

13th Annual
**undergraduate
research
conference**

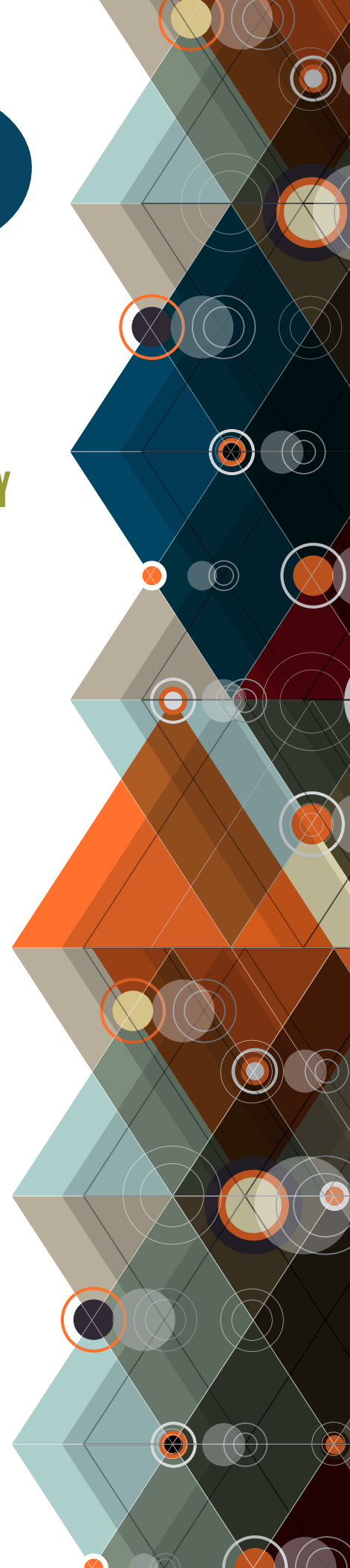


SOUTHWEST MINNESOTA STATE UNIVERSITY

**Wednesday,
December 5, 2018**

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

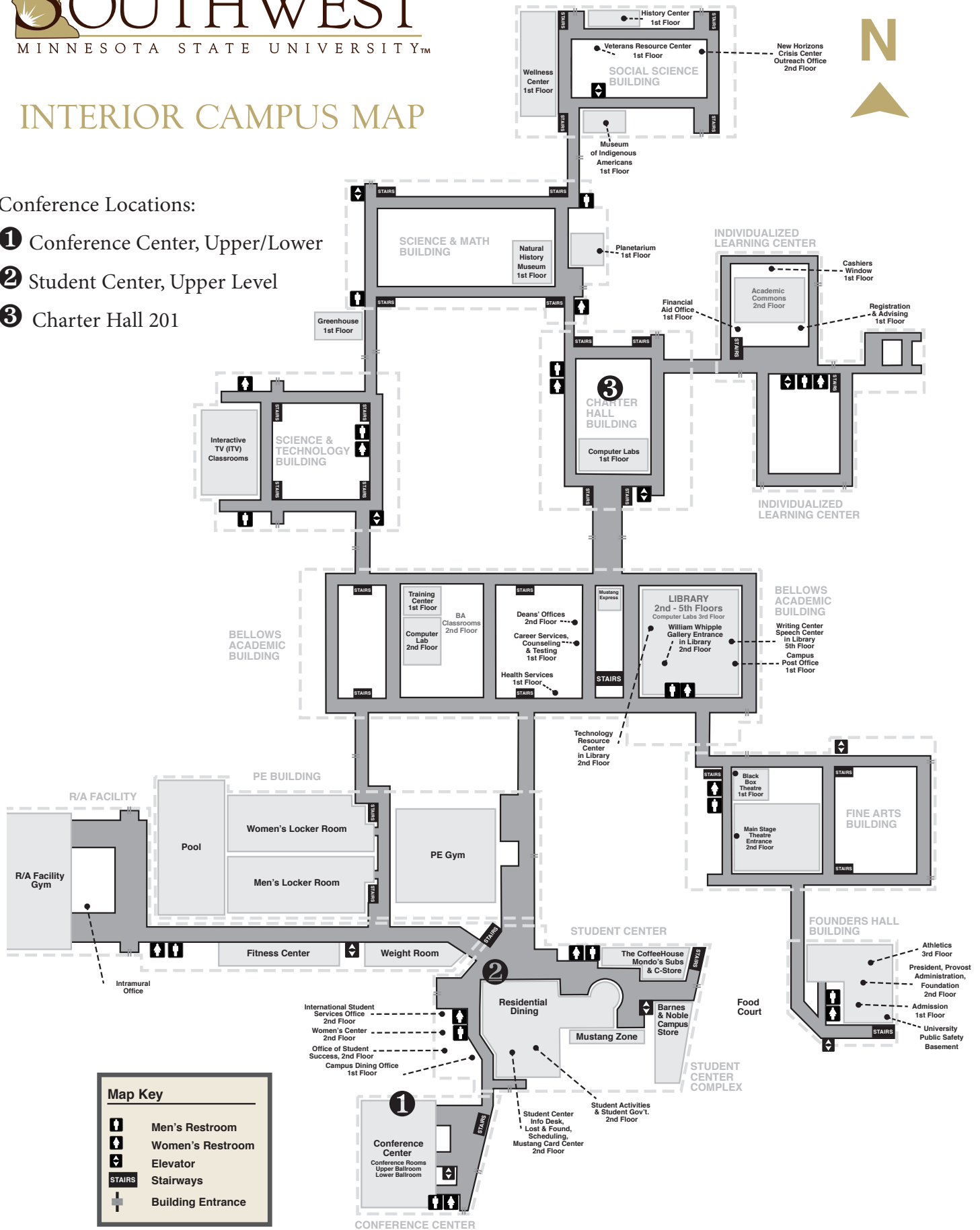
Abstract Booklet



INTERIOR CAMPUS MAP

Conference Locations:

- ① Conference Center, Upper/Lower
- ② Student Center, Upper Level
- ③ Charter Hall 201



Map Key

- Men's Restroom
- Women's Restroom
- Elevator
- Stairways
- Building Entrance

Table of Contents

Purpose.....	1
How the Conference Started.....	1
Conference Schedule.....	2
Keynote Speaker.....	8
Abstracts.....	9

Purpose

The purpose of the Annual SMSU Undergraduate Research Conference is to highlight the original and creative work done by SMSU undergraduate students at a one-day conference to be held annually at the SMSU campus. The public, including the university and Marshall community, friends, parents, alumni, prospective students and employers are all encouraged to attend and enjoy the excitement of intellectual accomplishments of our students.

