant Packages
- 11:00..... Ashlie Weber, Agronomy, Assessing the Variability of Extractable Phosphorus
- 11:15..... Jakob Hicks, Agronomy, *Z. mays* Host Plant Resistance to *D. virgifera*

- 11:30..... Kaitlyn Leach, Psychology, Adoption: The Impact it has on Family Relationships
- 11:45..... Crystal Yearous, Psychology, Gauging Financial Anxieties in Young People
- 12:00..... LUNCH BREAK
- 12:30-1:20 ... Sara DeSmet, English, Prewriting in Middle School English
Nicole C. Berning, English, The Importance of Connecting Reading and Writing in a Middle School English Classroom
Shelby Taylor, English, Motivating Adolescent Writers
Emily Williamson, English, Effective Strategies to Provide Feedback and Grade High School Students' Writing
- 1:30..... Caleb Herrlich, Literature, The Prevalence of Philosophical Thought in Classic Literature and Its Changes Over Time
- 1:45..... Maggie Meyers, Kendra Jasso-Chukwuyem, Cody Sleiter & Taylor Laabs, Sociology, Do Reality TV Shows About Teen Pregnancy Have Any Effect on The Actual Statistics?
- 2:00..... Claire McManmon, History, How the Irish Immigrants Shaped the History of Minnesota
- 2:15..... Lucas Freeman, History, The Hadley Buttermakers and the Minnesota Town Ball Tradition
- 2:30- 3:15 Poems from the Poetry Workshop, English
Desiree Bauer
Emily Duchert
Danielle Crowell
Selina McCool-Kamstra
Thalia Otero
Austin Rusch
McKenzie Swanson
Sophia White
- 3:30 Sarah Hunter & Ashley Wulkan, Nursing, There's No Room in the Inn: The Need for Community-Based Behavioral Health Care

POSTER PRESENTATION SESSION A

SMSU Conference Center Lower Level

Posters displayed 8:30 am to 5:00 pm

Accounting, Agribusiness, Agronomy, Biology, Chemistry, Computer Science, Environmental Science, Exercise Science Mathematics

(Time listed is when author will be present at the poster.)

- 1..... Carter Barker, Mathematics, Derangement: Abnormal Permutation?
12:30-2:00
- 2..... Taylor Holicky, Biology, Why the honey badger is unaffected by snake venom, Formal 10:00-10:30, Informal 10:30-11:00, 3:00-3:30

- 3..... Austin Leek, Computer Science, Undergraduate Research Conference Application Website, 12:30-2:00
- 4..... Mckenzie Besel, Biology, Stress as a cause of hypothyroidism, Formal 1:00-1:30, Informal 11:00-11:30, 1:30-2:00
- 5..... Ashley Hoehne, Ashton Bartlett, Tanner Luebke & Alexander Jorgensen, Exercise Science, Landing Mechanics between Dominant and Non-Dominant Legs, Ashley 10:00-11:30, Ashton 11:00-12:30
- 6..... Jessie Janisch & Jordan Flinn, Exercise Science, Mirror training and functional movement in hemi-plegic stroke victims, Jessie 1:00-2:30, Jordan 2:00-3:30
- 7..... Tanner Luebke, Alex Jorgensen, Ashley Hoehne & Ashton Bartlett, Exercise Science, Landing Mechanics in non-ACL and ACL Repaired Individuals, Tanner 1:00-2:30, Alex 2:00-3:30
- 8..... Alison Radunz, Exercise Science, No Effects of a Companion Animal on Physical Activity, 9:30-11:00
- 9..... Kelsey A. Kinner, Accounting, Standards for Tax Preparers, 3:00-4:00
- 10..... Shawn Hanson, Accounting, Not for Profit, Actually For Profit? 3:30-3:30
- 11..... Hannah Palmetter & Sarah Mayfield, Exercise Science, The Effects of Exercise on Wheelchair User's Trunk Mobility and Flexibility Using a Wall Goniometer, Hannah 2:30-4:00, Sarah 10:30-12:00
- 12..... Greta Geist & Carter Kirk, Exercise Science, Menstrual Cycle Effects on Volleyball Related Performance, Greta 9:30-11:00, Carter 2:30-4:00
- 13..... Christina Tauer, Accounting, Is There a Growing Demand for Certified Public Accountants? 3:30-4:30
- 14..... Taylor Curtis, Antonio Meikel & Landyn VanOverbeke, Exercise Science, Skin Proprioceptive Effects on Wrestlers' Reaction Time, Taylor 10:00-11:30, Antonio 1:00-2:30, Landyn 11:30-1:00
- 15..... Erin Kamann, Tyler Lothert & Chase Onken, Exercise Science, Flexibility and Balance in Active and Sedentary College Students, Erin 10:30-12:00, Tyler 12:30-2:00, Chase 2:30-4:00
- 16..... Okony Onyongo Agwa, Agronomy, Organic Farming, 10:30-12:00
- 17..... Biraj Shrestha, Computer Science, The First RPG, 12:30-2:00
- 18..... Abhishek Shrestha, Computer Science, Image Translation Android Application, 12:30-12:00
- 19..... Breanna Houselog, Agronomy, Temperature Effects on Corn Seed Germination, 10:00-11:30
- 20..... Ty Bird, Computer Science, Zombie Dash, 10:30-12:00
- 21..... Yuepan Vue, Computer Science, Weightlifting Logger Android App, 10:30-11:30

