



8th Annual  
**Undergraduate  
Research  
Conference** **13**  
at Southwest Minnesota State University

For more information contact conference coordinator:  
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**Wednesday,  
December 4**

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

**PROGRAM**

## Welcome and Keynote

*SMSU Conference Center Upper Ballroom*

- 8:30.....Dr. Connie J. Gores, SMSU President, Opening Remarks  
8:45.....Keynote Address: Mr. Joseph Hauger, Senior Pollution Control Specialist, Minnesota Pollution Control Agency  
    **“Research vs. Research: Making Resource Decisions in the Face of Conflicting Studies”**

## Platform Session A

*SMSU Conference Center Upper Ballroom*

- 9:45.....Jared Wagner, ENVS, Comparison of Macroinvertebrate and Planktonic Populations in a Newly Constructed Stormwater Holding Pond and an Existing Stormwater Holding Pond  
10:00....Hannah Beeler, ENVS, Evaluation of Land Snail Populations in Deciduous and Coniferous Forests in the SMSU Wildlife Area  
10:15....Sharon Carlson, ENVS, Investigations of Radon Levels in Southwestern Minnesota  
10:30....**BREAK**  
10:45....Gregory Pavsek, ENVS, Seasonal Habitat Preference of Fish in Lake Cochrane, SD  
11:00....Jaron Christenson, ENVS, River Sand Composition Compared to its Bedrock Origin: South Platte River, Big Thompson River, Cache la Poudre River in Colorado and Nebraska  
11:15....Neal Maurer, ENVS, Classification and Abundance of Grasshoppers in the SMSU Wildlife Area  
11:30....Gillian Rolfe, Mary Groth & Hannah Beeler, Biology, Seed Color Preference by Birds in Southwest Minnesota  
11:45....Bailey R. Andersen, Sirocco Peterson-Wahl & Theresa Ehnert, Biology, Frog Deformity Occurrence in Minnesota  
12:00-1:15...Samantha Lemmerman, Justin Craigmile, Anthony Caron & Katie Schwarz, Creative Writing, An Evening With Us: Senior Portfolio Readings  
1:45.....Jared Wagner, Nischal Shrestha & Michael Mattick, Biology, The Effects of Urbanization on Benthic Macroinvertebrate Populations of the Redwood River in Marshall, MN  
2:00.....Courtney Lingen, Caitlyn Johnson & Manisha Prajapati, Biology, Density and Diversity of Grasshoppers in Five Prairie Islands on SMSU Campus

- 2:15.....Mikeal Cooper, Nathanael Gratz & Ben Tonsager, Biology, Vegetation Composition of Prairies at Camden State Park, Minnesota  
2:30.....John Hammonds, Walker Schaar & Noble Ekuban, Biology, Antimicrobial Activity of Three Species of Prairie Plants  
2:45.....ReNae Clark, Chemistry, Evaluation of the Sikora Buffer Reagent as an Alternative to SMP in Estimating Soil Lime Requirement  
3:00.....John Hammonds, ENVS, Comparison of Endophytic PGPR Populations as a Factor for Invasiveness of Prairie Dock (*Silphium sp.*)  
3:15.....**BREAK**  
3:30.....Shoua Lee, Amber Casperson & Zia Vang, ENG 360, Promoting Healthier Food on Campus  
3:40.....Jessie Fitzer, Caci Lingen, Rebecca Radtke & Rebecca Suter, ENG 360, Recommendations for Sustainable Stormwater Management at SMSU  
3:50.....Emily Kubesh, Alex Kircher & Hope Bonlander, ENG 360, Improving Campus Health by Offering More Group Physical Activities  
4:00.....Ryan Punke, Greg Pavsek & Ashley Slyter, ENG 360, Sustainability Awareness: Campaigning for a Sustainable Campus Through Monthly Goals  
4:10.....Samantha Neyens, Dylan Shoemaker, Daniel Hansen & John Bister, ENG 360, SMSU & YMCA Partnership for University Fitness  
4:20.....Question & Answer session, ENG 360  
4:30.....Adam Hawkinson, Olivia Garrett & Brittany Sallee, ENG 360, Requirements for a Healthier “U”  
4:40.....Cole Hegstad, Colter Fortenberry, Jade Tonding & Caleb Heim, ENG 360, Use of Sustainable Energy to Lower SMSU’s Energy Costs  
4:50.....Kailey Hanson, Alison Nagel & Terrance Maier, ENG 360, Healthy Solutions for SMSU  
5:00.....Tyler Anderson, Natascha Watercott & Garrett Conn, ENG 360, Providing Healthier Food at SMSU  
5:10.....Emily Klima, Holly Erickson & Neal Maurer, ENG 360, Increasing Physical Fitness on Campus by Establishing Fitness Clubs on Campus  
5:20.....Question & Answer session, ENG 360