How the Conference Started

The conference was initiated fall of 2006 by Dr. Emily Deaver, Professor of Environmental Science. After she and Dr. Thomas Dilley conducted an Environmental Science program review in 2005-2006, it was clear that our science students needed more experience conducting research and communicating the results of that research to the broader community. The 1st Annual SMSU Undergraduate Research Conference was designed as a mechanism for SMSU science students to engage in a professional exchange of scientific ideas, as well as a means to showcase and celebrate their hard work and accomplishments. The first year program included 21 oral and 27 poster presentations from science students in Environmental Science, Biology, Physics and Chemistry. Because of the positive feedback from the academic community the conference was expanded to include **all** disciplines across campus. Fall 2007 the 2nd Annual SMSU Undergraduate Research Conference doubled the number of presenters with 13 different programs across campus participating. This year, the 13th year of the SMSU Undergraduate Research Conference, there are 17 different programs participating with 29 different faculty advisors. There are also 172 different undergraduate students presenting 46 orals and 89 poster presentations.

The hope is that the conference will continue to grow each year as we celebrate the intellectual achievements of SMSU undergraduates.

Thank you to the David B. Jones Foundation for their generous support.



Welcome and Keynote

SMSU Conference Center Upper Level

- 8:30..... **Dr. Connie J. Gores, SMSU President**, Opening Remarks
- 8:45..... **Dr. Stephanie M. Gardner**, Assistant Professor of Biology at Purdue University
Keynote Address: What are you trying to say?: Scaffolding student learning of data communication

ORAL SESSION A

SMSU Conference Center Upper Level

Biology, Creative Writing, Environmental Science, Philosophy

- 9:45..... Aaron B. Wilson, Environmental Science, Investigation of Potential Source Population for Recently Established Smallmouth Bass *Micropterus dolomieu* Population in Lake Traverse MN/SD by Using Random Amplified Polymorphic DNA (RAPD)
- 10:00..... Chance Steward, Environmental Science, Characterization of Trees and Soil Properties on Granitic Soil Islands in the Minnesota River Valley
- 10:15..... Hunter Czycalla, Environmental Science, Lichen populations on different types of granitic rocks in the Minnesota River Valley
- 10:30..... BREAK
- 10:45..... Ely Rogers, Environmental Science, Growth of Lichens *Dimelaena oriena* and *Xanthoria elegans* on Tombstones in Southwest Minnesota
- 11:00..... Sandra Shimba, Prabhat Shrestha & Abidemi Folorunso, Biology, Bird mortality due to window collision in Southwest Minnesota State University
- 11:15..... Katie Kindvall, Marco Gacke & Abisola Adetimehin, Biology, The Effects of Earthworms on Soil Composition in Different Habits in the SMSU Wildlife Area
- 11:30..... Shawn Griffin, Brent Huls & Noah Sander, Biology, Examining the Relationship between Water Quality and Zooplankton Populations
- 11:45..... Blythe Zeug, Katie Boerboom & Hannah Lund, Biology, Biological assessment of aquatic macroinvertebrates in Bluebird Stream, Ghent MN
- 12:00-1:00 ... LUNCH BREAK
- 1:00..... Moses Ogundipe, Rabina Saud & Spencer Erickson, Biology, *Daphnia magna* Population Response to Different Sources of Algae as a Food Source
- 1:15..... Fadumo Ismail, Nona Meunsi & Pushpa Chhantyal, Biology, Effects of Calcium and Protein Diets on House Cricket (*Acheta domestica*) Growth and Development
- 1:30..... Brenna Kramer, Britney Thompson & Sarah Kleve, Biology, Comparison of arthropod communities between prairie and wetland habitats in the SMSU Wildlife Area
- 1:45..... Cody Friedges, Pradip Bhandari & Adrien Gustave, Biology, Comparative biodiversity of aquatic invertebrates in wetlands surrounding Southwest Minnesota State University
- 2:00..... Benjamin Broze, Philosophy, Confucian Ethics in College Athletics
- 2:15..... Shawn Valez, Philosophy, Hume's Ethics for Moral Persons and A.I.
- 2:30..... Justin Trotter, Philosophy, John Stuart Mill & Utilitarianism
- 2:45..... Kelly Regan, Philosophy, Euthanasia in Our Society
- 3:00..... Caleb Trang, Creative Writing, The Man in the Window: A Senior Portfolio Reading of Original Works
- 3:30..... Austin (AJ) Rusch, Creative Writing, Animals—What They Give & What They Take: A Senior Portfolio Reading of Original Works
- 4:00..... Selina McCool-Kamstra, Creative Writing, More than a Story: A Senior Portfolio Reading of Original Works
- 4:30..... Sophia White, Creative Writing, Lively Levity: A Senior Portfolio Reading of Original Works
- 5:00..... Desiree Bauer, Creative Writing, Stories of America's Great Pastimes: A Senior Portfolio Reading of Original Works
- 5:45..... Awards Ceremony, Library Research Awards Presented

ORAL SESSION A

SMSU Charter Hall 201

History, Philosophy, Sociology and Theatre

- 9:45..... Rachal Albrecht, Philosophy, Exploring and Defending Animal Righting in the History of Moral Ethics
 10:00..... Matthew Stude, Philosophy, Kant's Moral Relationship With God
 10:15..... Catherine Berg, History, Growing Up in Northern Ireland During the Troubles
 10:30..... BREAK
 10:45..... Dalton Dahl, History, The Presence and Influence of 1960s Counterculture in Southwest Minnesota
 11:00..... Levi Magnuson, History, The Death of the Prague Spring
 11:15..... Nicholas Goette, History, The Italian Wars: A Quagmire of Violence
 11:30..... Laurie M. Ourada, Sociology, Doing Sociology: Advocacy and Networking in Students Disability Services
 11:45..... Deja Chappell, Sociology, Peer Interaction and Self Image Among College Students
 12:00-1:00 ... LUNCH BREAK
 1:15..... Julie Denning, Sociology, Adolescent Eating Disorders; Gender and Body Image
 1:30..... Hannah Redmond, Sociology, My Experience at W.R.A.P.
 1:45..... Callie Severson, Sociology, Social Control: Working With Disabled Adults in Independent Settings vs. Total Institutions
 2:00..... Paul Ragan, Theatre, The Evolution of the Theater Space: Ancient Greece to Present
 2:15..... Chase Hamilton, Sociology, Identity Work and Social Relationships in Distance Running
 2:30..... Colten Specht, Sociology, College students attitudes towards marijuana use and legalization
 2:45..... Raxson Rax, Theatre, Theatre Depicted in Paintings
 3:00..... BREAK
 3:15..... Whitney McCamish, Theatre, Shakespeare In Love
 3:30..... Danny McDonnell, Theatre, The Mandrake presented by Riverside Theatre starring Tom Hanks
 3:45..... Caitlin Schmidt, Theatre, Magic, Myth, and Medea
 4:00..... Jordan Stangeland, Theatre, The History of the Occult in Dramatic Literature
 4:15..... Paran Kashani, Theatre, Stage Makeup in Shakespeare's Time
 4:30..... Alyssa Ehlen, Theatre, The influence of women in Greek Theatre
 4:45..... Dillon Baxendell, Theatre, Greek through Medieval Costume Designs
 5:00..... Donna Bastemeyer-Parlin, History, Sister Elizabeth Kenny and the Treatment of Polio
 5:15..... Jenny Homan, Theatre, Romeo and Juliet: The transition from stage to the big screen
 5:30..... Jesse McArdeall, History, The Republican Party of Minnesota's 1975 state convention: A response to political turmoil aimed at attracting disaffected voters

POSTER PRESENTATION SESSION A

SMSU Conference Center Lower Level
 Posters displayed 8:30 a.m. to 5:00 p.m.