- 22..... Christopher Berg, Cody Friedges, Nona Meunsi, Biology, The Allelopathic Effects of Green Tea Extract On Growth of Tomato Plants, Nona/Chris 2:00-2:45, Cody 2:45-3:30
- 23..... Ryan Riebel, Agronomy, Comparing the Universal Soil Loss Equation (USLE) to the Revised Universal Soil Loss Equation (RUSLE), 10:30-12:00
- 24..... Haruki Nagata & Olympia Lala, Computer Science, Find my tutor, 10:30-12:00
- 25..... Michaela Fassler, Mathematics, A Curious Proof of Fermat's Little Theorem, 11:30-1:00
- 26..... Ashlie Weber, Breanna Houselog & Marissa Mattson, Biology, Allelopathic effects of orange (*Citrus sinensis*) peel extract on basil 'mammoth' (*Ocimum basilicum*) height and dry weight, Ashlie/Breanna 1:00-1:45, Marissa 10:15-11:00
- 27..... Abby Einck and Nick Schmitz, Agro Economics, Economic Development, 3:00-4:30
- 28..... Aaron Wollschlager, Computer Science, Developing Space Defender, 10:30-12:00
- 29..... Tawnni Slagel, Amber Tjaden & Angie Wenning, Exercise Science, Interval Training Effects on Arterial Stiffness in Middle-Aged People, Tawni 10:30-12:00, Amber 2:00-3:30, Angie 12:30-2:00
- 30..... Spencer Petrich, Agronomy, Effects of Soil Compaction on Corn Yields, 10:30-12:00
- 31..... Shawn Griffin, Hayden Acker & Noah Sander, Biology, The Allelopathic Effects of Orange Peel Extract on Corn Growth, Shawn 11:00-11:45, Hayden/Noah 2:45-3:30
- 32..... Fadumo Ismail, Hayley Gerdes, Anthonia Ameho & Katie Boerboom, Biology, Allelopathic Effects of Ferulic Acid on Sweet Corn, Anthonia/Katie 9:45-10:30, Fadumo/Hayley 2:00-2:45
- 33..... Trenton Draeger, Agronomy, Germination Rates of Conventional Corn at Different Temperatures, 10:30-12:00
- 34..... Zachery Doose & Annie Samuelson, Chemistry, Computational Characterization of Intermediates in the Electrochemical Reduction of Triazine Herbicides, 2:30-4:00
- 35..... Justin Hill & Garrett Wee, Environmental Science, Field Guide to the SMSU-ADM Environmental Learning Area, 1:30-3:00 **50**
- 36..... Anthony Angrimson, Computer Science, Counting Bacteria Colonies Using Image Recognition, 1:00-2:30
- 37..... Kristen Bosveld, Mathematics, Mathematical Permutations of Musical Scales, 3:00-4:30
- 38..... Alana Christianson, Mathematics, Statistical Analysis of the SMSU Women's Basketball Team, 1:00-2:30
- 39..... Daryn Thompson, Computer Science, VR Game Demonstration, 1:00-2:30

POSTER PRESENTATION SESSION B

Student Center Upper Level (SC 216)

Posters displayed 8:30 am- 5:00 pm

*Culinology, History, Hospitality Management,
Justice Administration, Sociology, Theatre*

(Time listed is when author will be present at the poster.)