## Platform Session B

SMSU Charter Hall 201

- 9:45.....Jayme Wiertzema, Kiley Beste & Rachel Frerich, Art History, Illuminated Manuscripts Poster Design
- 10:00....Maria Gilland, Caitlyn Schultz & Stephanie Wisdom, Art History, MAFAC Medieval Illuminated Manuscript Poster Design
- 10:15....Lauren Teal, Sociology, Rape Realities: Portrayal of Rape in News Media
- 10:30....**BREAK**
- 10:45....Holly Mikkelson, Sociology, How Much is Too Much Before Driving?
- 11:00 ....Sylvia Patton, Political Science, Minnesota Sex Trafficking
- 11:15....Sarah Lee, History, Situation Comedies from “Father Knows Best” to “One Day at a Time”: Social Consciousness Comes to Television
- 11:30 ....Laura Bautch, Sociology, Perceptions of the Physically Disabled in Movies
- 11:45 ....Stephanie Ahlschlager & Karen Kremer, Exercise Science, Difference of FMS Testing between Female Recreational Dancers, Trained Athletes, and Non-Athletes
- 12:00-1:00...**LUNCH BREAK**
- 1:00.....Gabrielle Cohrs, Katie Grebinoski & Anna Berman, Art History, Illuminations through the Dark Ages
- 1:15.....Amy Karlstad, Sociology, Reasoning/Meaning Behind Tattoos
- 1:30.....Will R. Kurka, Political Science, Economic and Environmental Impact of Aquatic Invasive Species in Minnesota
- 1:45.....Richard Johnson, History Muhammad Ali: From the “Louisville Lip” to the “Peoples Champion”
- 2:00.....Rob Wedl, History, Churchill: His Views on Communism from 1917-46
- 2:15.....Victor Montelongo, History, 1986 Immigration Reform & Control Act
- 2:30.....Samantha L. Lemmerman, Creative Writing, Moved to poster #98
- 2:45.....Jacob Rigge, History, Truman and “The Old Soldier”: Public Reaction to the Firing of Douglas MacArthur
- 3:00.....Rodney Hoffbeck, Political Science, Port of Duluth Expansion
- 3:15.....**BREAK**
- 3:30.....Michael W. Vogt, Political Science, Upper Minnesota River Valley Conservation and Recreation Area

- 3:45.....Melissa Talley, Political Science, Minnesota Sex Offender Program
- 4:00.....Pal G. Deng, Political Science, Vehicle Training Expansion Center
- 4:15.....Sara Marie Mills, Theatre, The Application Process: Cake vs. Crème Makeup

## Poster Presentations Session A

SMSU Conference Center Lower Ballroom,

Posters displayed 8:30 am-5:00 pm

Authors available at time listed after title

Academic areas: Biology, Chemistry, Computer Science, Exercise Science, Liberal Education Program