*Times shown indicate when authors will be present at the poster
 Agribusiness, Agronomy, Biology, Environmental Science,
 Exercise Science, Hospitality, Mathematics, Nursing, Physics*

- 1..... C. Bridget Dubrey, Biology, Rebuilding Sustainable Coral Reefs: Exploring Coral Gardening and the 2D Coral Preparative Tool, Formal 3:30-4:00, Informal 10:45-11:15, 4:00-4:30
- 2..... Easton Popma, Biology, The Potential of Melatonin in Reducing Alzheimer’s Disease-Induced Cognitive Impairments, Formal 9:45-10:15, Informal 10:15-10:45, 1:30-2:00
- 3..... Sarah Kleve, Biology, Genetic changes as a potential mechanism of malignant transformation of endometriosis, Formal 2:00-2:30, Informal 2:30-3:00, 4:00-4:30
- 4..... Adrien Gustave, Biology, Mechanism of Isocitrate Dehydrogenase Associated with the avoidance Immune response in Glioma tumors, Formal 10:15-10:45, Informal 10:45-11:15, 3:30-4:00
- 5..... Katie Boerboom, Biology, Bisphenol-A may accelerate Diabetes Type-1 development, Formal 1:00-1:30, Informal 9:45-10:15, 1:30-2:00
- 6..... Jordan M. Deuel, Biology, Mutations to the IRF6 gene correlated to the phenotypic expression of cleft lip/palate, Formal 2:30-3:00, Informal 10:15-10:45, 3:00-3:30
- 7..... Spencer Erickson, Biology, The Ketogenic Diet Effectively Targets Brain Cancer Cell Metabolism, Formal 10:45-11:15, Informal 11:15-11:45, 4:30-5:00
- 8..... Gus Molina, Biology, Role of complement C3 on Alzheimer’s disease, Formal 1:30-2:00, Informal 11:30-12:00, 2:00-2:30
- 9..... Selena Herr, Biology, EGFR mutation involvement with lung cancer in never smoking Asian women, Formal 4:00-4:30, Informal 1:00-1:30, 3:00-3:30
- 10..... Britney Thompson, Biology, Impact of climate change on phenology of migratory birds, Formal 4:30-5:00, Informal 9:45-10:15, 2:30-3:00
- 11..... Blythe Zeug, Biology, Assessing Cardiac Autonomic Dysfunction via Heart Rate Variability in Multiple Sclerosis Patients, Formal 3:00-3:30, Informal 1:00-1:30, 3:30-4:00
- 12..... WITHDRAWN
- 13..... Ashle Benson & Amanda Stafford, Agribusiness, Agriculture Development in Croatia, 3:00-4:30
- 14..... Aaron B. Wilson, Environmental Science, A Short Term Assessment of Biotic and Abiotic Factors in a Wetland Near Marshall, MN, 3:30-5:00
- 15..... Dianne Johnson, Nursing, College Student Sleep Habits Affect Health, 1:30-3:00
- 16..... Carter Barker, Mathematics, Non-unique Factorizations in Matrix Number Theory, 1:30-3:00
- 17..... Dylan A. Wenninger-Parsons & Katelynn M. Nohner, Physics, High altitude stratospheric ballooning, in conjunction with MN West Community and Technical College, Worthington campus, 1:30-3:00
- 18..... Hallie Will & Shantel Koering, Agribusiness, Agriculture Production Comparison in Sub-Saharan and Developing Countries, 9:30-11:00
- 19..... Ryan Souther, Erin Richardson & Louis Lozinski, Biology, Allelopathic effect of citrus peels on early growth of corn, Ryan, Erin: 1:30-2:15, Louis: 10:15-11:00
- 20..... Cole Bly, Agronomy, Cover Crops and Soil Fertility Benefits, 2:30-4:00
- 21..... Tara Thapa Magar & Paul Thurin, Biology, The Allelopathic Effects of Sunflower Seed Extract on Vegetative Corn Growth, 3:00-3:45
- 22..... Brook Stang, Mathematics, Continuous Nowhere Differentiable Functions, 9:30-11:00
- 23..... Jonathan Dicke, Morgan Darner, Blythe Zeug, Ellie Senica, Jordan Scheidecker & Kelly Fitzsimmons, Exercise Science, Pulse Wave Velocity and Arterial Measures in Spinal Cord Injured/Disordered Subjects, Jon 1:00-2:30, Jordan 2:30-3:30, Kelly 11:00-12:00
- 24..... Morgan Darner, Jonathan Dicke, Ellie Senica & Blythe Zeug, Exercise Science, Post-exercise ankle-brachial index in spinal cord injured/disordered subjects, Morgan 9:45-11:15
- 25..... Hunter Czycalla, Environmental Science, Seasonal Evaluation of the SMSU Horseshoe Pond, 3:30-5:00
- 26..... Caedyn Reinhardt, Thazin Win, Amy Heibult & Candace Thomas, Biology, Allelopathic Interference of Raspberry Plant Extracts on Young Basil Plant Growth, Caedyn 11:15-12:00, Thazin, Amy 2:00-2:45, Candace 10:15-11:00
- 27..... Candace Thomas, Environmental Science, Riparian Wetland: Ecological Observations of a Segment of the