- 40..... Hannah Redmond, Miranda Giese, Kayla Wartner, Shane Ratkovich & Courtney Mulder, Justice Administration, "School to Prison Pipeline": The Impact of Zero Tolerance Policy on Students of Color, Miranda/Kayla 11:30-12:30, Hannah/Courtney/Shane 12:30-1:30
- 41..... Rose Schmit, History, Clara Ueland's Path to Leadership in the Minnesota Woman Suffrage Association, 1:00-2:30
- 42..... Haley Bennett, Stacey Vue, Morgan Tyndall, Amelia Marroquin & Sushma Bakhunchhe, Hospitality Management, SMSU fan and student satisfaction on concession stands at SMSU football games, Amelia/Morgan/Stacey 9:30-10:30, Haley/Sushma 10:30-11:30
- 43..... Mari West, Yangi Sherpa, Samantha Mehus, Devon Lyons & Britta Iverson, Hospitality Management, Revisit to the Performance of SMSU Dining Services: comparison with the previous year, Samantha/Mari 9:30-10:30, Devon/Britta 10:30-11:30
- 44..... Athena Golling, Alexandra Krohn, Laxmi Shova Rana Magar & Cody Tavarez-Curtis, Hospitality Management, Observing motivating factors of students in choosing off campus or on campus dining options, Alexandra/Laxmi 9:30-10:30, Athena/Cody 10:30-11:30
- 45..... Caitlin Schmidt, Theatre, Changes in Stage Makeup Uses and Applications Over the Last 50 Years, 11:30-1:00 **50**
- 46..... Jordan Stangeland, Theatre, Prosthetics in Film and Television (1967-2017), 2:00-3:30 **50**
- 47..... Muna Mohamed, Dylan Beatty, Zach Beaumaster, Jacob Broberg & Nicholas Esping, Justice Administration, Law Enforcement and The Use of Body Cameras, Muna/Nick 11:30-12:30, Dylan/Jacob 1:00-2:00, Zach 3:00-4:00
- 48..... Gage Backman, History, The Farmers' Holiday Association in Southwest Minnesota 1932-1933, 1:00-2:30
- 49..... Sariah Cheadle, Fine Arts and Communication, The SMSU Writing Center: Then and Now, 1:00-2:30 **50**
- 50..... Paul Ragan, Theatre, Changes in Makeup Products from 1967-2017, 2:30-4:00 **50**
- 51..... Peyton Sanders, History, The Duluth Lynchings of 1920, 2:00-3:30
- 52..... Sophie Johnson, History, The O'Connor Layover Agreement, 11:30-12:30

- 53..... Tamara Hellendrung, History, Dakota War of 1862, 1:00-2:30
- 54..... Mandy Harris, Chanelle Helmers, Michael Dombrowski & Brittany Ference, Sociology, Pink, Blue, or Yellow: Can You Raise Children Gender Neutral? 1:30-2:45
- 55..... Brianna Krumwiede, History, Jane Grey Swisshelm: A Contradiction, 10:00-11:30
- 56..... Taylor Krogman, History, Black Box: The Sue Cochran Kidnapping and Free Love in the 1970's, 1:30-2:30 50
- 57..... Shay All Runner, Culinology, Preventive Controls for Human Food and How It Keeps our Food Safe, 10:00-11:30
- 58..... Clarissa Geisel, Culinology, Development of Gluten-free Pie Crusts with Good Freeze/Thaw Stability, 2:00-3:30
- 59..... Morgan Benson, Theatre, Vogue Cover Makeup From 1967 To Present, 10:00-11:30
- 60..... Raxson Rax, Theatre, The History of the Black Box, 2:00-3:30 50
- 61..... Leah Graham, Theatre, Old Age Makeup: A Process, 10:00-11:30
- 62..... Danny McDonnell, Theatre, Lighting Techniques of The Past 50 Years, 10:00-11:30 50
- 63..... Jaylee Schanus, Theatre, The Changes in Theatre Sound Technology over 50 years, 1:00-2:30 50
- 64..... Michelle Stoner, Sociology, Dating Behaviors of International Students at SMSU and ECU, 1:00-2:30
- 65..... Josh Falk, History, Causation of the Dakota War, 10:30-12:00
- 66..... Thomas Knudson, Theatre, The Time Around Under Milk Wood, 11:00-12:30
- 67..... Whitney McCamish, Theatre, Shakespeare at Southwest Minnesota State University, 12:30-2:00
- 68..... Becca Green, Theatre, Musicals of 1967 and How They Represent the Time Period, 1:30-3:00 50
- 69..... Megan Schultz, Culinology, Development of pulse flour-based pasta, 10:00-11:30
- 70..... Rachel Stender, History, The Dakota 38, 9:30-10:30
- 71..... Rachel Stender, History, The Howard Lake POW Camp: 1944-1945, 10:30-11:30
- 72..... Zachary Gritmacker, Kaitlyn Leach, Danielle Lohse & Nick Santos, Justice Administration, Environmental Injustice: What It Is and Who Is Impacted, Zach/Kaitlyn 1:30-2:30, Danielle/Nick 2:30-3:30
- 73..... Avianna McFarquhar, Theatre, The Student Center's Changes Through 50 Years, 10:30-11:30 50