- 1.....Roma kc, Biology, Late Onset of Group B Streptococcus Infection Caused by the Ingestion of Infected Breast Milk, 2:30-3:00; 4:15-4:45
- 2.....Angela Wieland, Chemistry, *Ab Initio* Calculations of Carbon-Chlorine Bond Energy in Simazine Using Spartan, 3:00-4:00
- 3.....Samantha Becht & Katlin Fuhs, Exercise Science, The Effects of Static Arm Stretching on Upper Body Ergometer Performance in Wheelchair Athletes, Samantha 10:00-11:00, Katlin 11:00-12:00
- 4.....Sirocco Peterson-Wahl, Biology, Australian Funnel-web Spider Venom  $\delta$ -Atracotoxin Effects on Sodium Channels, 1:00-1:30; 2:45-3:15
- 5.....Matt Zager, Vinard Birch & Jordan Buddenhagen, Exercise Science, Effects of Flexibility on Vertical Jump, Matt 1:00-2:00, Vinard 2:00-3:00, Jordan 3:00-4:00
- 6.....Brandon Jenniges & Sanjeeb Bajracharya, Computer Science, Mytify, 10:00-11:00
- 7.....Juni Lama & Molley Glidden, Biology, Allelopathic Effects of Garlic Bulb Extract in Different Concentrations on the Mustard Plant Length and Its Shoot Biomass, 1:15-2:00
- 8.....Reid Alsworth, Computer Science, Real-Time Agent Simulation, 2:00-3:00
- 9.....Ronald Enno, Computer Science, Casino Game in Python, 10:00-11:00
- 10.....Adam Bock, Samuel Metras & Michael Pick, Exercise Science The Effect of Sleep Deprivation on Determinants of Sports Skills, Adam 10:00-11:00, Samuel 2:00-3:00, Michael 11:00-12:00
- 11.....Kristina Honken, LEP, A Rock Solid Education: All Year Long, 10:30-11:30