- Redwood River near Legion Field in Marshall, Minnesota, 3:30-5:00
- 28..... Kallyssa Klatt, Exercise Science, Effects of Stretching on the Posture of Division II Wrestlers, 10:45-11:45
- 29..... Chance Steward, Environmental Science, Characterization of a Marshall, Minnesota Flood Control Pond and Wetland, 3:30-5:00
- 30..... Derek Harder, Exercise Science, Bilateral Deficit in Counter Movement Jump between Basketball Players, 9:45-10:45
- 31..... Cody Friedges, Environmental Science, Seasonal effects on water quality and biota in the McFarland Pond, 3:30-5:00
- 32..... Kaylee Burmeister, Exercise Science, Comparing Landing Mechanics by Front Row Positions After a Spike in Division II Volleyball Players, 1:30-2:30
- 33..... Ely Rogers, Environmental Science, Observations of Southwest Minnesota State University Mattke Stadium Stormwater Run Off Pond, 3:30-5:00
- 34..... Lukas Johnson, Macy Violet & Jenna Loch, Exercise Science, Relationship Between Hip and Core Muscular Endurance and Lower Extremity Injuries in Division II Women's Soccer, Lukas 1:30-2:30, Macy 2:30-3:30, Jenna 9:45-10:45
- 35..... Sean Amegashie, Environmental Science, Short Term Study of Changes in the KMHL Broadcasting Shallow Marsh, 3:30-5:00
- 36..... Ola Abimbola, Environmental Science, The study of AmericInn Shallow Marsh Wetland in Marshall, MN, 3:30-5:00
- 37..... Samantha Pankratz, Environmental Science, A Short Term Evaluation of Wildlife and Aquatic Conditions of a Minnesota-shaped Wetland near Southwest Minnesota State University, 3:30-5:00
- 38..... Kennedy Lund, Brendan Kienlen & Colton Bates, Biology, Effects of Salinity on Corn and Okra Growth, Kennedy 10:30-11:15, Brendan, Colton, 1:00-1:45
- 39..... Michael Luke, Environmental Science, Deep Marsh Wetland Water Quality Project in Marshall, MN, 3:30-5:00
- 40..... Tanisha Neeley, Baylie Bloomquist & Joey Heinen, Biology, The Allelopathic Effect of Orange Peel Extract on Height and Dry Weight of Basil vs Tomato Plants, Tanisha, Baylie 11:00-11:45, Joey 2:45-3:30
- 41..... Margaret Provo, Environmental Science, Water Quality and Biotic Analysis of a Redwood River Riparian Wetland in Marshall Minnesota, 3:30-5:00
- 42..... Leah Stevens, Deena Weber & Tyler Molitor, Agribusiness, Hunger & Poverty Issues in Yemen, 10:30-12:00
- 43..... Ashley Livermore, Dean Zinda & Hanna Johnson, Hospitality Management, An analysis of the complimentary events during fall sporting events at Southwest Minnesota State University and their impact on student's willingness to attend, 3:00-4:30
- 44..... Emilie Reider, Tristin Leshovsky & Gabrielle Long, Hospitality Management, Residents of Marshall's Opinions on Food Quality and Selections Offered at Concession Stands During Various Sporting Events at the High School and College Level, 3:00-4:30
- 45..... Lauren Sellner, Autumn Schmitz & Evan Bauch, Hospitality Management, Most Popular Bar Food in Marshall, 3:00-4:30
- 46..... WITHDRAWN

POSTER PRESENTATION SESSION B

Student Center Upper Level (SC 216)

Posters displayed 8:30 a.m.- 5:00 p.m.

Times shown indicate when authors will be present at the poster

Computer Science, History, Political Science, Philosophy, Psychology

- 47..... Aayush Bajra Bajracharya & Sayana Shrestha, Computer Science, Joy of Gone!, 9:30-11:00
- 48..... Raj Tajale & Nhuja Shakya, Computer Science, Expert Eyebrows, 1:00-2:30
- 49..... Gregory Bowen, Computer Science, Robots Finding Robots: Using Machine Learning to Distinguish Synthetic Speech from Human Speech, 9:30-11:00
- 50..... Rijan Prajapati & Hisila Manandhar, Computer Science, Marshall Bus Tracker, 1:30-3:00
- 51..... Anusha Prajapati & Sanjay Prajapati, Computer Science, Online shopping application, 1:30-3:00
- 52..... Sujan Shahi & Ankit Parajuli, Computer Science, Nepali Bhojan: An Application for all Nepalese Food Recipes, 12:00-1:30
- 53..... Smiti Shakya & Sabin Dhaugoda, Computer Science, SAI company website and web application, 10:30-12:00
- 54..... Ram Shrestha & Anil Gurung, Computer Science, Street League, 10:30-12:00
- 55..... Jackson Bunes, Computer Science, Online Game of Bridge, 3:00-4:30
- 56..... Snowflower Yang & Cody Abraham, Computer Science, Weekly Football Picks Challenge, 12:30-2:00
- 57..... Gregory Bowen, Brook Stang, Jackson Bunes & Justin Trotter, Computer Science, TutorBoard: Creation of a Networked Tutoring Application for Math and Computer Science, Greg 3:00-4:30, Brook 11:00-12:30
- 58..... Gregory Bowen & Brook Stang, Computer Science, MMAP-X: Mobile Multiplatform Application Production with Xamarin for Local Navigation, Greg 3:00-4:30, Brook 11:00-12:30
- 59..... Dylan A. Wenninger-Parsons, Computer Science, Does the use of insulin pumps and continuous glucose monitors with prototyping methods reduce the burden of Type-1 Diabetes? 3:00-4:30
- 60..... Snowflower Yang, Sayana Shrestha, Jason Kleindl & Cody Abraham, Computer Science, Rock Paper Scissor Client Server, Snowflower & Sanyana 9:30-12:00, Jason & Cody 2:00-3:30
- 61..... David Shittu & David Mcharo, Computer Science, Multipurpose Interactive Drawing Board: Tutorials, Drawings or Games, 1:30-3:00
- 62..... Tyler Patterson, History, The Yellowstone Trail, 1:30-3:00
- 63..... JoAnn Chambs, History, The Civilian Conservation Corps Camp in Jordan, Minnesota, 1940-1942, 1:30-3:00
- 64..... Brianna Krumwiede, History, Jane Grey Swisshelm: Gender and Politics in Journalism, 10:30-12:00
- 65..... Ethan Fisk, History, The 34th Infantry Division at the Battle of Monte Cassino, 3:00-4:30
- 66..... Josh Falk, History, The T4 Program, 1:30-3:00
- 67..... Colin Hoppe, History, Largest mass execution in human history, 10:30-12:00
- 68..... Cody Huiras, History, Easy Company, 10:30-12:00
- 69..... Loic Dah, Political Science, Workforce development in greater Minnesota, 9:30-11:00
- 70..... Alex Kinda, Political Science, Trends in Health Insurance Access in Minnesota, 9:30-11:00
- 71..... Jesse McArdell, Political Science, Lake Mille Lacs: An examination of the Socioeconomic consequences accrued from a general decline in the fishing industry, 9:30-11:00
- 72..... Jordyn Horn, Samantha Onken, Liz Breyfogle & Christina Rebstock, Psychology, The Generation Effect Integrated with Colors, 10:30-12:00
- 73..... Mariah Henry, Hannah Stremmel & Aaron Tyson, Psychology, The Effects of Mnemonics on Learning English Among Non-Native Speakers, 10:30-12:00
- 74..... Marta Rubin & Samantha McNeel, Psychology, Metacognition and College Students' Study Strategies, 10:30-12:00
- 75..... Hannah Herlyn & Kayla Chisum, Psychology, Facial Recognition and the Effects of Emotion on Memory, 10:30-12:00

- 76..... Kailee Herdina, Shawn Valez & Malik Johnson, Psychology, Effects of Vision on Learning, 10:30-12:00
- 77..... Joel Wallace, Psychology, Comparing Stress, Coping Strategies, and Life Satisfaction for Athletes vs. Non-Athletes, 10:30-12:00
- 78..... Alyssa Strand, Philosophy, Should All Public Playgrounds Be Accessible Playgrounds? 3:00-4:30
- 79..... WITHDRAWN
- 80..... Amanda Stafford, Philosophy, Marketing Morality: Large Businesses Marketing Unhealthy Food in Time of Food Insecurities, 10:30-12:00
- 81..... Jessica Stai, Philosophy, Veganism: Should you join the band wagon? 3:00-4:30
- 82..... Cassie Mages, Philosophy, Friedrich Nietzsche and Morality, 10:30-12:00
- 83..... Addie Miller, Philosophy, Filial Piety Dissolving Over Generations, 3:00-4:30
- 84..... Courtney Trotter, Philosophy, Aristotle's Ethics, 10:30-12:00
- 85..... Shae Sazama, Philosophy, Hume: Psychology Meets Philosophy, 3:00-4:30
- 86..... Stacey Vue, Philosophy, Core Elements of Confucian Virtue Ethic, 10:30-12:00
- 87..... Sophia White, Philosophy, 'Created neither from the head nor the heel': Aquinas and the Mediaeval Woman, 10:30-12:00
- 88..... Ascharya C. Motoori, Philosophy, The Nietzsche's Vision of restructuring Morality and the Fallacy of Sex and Gender in his Theory, 3:00-4:30
- 89..... Wyatt Albers, Philosophy, The Morality of Man: Evaluating the Conclusions of Euthyphro's Dilemma through the Philosophy of St. Augustine and St. Aquinas, 3:30-5:00