POSTER PRESENTATION SESSION C

BA Library Plaza (BA 272)

Posters displayed 8:30 am- 5:00 pm

Nursing, Political Science, Psychology

(Time listed is when author will be present at the poster.)

- 74..... Bethany Block, Ashley, Bohlsen, Olive Jones & Edna Masese, Nursing, Hand Washing and the Spread of Clostridium Difficile, 11:00-12:30
- 75..... Danna Steffen & Tenae Ashton, Nursing, Lice in Schools: Nit or Not, 12:00-1:30
- 76..... Megan Vangsness, Teresa Haase, David Haase & Jennifer Jager, Nursing, Breastfeeding: Benefits, Tools and Resources, 10:30-12:00
- 77..... Darci Aslesen, Myckenzie Sefkar & Josie Loll, Nursing, Fall Prevention in Long-Term Care, 1:30-3:00
- 78..... Sarah Blom & Lindsay Mitlyng, Nursing, Mandating influenza vaccines for healthcare workers and its effects, Lindsay 10:30-12:00, Sarah 12:30-2:00
- 79..... Kayla Moser, Kim Anderson, Liz Bunjer & Sheena St. Aubin, Nursing, Keeping it at the bedside, Kayla/Kim 10:00-11:30, Liz/Sheena 11:00-12:30
- 80..... Austin Olson, Political Science, Affordable Housing Shortage in Greater Minnesota, 2:00-3:00
- 81..... Muna Mohamed, Political Science, Police Training and Immigrant Contact in Southwest Minnesota, 1:00-2:30
- 82..... Saul Eugene, Political Science, Disparities in Handling of Petty Crimes in Marshall, Minnesota, 2:30-4:00
- 83..... Katherine Lee, Political Science, No Vacancies: Addressing Southwest Minnesota's Childcare Shortage, 12:30-2:00
- 84..... Gage Backman, Political Science, Mental Health Care Workforce Shortage in Greater Minnesota, 2:30-4:00
- 85..... Deewan Bajracharya & Pushpa Chhantyal, Psychology, Developmental Disabilities Due to Fetal Alcohol Spectrum Disorder, 1:00-2:30
- 86..... Sarah Mayfield & Hannah Palmeter, Psychology, The Fall 2017 Inclusive Fitness Programs' Effects on Participants' Depression, Aggression, and Self-Esteem Levels, Hannah 11:30-1:00, Sarah 2:30-4:00
- 87..... Amanda Hartmann, Tyler Punke, Mady Sowle & Zachairley Eisdien, Psychology, The Influence of Level of Extroversion on Time Perception, 11:00-12:30
- 88..... Emily Buchert, Quinn Swenson & Kaitlin Vos, Psychology, Time Perception among "Gamers" vs. Non-"Gamers" 11:00-12:30

- 89..... Dawa Rai & Tara Thapa Magar, Psychology, Impact of Parental Divorce on Child Development, 2:30-4:00
- 90..... Jacob L. Benson, Amanda L. Johnson & Crystal R. Yearous, Psychology, Attention From Dot-to-Dot, 11:00-12:30
- 91..... Brooke Thompson, Jenifer Willemsen, Jada Hill, Samantha McNeel, Psychology, Time Perception and Memory for Complex and Simple Paintings, 11:00-12:30
- 92..... Andrea Fuerstenberg, Elias Mensah & Tegen Thon, Psychology, The Effect of Emotion on Time Perception, 11:00-12:30
- 93..... Sherry Helleksen, Nursing, How Does Management Affect Nurse Retention? 11:00-12:30



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Celebrating 50 years