- 12.....Katlyn Sandbulte & Monica Fales, Biology Allelopathic Effects of Onions on the Height and Dry Weight of Cowpeas, 2:45-3:30
- 13.....Rachel Patnoe, Biology, Possible Mechanisms of Intravenous Immunoglobulin in the Amelioration of Immune Thrombocytopenic Purpura, 1:45-2:45
- 14.....Christopher LaScotte & Joel Phillips, Computer Science, Designing an Unmanned Forklift, 1:30-2:30
- 15.....Lynn Lafky & Dyreen Nyagesuka, Computer Science, Hotel Management System, 1:00-2:00
- 16.....Alyssa Carmany, Heidi Krueger & Kelsey Verdoes, Exercise Science, Balance in Recreational Dancers Compared to Two Control Groups, Alyssa 11:30-12:30, Heidi 1:30-2:30, Kelsey 2:30-3:30
- 17.....Nischal Shrestha, Biology, Ghrelin Secretion Under Stress and Its Role in Obesity, 11:15-11:45; 3:30-4:00
- 18.....Anup Shakya & Unisha Dhakhwa, Computer Science, Restaurant Point of Sales System, 2:00-3:00
- 19.....Mark Vue & Pheng Yang, Computer Science, Course Scheduler, 1:00-2:00
- 20.....Walker Schaar, Biology, Antiangiogenic and Apoptotic Effects of Cannabidiol, 10:45-11:45
- 21.....Dylan Doyle, Ashley Timm, Evyn Hubbard & Joshua Watterson, Exercise Science, Post-Exercise Ankle Brachial Index in Spinal Cord Injured/Affected Individuals, Dylan 3:00-4:00, Ashley 10:00-11:00
- 22.....Michael Paulson, Mathematics, A Topological Look Into Football, 10:00-11:00
- 23.....Cadie Meyer, LEP, From 5 Days to 4: Should Schools Make the Switch?, 1:00-2:00
- 24.....Elizabeth Senkyr & Luke Stadther, Biology, The Quality of Light and its Effects on Kidney Bean Growth, 11:15-12:00
- 25.....Daniel John Hansen, Exercise Science, Single Leg Power and Change of Direction Speed, 11:00-12:00
- 26.....Dale Schluter, Computer Science, Web-based 3D CAD Program, 1:00-2:00
- 27.....Autumn C. Hayes, Exercise Science, Effects of a Season on the Physical Fitness of Division II Women Soccer Players at Southwest Minnesota State University, 1:30-2:30
- 28.....Rebecca Sommer & Samantha Ritter, Biology, The Allelopathic Effect of Orange, Lemon and Banana Extract on Dry Biomass, Height and Overall Vigor of Rodeo Oats, 1:00-1:45
- 29.....Alison Nagel, Exercise Science, Literature Review for a Case Study of a Knee Injury, 3:00-4:00
- 30.....Jamison Starr, Computer Science, Ticket to Ride, 2:00-3:00
- 31.....Samantha Neyens, Exercise Science, Y-Balance Test, 50 years+, 1:30-2:30
- 32.....Emilee Gutzmer & Claire Sames, Biology, Allelopathic Effects of Common Foxtail Extract on Early Growth of Field Corn, 9:45-10:30
- 33.....Charlie Kern, Abe Kos & Laura Schultz, Exercise Science, The Effects of Ambient Air Temperature on Measurements of Explosive Power, Charlie 1:30-2:30, Abe 3:00-4:00, Laura 2:30-3:30
- 34.....Emily Kubesh & Ashley Schumacher, Exercise Science, Functional Movement Screening of SMSU Division II Collegiate Athletes, Emily 10:00-11:00, Ashley 11:00-12:00
- 35.....Michael Paulson & Travis VanOverbeke, Computer Science, Dominion: From the Table Top to the Computer Screen, 11:00-12:00
- 36.....John Craig, Chemistry, Analysis of Hot Sauce Intensity by HPLC, 2:00-3:00
- 37.....Kelsey Stern & Jenna MacHolda, Exercise Science, Post-Exercise Ankle-Brachial Index Measurements in Upper Body vs Lower Body Ergometry, Kelsey 11:30-12:30, Jenna 1:00-2:00
- 38.....Michael Mattick, Dana Kells, Nathan Meyers & Lauren Douglas, Biology, Allelopathic Effects of Coffee Bean Extract on Sunflower Plants, Michael & Nathan 10:00-10:45, Dana & Lauren 2:15-3:00
- 39.....Rachel Patnoe, Chemistry, Optimizing a New Experiment for Organic Chemistry Lab, 11:15-12:00
- 40.....Herman Houedan & Shahanshila Shakya, Computer Science, GeoTest Application, Herman 3:00-4:00, Shahanshila 1:00-2:00
- 41.....Katelyn Sullivan, Catherine Otto & Tyler Tonderum, Exercise Science, The Effects of Caffeine on Reaction Time and Concentration, Katelyn 1:30-2:30, Catherine 11:00-12:00, Tyler 2:30-3:30
- 42.....Terrance Maier, Travis Larson & Whitney Miller, Biology, The Allelopathic Effects of Sunflower Extract on Peas, Terrance & Whitney 2:45-3:30, Travis 11:15-12:00
- 43.....Michael Wenk, Cole Oswald & Eric Giddings, Exercise Science, Effects of Music on Muscular Endurance, Michael 10:00-11:00, Cole 11:00-12:00, Eric 1:30-2:30
- 44.....Avish Kansakar, Computer Science, Unity Shoot, 11:00-12:00

- 45 .....Rachel Westby, Christa Wolf & Margaret Lindow, Exercise Science, The Effects of Foot Placement on Force Production, Rachel 11:00-12:00, Christa 1:00-2:00, Margaret 2:00-3:00
- 46.....Ross Kuchta, Chemistry, Computational Investigation on the Mechanism of Thermochromism in N-Salicylideneaniline, 1:30-2:30

## Poster Presentations Session B

*SMSU Bellows Academic Library Plaza (BA 272)*

*Posters displayed 8:30 am-5:00 pm*

*Authors available at time listed after title*

Academic areas: Ag Business, Political Science,  
Psychology, Sociology and Theatre