Keynote Address: *“What are you trying to say?: Scaffolding student learning of data communication”*

Keynote Speaker: Dr. Stephanie M. Gardner
Assistant Professor of Biology, Purdue University



Stephanie M. Gardner is an Assistant Professor in the Department of Biological Sciences at Purdue University. She earned her doctorate in Physiology from the University of Wisconsin-Madison in the lab of Donata Oertel with a focus on the neurophysiology of synapses within the auditory system. She conducted her postdoctoral training in the lab of Richard Huganir at Johns Hopkins School of Medicine where she studied synaptic plasticity in the cerebellum. As a Visiting Assistant Professor at Dickinson College and Purdue University, her research interests shifted to biology education research. Research in her lab focuses on revealing areas of student competence and difficulty in mechanistic reasoning in physiology, in the effective creation of visualizations to understand and communicate data and experimental concepts, and reasoning with evidence in biology. Data from this research are used to design and evaluate classroom materials and instruction to improve student learning.

Recommendations for science education at the K-16 levels advocate students learning about and gaining competence in the practices of science. Indeed, many undergraduate science curricula have demonstrated competence with science practices stated as learning outcomes. Science practices include designing and carrying out experiments, analyzing and interpreting data using quantitative reasoning, and drawing conclusions and communicating data, as examples. Undergraduate students engaged in research apprenticeships in faculty labs can potentially learn and acquire many of the necessary concepts and skills related to these practices. However, research experiences can vary in the extent to which students are given independence and guidance to develop competence. Therefore, incorporating opportunities for students to learn and master these practices within their coursework, in addition to their research experiences, is desirable in order to meet these curricular goals and outcomes for all students. The analysis, display and communication of data in visual and written formats is a common activity, particularly in science laboratory courses. However, helping students develop mastery of these practices requires insight into areas of student difficulty and competence. In this talk I will present student data and example instructional scaffolds designed to reveal student knowledge to instructors and to facilitate student learning of graphing of and drawing conclusions from biological data.

Abstracts

Oral Session A – Upper Level Conference Center Biology, Creative Writing, Environmental Science, Philosophy

1

Title: Investigation of Potential Source Population for Recently Established Smallmouth Bass *Micropterus dolomieu* Population in Lake Traverse MN/SD by Using Random Amplified Polymorphic DNA (RAPD)

Presenter(s): Aaron B. Wilson

Advisor: Drs. Emily Deaver & Thomas Dilley, Environmental Science

Abstract: Stocking of smallmouth bass (*Micropterus dolomieu*) into a riverine system has implications across their range of dispersal. Identifying source populations of a newly established populations is important to fisheries managers. A possible source for the recently established (2012) smallmouth bass population in Lake Traverse is the stocked population in the Otter Tail River. DNA was extracted from fine tissue samples from 10 smallmouth bass from the Otter Tail River and 13 smallmouth bass from Lake Traverse. RAPD was used with six random primers to identify any nucleotide sequence polymorphisms. Nucleotide banding sequences of the two populations showed differences in two of the six primers, indicating a genetic variation between the two populations. To determine the degree of variation, further analysis is needed. These variations may indicate the Otter Tail River population is not the source population, or that there are other populations influencing the genetics of the Lake Traverse population.

2

Title: Characterization of Trees and Soil Properties on Granitic Soil Islands in the Minnesota River Valley

Presenter(s): Chance Steward

Advisor: Drs. Thomas Dilley & Emily Deaver, Environmental Science

Abstract: Tree and soil properties of Stage 4 granitic soil islands in the Minnesota River Valley were characterized to better understand their significance to ecosystems. Tree size and coverage within soil islands were hypothesized to be directly correlated to soil area and depth. Soils and trees of twelve soil

islands from four locations were measured, sampled, and described using both field and laboratory methods. Tree species, number, coverage, and height were measured along with soil area, depth, pH, organic matter, and texture. The hypothesis was supported, but results indicate strong variability and poor correlations in variable relationships. Our current criteria for Stage 4 soils islands may be incomplete, most likely due to the unique environmental history of individual soil island's including: mode and timing of origin, timing of initial colonization, possible influence with the invasive species, duration of succession periods, fire history, and other environmental disturbance factors.

3

Title: Lichen populations on different types of granitic rocks in the Minnesota River Valley

Presenter(s): Hunter Czcycalla

Advisor: Drs. Thomas Dilley & Emily Deaver, Environmental Science

Abstract: Lichens are a symbiotic association of various fungi, algae, and/or cyanobacteria. Their distributions are known to be controlled by rock substrate composition. The abundance and types of lichen were measured at 3 different Science and Natural Areas (Gneiss Outcrops, Cedar Rock, and River Warren) in the Minnesota River Valley to determine if slight differences in granitic rock composition influenced their distribution and abundance. Forty sample plots of lichen were measured on various granitic rocks. Nine species of lichen were identified with 5 species common at 2 or more sites. However, there were no statistical differences in their abundances at the shared sites. 4 species were only found at individual sites possibly indicating rock chemistry controls certain individual species distribution. However, other environmental factors may also be responsible such as microclimates, fire history, and possible human disturbances.

4

Title: Growth of Lichens *Dimelaena oriena* and *Xanthoria elegans* on Tombstones in Southwest Minnesota

Presenter(s): Ely Rogers

Advisor: Drs. Thomas Dilley & Emily Deaver, Environmental Science

Abstract: Lichen are organisms comprised of 2 or more partner species of fungi, and algae and/or cyanobacteria. This project studied the growth rates of 2 lichen species, *Dimelaena oriena* (Golden Moonglow) and *Xanthoria elegans* (Elegant Sunburst). Lichen diameters were measured using digital calipers on dated tombstones at eight

cemeteries in the southwest Minnesota. Composite data showed an average growth rate of 0.58 mm/yr for Sunburst and 0.49 mm/yr for Moonglow. The largest lichen in 5 year clusters showed an average of 0.67mm/yr for Sunburst and 1.7 mm/yr for Moonglow. Various cemeteries ranged from 0.48 mm/yr - 0.69 mm/yr for Sunburst and 0.041 mm/yr - 0.63 mm/yr for Moonglow. Overall growth rate for both lichen species are similar to rates measured in other studies. Slight differences in growth rates around the region are likely the result of microclimates, aspect, dates of initial colonization, air pollution and other human disturbances.

5

Title: Bird mortality due to window collision in Southwest Minnesota State University

Presenter(s): Sandra Shimba, Prabhat Shrestha & Abidemi Folorunso

Advisor: Dr. Alyssa Anderson, Biology

Abstract: Avian mortality has increased due to window collisions, about 100 million to 1 billion birds die annually in the United States and window collision is one factor that threatens birds. This research was to know if buildings in Southwest Minnesota State University contributed to this alarming numbers of avian mortality. The goal of this research was to see the impact of large glass windows on the increased mortality rate of bird. We wanted to know if buildings with large glass windows have any correlation with the mortality of birds. To acquire data, we went around the campus three times a week to check for dead birds. Based on our research we found that places with huge windows on Southwest Minnesota State University Campus, had high number of dead birds. This research is necessary because birds play important roles in pollination and our ecosystem will suffer if their population keeps declining.

6

Title: The Effects of Earthworms on Soil Composition in Different Habits in the SMSU Wildlife Area

Presenter(s): Katie Kindvall, Marco Gacke & Abisola Adetimehin

Advisor: Dr. Alyssa Anderson, Biology

Abstract: Earthworms are exotic animals that wreak havoc on ecosystems by changing soil composition and increasing pH and nitrogen levels which can affect native microorganisms and plant life. In this experiment we tested the effects of earthworms on the SMSU wildlife area. A random quadrat sampling technique was conducted within coniferous, deciduous, and prairie areas, taking 5 samples from each site during a total of 3 visits per site. Nitrogen and pH levels were measured using a soil kit. Liquid

extraction methodology was used to extract worms. Soil composition was the same throughout each site with a pH of 7.5 and depleted nitrogen levels. Worm density varied at each site with the greatest number at the coniferous area and the least amount at the prairie area. These results warrant further investigation because the presence of earthworms in soils can decrease diversity and increase mortality rates of living organisms in the ecosystem.

7

Title: Examining the Relationship between Water Quality and Zooplankton Populations

Presenter(s): Shawn Griffin, Brent Huls & Noah Sander

Advisor: Dr. Alyssa Anderson, Biology

Abstract: Zooplankton are commonly used as bioindicators due to their high diversity and sensitivity to water quality. Different environments were studied to understand the relationship between water quality and zooplankton abundance. Ten samples were collected near a bike trail and bike shop on the Redwood River in Marshall, MN and at the SMSU Horseshoe Pond. Zooplankton were collected using plankton nets, and field tests included nitrates, pH, turbidity, and temperature. Average zooplankton abundance for the trail, shop, and pond were 158, 283, and 205/L respectively. Average nitrate levels were 5.1, 4.3, and 1.1 ppm and average turbidity readings were 17.9, 16.9, and 35.5 cm for the trail, shop, and pond respectively. The zooplankton and turbidity data varied greatly with little variation in nitrates and pH. There was no correlation between zooplankton abundance and water temperature or quality. Maintaining unpolluted lakes and rivers will help sustain healthy zooplankton populations and ecosystems.

8

Title: Biological assessment of aquatic macroinvertebrates in Bluebird Stream, Ghent MN

Presenter(s): Blythe Zeug, Katie Boerboom & Hannah Lund

Advisor: Dr. Alyssa Anderson, Biology

Abstract: Macroinvertebrates are useful biological indicators for assessing the quality of an ecosystem. Freshwater macroinvertebrates are particularly effective in helping to assess the quality of the water they inhabit. We examined Bluebird Creek to assess it's environmental condition. A secondary objective of our experiment was to compare two separate collection methods: D-frame net and Hester Dendy sampling. Results indicated that the diversity of Bluebird creek is moderate. The Hester Dendy sample collections had higher values of species evenness in comparison to the D-frame net sample

sets, though they were all relatively within the same margin. We recorded an overwhelming population of gastropods and bivalves, which is also indicative of a healthy freshwater ecosystem. The importance of this sample collection and analysis is to create a baseline experiment for quality assessment of the Bluebird Creek ecosystem.

9

Title: *Daphnia magna* Population Response to Different Sources of Algae as a Food Source

Presenter(s): Moses Ogundipe, Rabina Saud & Spencer Erickson

Advisor: Dr. Alyssa Anderson, Biology

Abstract: *Daphnia magna*, a parthenogenetic member of the zooplankton community, is an important biological indicator that can be used to assess the health of aquatic ecosystems. Algae are an important food source for *D. magna* and play an important role in their growth and reproduction. We investigated whether feeding *D. magna* different algal species would affect their reproduction over several generations. Twenty *D. magna* were placed in flasks containing pond water from the SMSU/ADM Environmental Learning Area and fed *Scenedesmus obliquus*, *Chlorella vulgaris*, or nothing every three days. Random samples were taken after nine days to estimate the number of offspring in each treatment group. Initial results indicate no significant difference between the treatment groups in the number of offspring produced per individual. Our results suggest further research utilizing other algal species is needed to determine the ecological impacts different algal food sources may have on *D. magna* populations.

10

Title: Effects of Calcium and Protein Diets on House Cricket (*Acheta domestica*) Growth and Development

Presenter(s): Fadumo Ismail, Nona Meunsky & Pushpa Chhantyal

Advisor: Dr. Alyssa Anderson, Biology

Abstract: Crickets play an important ecological role as an energy source for consumers like birds, frogs, and other amphibians. Previous research has shown that a high calcium diet increased cricket long-term memory and a high protein diet enhanced male fitness. The purpose of this experiment was to determine the food preference and effects of calcium and protein on cricket body mass. We evaluated and manipulated the diet of 60 house crickets (*Acheta domestica*) between a control, high protein, and high calcium diet. Each treatment group received 20 crickets which were given food and water as needed.

We found that the crickets preferred protein more than calcium, but the calcium group's total mass was higher than the protein. The significance of cricket body mass can affect age of maturation and behaviors for mating, competition, and survival.

11

Title: Comparison of arthropod communities between prairie and wetland habitats in the SMSU Wildlife Area

Presenter(s): Brenna Kramer, Britney Thompson & Sarah Kleve

Advisor: Dr. Alyssa Anderson, Biology

Abstract: Prairie and wetland areas across Minnesota support extensive terrestrial arthropod communities which play a key role in ecological food chains. Through examination of these communities, researchers can understand the health of an ecosystem. Here, we aimed to identify and compare terrestrial arthropods in wetland and prairie habitats within the SMSU Wildlife Area. Pit-fall traps were placed along transect lines to collect specimens; traps were collected twice weekly over the course of 20 days and specimens were later identified. Arthropod communities were analyzed to assess species' richness, evenness, and diversity. Preliminary results indicate that both habitats are relatively diverse but had different dominant species: spiders dominated wetland specimens while ants were more common in the prairie. This work serves as a baseline for future comparative studies that may examine changes or fluctuations in the SMSU Wildlife Area arthropod community over time.