- 47.....Payton Shively, Theatre, Flashback to the '50s & '60s, 11:30-12:30
- 48.....Ryan Risa, Theatre, "Look of the Lion", 1:00-2:00
- 49.....Anna Gwendolyn Eben, Theatre, Prosthetics: True to Life, 11:00-12:00
- 50.....Jessica Linder, Theatre, Mermaids Are Real: Stage Makeup Application, 10:00-11:00
- 51.....Callie Frank, Theatre, Once On This Island: Make-Up Application for Creating the Gods, 10:00-11:00
- 52.....Madeline Hentges, Theatre, The Healing Process: Application of Wounds, 10:00-11:00
- 53.....Lynn Lafky, Theatre, Throughout the Ages: Aging Stage Makeup, 10:00-11:00
- 54.....Alexander Pikala, Theatre, Video Character Make-up for Cosplay, 11:00-12:00
- 55.....Danielle Grunewald, Theatre, Kabuki Makeup, 1:00-2:00
- 56.....Kyle Havlicek, Theatre, The Make-up Styling of Rick Baker, 1:00-2:00
- 57.....Emily Woodrow, Theatre, Disney on Stage: A Makeup Process, 12:30-1:30
- 58.....Tony Falk, Theatre, Tattoos In Theater, 11:00-12:00
- 59.....Turi Jystad, Theatre, Makeup Allergens, 1:00-2:00
- 60.....Jessa Roberts, Theatre, Defining Faces for all Spaces, 11:00-12:00
- 61.....Chuche Lee, Theatre, Ursula the Sea Witch, 3:00-4:00
- 62.....Rebecca Scott, Theatre, Contouring the Face Using an Airbrush, 3:00-4:00

- 63.....Briana Helmer, Theatre, From Drab To Fab: A Drag Queen Process, 11:00-12:00
- 64.....Zhenya Ward, Political Science, Municipal Budgetmaking in Southwest Minnesota, 3:00-4:00
- 65.....Brandon Soller, Political Science, The Overpass Initiative: Highway 169 in Jordan, Minnesota, 11:00-12:00
- 66.....Jon Kindschi, Political Science, Impact of the Mayo Clinic's Destination Medical Center on Southeast Minnesota, 1:30-2:30
- 67.....Steven Halloran, Political Science, The Minnesota Farm Machinery Repair Sales Tax: Costs and Benefits, 1:30-2:30
- 68.....Changkuoth Gatchay, Political Science, Impact of the Minnesota Power Plan on Greater Minnesota, 11:30-12:30
- 69.....Joe Stremcha, Political Science, Speed Limit Increases on U.S. Highways 59 and 75, 3:00-4:00
- 70.....Eddie Anderson & Kyle Johnson, Sociology, Testing Melvin Kohn's Theory Using Data from the General Social Survey, 3:00-4:00
- 71.....Abbie Meyer & Vonnie Hammerschmidt, Sociology, Using General Social Survey Data to Test Hirschi's Control Theory, 10:00-11:00
- 72.....Megan Gullickson, Sociology, The Explanatory Power of Durkheim's Theory of Suicide: A Review of Contemporary Research, 2:00-3:00
- 73.....Erin Reps, Sociology, Exploring African-American Spirituals Through the Lenses of the Three Major Sociological Perspectives, 4:00-5:00
- 74.....Desirae Guscette & Emily Remmers, Ag Business, Economic Development in the Dominican Republic, 2:00-3:00
- 75.....Mark Jankowski, Psychology, Where's Waldo: Comparing Different Target Stimuli Using Conjunctive Search, 2:30-3:30 pm
- 76.....Björn Walter, Psychology, The Effect of Divorces on Child Development, 10:30-11:30

## Poster Presentations Session C

SMSU Student Center Upper Level (SC 216)

Posters displayed 8:30 am-5:00 pm,

Authors available at time listed after title

Academic areas: Computer Science,  
History, Psychology & Creative Writing

- 77.....Carol Baune, Psychology, The Effect of Listening Time on Perception of Music, 3:30-4:30
- 78.....Shannon Marholtz & Kristina Trembley, Psychology, Color Deficiencies and the Influence of Age, Gender and Smoking, 3:30-4:30
- 79.....Cadie Meyer, Psychology, The Role of Eyes and Eyebrows in Facial Recognition, 10:30-11:30
- 80.....Jina Stockland, Kimberley Einck & Kristi Eisenbraun, Psychology, Taste Perception for Generic vs. Name-Brand Soda, 3:30-4:30
- 81.....Daniel Nordlund & Daniel Sargent, Psychology How Does the American Diet Affect the Way Our Bodies Work?, 10:30-11:30
- 82.....Angela Euerle, Tracy Kellen & Björn Walter, Psychology, The Effects of Auditory Stimuli on Taste, 10:30-11:30
- 83.....Joshua Hughes & Gena Stevens, Psychology, Health Halo Effects from Diet and Zero Calorie Sodas, 11:30-12:30
- 84.....Dillan Hutchins & Dan Francis Jr., Psychology, Effects of Binge Drinking on GPA, 2:30-3:30
- 85.....Ashley Edwards & Kathleen Walker, Psychology, Effects of Birth Order on Academic Achievement in Children, 10:30-11:30
- 86.....Danica Caudillo & Kayla Williams, Psychology, Taste Expectancy and Taste Perception: Does What We See Effect the Taste of Food? 11:00-12:00
- 87.....Ann Kopitzke, Psychology, Perception of Aggression in Color Among SMSU Students, 10:00-11:00
- 88.....Rebecca Holmblad & Catherine Barstow, Psychology, The Effects of Music on Pain Perception, Rebecca 10:30-11:30, Catherine 2:00-3:00
- 89.....Mariah J. Garver, History, Between the Lines: the Womanly Construct of Ladies' Home Journal, 1950-1959, 10:30-11:30
- 90.....Steven McGeary, History, The Women Homesteaders of Swift County Minnesota, 1:30-2:30
- 91.....Michelle DeVries, History, The Rwandan Genocide: Why the World Watched, 1:30-2:30

- 92.....Ryn Bursack, History, Thomas More and Erasmus: Defenders of the Faith, 11:00-12:00
- 93.....Kyle Pavek, History, The Prague Spring and Soviet Intervention of 1968, 3:00-4:00
- 94.....Anna Biastock, History The Minnesota Civilian Conservation Corps and the Creation of Camden State Park, 1934, 1:30-2:30
- 95.....Daryl Thomas, Psychology, Body Growth and Development, 2:30-3:30
- 96.....Leonard Panion, Psychology, Does stress cause aging? And what can we do about that? 2:30-3:30
- 97.....Sabin Sapkota & Kelly Schuerman, Computer Science, Wireless Infrastructure Evaluation for SMSU, 2:00-3:00
- 98.....Samantha L. Lemmerman, Creative Writing, Bad Romance and Good Conversations: An Exploration of the Primary Relationships in *Fifty Shades of Grey* and *Twilight*, 2:30-3:30

## Original Works Session A

Student Center Upper Level, Artists next to work 2:00-3:30 pm

Displayed Monday, Dec. 2 through Monday, Dec. 9, 2013

- 1 .....Gabrielle Cohrs, Compartmentalization, Sculpture
- 2 .....Rachel Frerich, Country Time, Sculpture
- 3 .....NaLee Lor, The Mechanic, Sculpture
- 4 .....Annie Erickson, A Blank Slate, Sculpture
- 5 .....Trent Smith, Music is Life, Sculpture
- 6 .....Em Woodrow, War Untitled, Sculpture
- 7 .....Jayme Wiertzema, Art Advocacy, Sculpture
- 8 .....Tara Borman, A Time and Place, Sculpture
- 9 .....Laura Ahrendt, Media Assault, Sculpture