12

Title: Comparative biodiversity of aquatic invertebrates in wetlands surrounding Southwest Minnesota State University

Presenter(s): Cody Friedges, Pradip Bhandari & Adrien Gustave

Advisor: Dr. Alyssa Anderson, Biology

Abstract: Aquatic invertebrates can be used as biological indicators of wetland environmental quality. We used aquatic macroinvertebrates to assess biodiversity and health in three wetlands surrounding Southwest Minnesota State University. Macroinvertebrates were collected using three sampling techniques: bottle traps, D-frame nets, and Hester-Dendy artificial substrate samplers; specimens were later identified in the lab. Metrics including the Shannon-Wiener Index and the Hilsenhoff Biotic Index were used to assess diversity and community tolerance to organic pollutants, respectively. Preliminary results indicate that Horseshoe Pond has an evenly distributed and more

diverse community. The Mattke Field Pond exhibited the lowest taxa abundance, however, McFarland Pond is the least evenly distributed. Of the sampling techniques, the Hester-Dendy artificial substrate sampler collected the most taxa per sample effort. The most common taxa were Gammaridae and Gastropoda; found in each pond in high numbers. These results suggest that Mattke Field Pond may require intervention to improve ecosystem health.

13

Title: Confucian Ethics in College Athletics

Presenter(s): Benjamin Broze

Advisor: Dr. Maureen Sander-Staudt, Philosophy

Abstract:

14

Title: Hume's Ethics for Moral Persons and A.I.

Presenter(s): Shawn Valez

Advisor: Dr. Maureen Sander-Staudt, Philosophy

Abstract: Within the history of our civilization we have expanded not just our knowledge but our technology. As we advance many new questions arise, and with such an advancement in robotics, I explore the idea of Hume's Ethics by comparing his ethics on all moral persons. Exploring this concept in terms of the advancement of creating Artificial Persons or Artificial intelligence is the goal of my research. I take on the roll of applying Hume ethics, and scholars who study Hume, to the advancement of robotics with a primary focus on the potential of artificial personhood. With which I look at arguments and interpret how Hume would react to such advancements. I conclude with my own theory of what is necessary when it comes to potentially applying Hume ethics to such a setting, with possible next steps when moving forward. The main problem being if they are person's.

15

Title: John Stuart Mill & Utilitarianism

Presenter(s): Justin Trotter

Advisor: Dr. Maureen Sander-Staudt, Philosophy

Abstract: John Stuart Mill grew up a utilitarian in Europe as a product of his father, James Mill, and the guidance of other Predecessors to utilitarianism including Bentham. Utilitarianism means that an action is right if it is useful or it benefits the majority, thus, meaning that it promotes the greatest amount of happiness in most of a population and therefore should be the guiding principle of conduct. John Stuart Mill had his own take on Utilitarianism from Bentham and adjusted to fit what he believed to be the proper form of utilitarianism.

16

Title: Euthanasia in Our Society

Presenter(s): Kelly Regan

Advisor: Dr. Maureen Sander-Staudt, Philosophy

Abstract: Euthanasia or physician assisted suicide is becoming more accepted in our society with six U.S. states having legalized euthanasia. Euthanasia can be both passive, such as removing a feeding tube, or active, providing drugs to induce death. Euthanasia can further be classified as voluntary or involuntary. Voluntary euthanasia is when a patient requests that steps be taken to terminate their life, while involuntary is when actions are taken to induce death without the patient's consent. Euthanasia is unethical and goes against a human's natural instinct to survive and innate right to live. For this presentation, I researched euthanasia in the U.S. by reading academic journals and other peer-reviewed publications. I will compare the problems of euthanasia with the works of care ethicists and Immanuel Kant and will argue that euthanasia cannot exist in an ethical society.

17

Title: The Man in the Window: A Senior Portfolio

Reading of Original Works

Presenter(s): Caleb Trang

Advisor: Dr. Judy Wilson, Creative Writing

Abstract: Primarily a writer of Science Fiction and Fantasy, Caleb Trang has always found a fascination in the perspectives of others. Every day he finds new inspiration in the small joys and passionate arguments he hears from the people around him. In his mind, as long as there's two people left on the planet, someone's going to have their own ideas on how to fix the world. His short story, "Heroes Over Coffee," details the world of superheroes and heroes-in-training as they see it, while his poem, "Thirteen in One," is the story of a mad doctor's creation of new life, a la Mary Shelley's *Frankenstein*.

18

Title: Animals—What They Give & What They

Take: A Senior Portfolio Reading of Original Works

Presenter(s): Austin (AJ) Rusch

Advisor: Dr. Judy Wilson Creative Writing

Abstract: Animals have different impacts on different people, whether they are at home or at the work place. In two pieces of creative nonfiction, AJ explores the impact animals have had on him. In one essay he is caught up in the birthing process at the local dairy farm where he works, while the other epitomizes his emotional connection with a pet he had throughout childhood which lost its battle with Father Time.

19

Title: More than a Story: A Senior Portfolio Reading of Original Works

Presenter(s): Selina McCool-Kamstra

Advisor: Dr. Judy Wilson, Creative Writing

Abstract: Selina draws inspiration from her favorite authors as well as personal life events. She writes both realistic fiction and science fiction as well as some autobiographically based works. Selina has been influenced by, and models some of her works after, her favorite authors: Christopher Paolini, Margarete Peterson Haddix and Erin Hunter. She will read two poems: "Forged" and "Selina;" a flash fiction, "Rise to the Top;" and her short story, "Archaeology 501."

20

Title: Lively Levity: A Senior Portfolio Reading of Original Works

Presenter(s): Sophia White

Advisor: Dr. Judy Wilson, Creative Writing

Abstract: Sophia takes inspiration especially from interesting people, alive or historical, and a conviction that real life is a story. She writes slightly historical fiction and nonfiction more than anything else, and occasionally imagines fictional scenarios for people she knows in real life. She will read a few poems and her short story "Adventure on the Vienna Express," about an absent-minded professor and his TA, who get lost in Hungary.

21

Title: Stories of America's Great Pastimes: A Senior Portfolio Reading of Original Works

Presenter(s): Desiree Bauer

Advisor: Dr. Judy Wilson, Creative Writing

Abstract: Many writers take inspiration from what is happening around them. Desiree is no different in that respect. In 2017, there was both an all-time high for gun violence in the United States and the start of the powerful #metoo movement. Each of these lit a spark within Desiree, and she channeled that to write a short story and a poem. Her goal through those creative works was to make the reader feel less numb to the stories of mass shootings and sexual harassment. Her writings place the reader within such conflicts so they can register how this could easily happen to them. Her final piece is a nonfiction essay about her experiences playing softball, which captures the slow-motion tension of being on the pitcher's mound.

Oral Session B- CH 201 History, Philosophy, Sociology and Theatre

22

Title: Exploring and Defending Animal Righting in the History of Moral Ethics

Presenter(s): Rachal Albrecht

Advisor: Dr. Maureen Sander-Staudt, Philosophy

Abstract: As more research comes out, it has been found that animals may be smarter than we believe. Should animals have some sort of basic right here on Earth? There are certain philosophers who would say yes to this statement. Utilitarianism looked more at the actions of a human to determine their happiness. Just one philosopher that support the idea of animal rights would be John Bentham. We can even see concern for animal cruelty all the way back in the 1700's from Immanuel Kant. As the Western thinking about the moral status of animals has moved forward, Utilitarian philosopher, Peter Singer, states that the impact that humans have on other animals is still to be a concern.

23

Title: Kant's Moral Relationship With God

Presenter(s): Matthew Stude

Advisor: Dr. Maureen Sander-Staudt, Philosophy

Abstract: In this presentation I will discuss the different possibilities of Kant's belief in God, as many are unsure whether he was truly Christian or if he was rather strongly Agnostic--it could even be possible that he was Atheist. By comparing the varying views of Kant's moral philosophies and how they relate to religion, I hope to present a larger view of Kant's relationship with God as well as explain why I view this discussion to be arbitrary and irrelevant. Ironically, I believe that in describing the irrelevance of the evaluation of Kant's perception of religion, I may even help describe Kant's perception of religion.

24

Title: Growing Up in Northern Ireland During the Troubles

Presenter(s): Catherine Berg

Advisor: Dr. Tom Williford, History

Abstract: The Irish Troubles had a negative effect on everyone living in Northern Ireland during the late twentieth century, as Catholics and Protestants fought each other daily. The Catholic children growing up in the midst of the Troubles undoubtedly had a worse childhood than their Protestant counterparts living in the same area, affecting them well into

adulthood. In addition to the political violence, the Catholics also had to confront ongoing discrimination in employment, housing, and elections. School buses were bombed, and a walk home from school usually involved ducking behind parked cars. Although some families were able to emigrate to the US and Canada to escape, the large majority of the children of the Troubles are still receiving psychological help for high incidences of PTSD, alcoholism, suicide, and other issues since the end of the Troubles in 1999.

25

Title: The Presence and Influence of 1960s Counterculture in Southwest Minnesota

Presenter(s): Dalton Dahl

Advisor: Dr. Tom Williford, History

Abstract: The Sixties were a trying time and called into question many aspects of United States culture and authority: the government had thrust the country into a war that many believed to be wrong, the youth of the nation rebelled against the established norms of their elders, and the roles of African Americans were changing from the order of the past. Southwest Minnesota, in particular, faced the changes of the time with the arrival of the first admitted students of Southwest Minnesota State College in 1967. Student-led anti-war and race-relations protests, along with the attitudes and experimentations of the young people of the community, caused the generations to confront each other in a reexamination of culture and relationships. Contention was a reality for the small region, as part of a larger, national debate.

26

Title: The Death of the Prague Spring

Presenter(s): Levi Magnuson

Advisor: Dr. Tom Williford, History

Abstract: The Soviet-led invasion of Czechoslovakia took place 50 years ago this past summer. Most studies of the event focus on the political and military side of the invasion, which leaves out the human aspect of the event. By looking at just one story, that of journalist Jaroslava Huková, we discover the tragedy that occurred on August 20-21, 1968: a young generation, hoping communism could work through a reformed government, witnessed instead these hopes dashed when tanks rumbled through the country to crush a perceived threat to Soviet power and domination. Mrs. Huková's story gives us a great insight into the world of journalism in the eastern European communist states during the Cold War.

27

Title: The Italian Wars: A Quagmire of Violence

Presenter(s): Nicholas Goette

Advisor: Dr. Tom Williford, History

Abstract: The Italian Wars were a series of conflicts that began in the late fifteenth century involving the small states of the Italian peninsula, as well as many of the major powers of Europe. Two of the most famous dynasties of the Renaissance Era, the Habsburgs of Austria and the Valois of France, clashed for hegemony over the entirety of Europe in these conflicts. These wars had massive effects on how warfare was fought going into the modern age, and tested the limits of the older established governments of Europe. The diplomacy and intrigue during these wars included switching sides for the benefit of power and money, as Italy descended into chaos. Many of the figures of history that exist during this time would go onto rival the accomplishments of their predecessors, while some even disgrace the name of their crowns.

28

Title: Doing Sociology: Advocacy and Networking in Students Disability Services

Presenter(s): Laurie M. Ourada

Advisor: Dr. Vicky Brockman, Sociology

Abstract: Students with disabilities have equal opportunities to fully participate in an educational environment at Southwest Minnesota State University. The disability services office provides an accessible university community where students can seek support services. Self-advocacy for individuals with disabilities is an important tool in becoming independent and transitioning into college life, a future career and throughout their lives. Networking provides students with opportunities to meet others who can advocate for them and connect them with outside services. Disability stigma and invisible disability are two conditions that can negatively affect people with disabilities and which require special attention or advocacy. Every person has a purpose, uniqueness and value, and one must advocate for those who have challenges and differences; advocacy, networking and determination are the tools to success.

29

Title: Peer Interaction and Self Image Among College Students

Presenter(s): Deja Chappell

Advisor: Dr. Vicky Brockman, Sociology

Abstract: This study focuses on how body and self-image affect the socialization of female college students of color. Many women today connote dating and relationships with task related synonyms for both heterosexual and homosexual dating pools. Casual hookups have become more frequent than dating in heterosexual relationships, and it is not highlighted in the literature how those relationships

can impact a female college student's body image or peer interaction. Researchers have focused on the character of romantic attachment styles and body image, finding that body dissatisfaction is related to less secure romantic relationships. This research focuses on female college students of color to examine the impact of both casual and exclusive relationship styles on body image. Analysis of the relationship between race, relationship status and body esteem are examined in a sample of U.S. college students from a small university in Southwestern Minnesota; adding in cultural differences to provide insights into the impact of relationships on body image

30

Title: Adolescent Eating Disorders; Gender and Body Image

Presenter(s): Julie Denning

Advisor: Dr. Vicky Brockman, Sociology

Abstract: Eating disorders among adolescent boys and girls impacts their later wellbeing. This presentation will explore the social factors related to eating disorders among college students. A sample of first year college students was questioned about their experiences with eating disorder and body image. With this presentation there will be discussion of the steps that college dorms could take in helping college students with eating disorders and body image issues.

31

Title: My Experience at W.R.A.P.

Presenter(s): Hannah Redmond

Advisor: Dr. Vicky Brockman, Sociology

Abstract: In recent years, a variety of programs have been developed to address the consequences that are associated with domestic abuse and intimate partner violence. In the past year, Women's Rural Advocacy Program (WRAP), serviced 576 clients. Among those 576 clients, 280 of the clients resided in the Lyon county area. During my time at WRAP, I was able to learn first-hand how an advocate interacts with clients, law enforcement, social services, etc. Sociological informed advocacy helps those in need find helpful, and potentially life-saving, resources.

32

Title: Social Control: Working With Disabled Adults in Independent Settings vs. Total Institutions

Presenter(s): Callie Severson

Advisor: Dr. Vicky Brockman, Sociology

Abstract: The demand for care for those with mental and physical disabilities has continued to increase in recent years. For two months I began as a direct support professional working with individuals with

both mental and physical disabilities at Habilitative Services Inc. In my presentation I will compare and contrast my work experience at both a group home setting and an in-home setting utilizing Erving Goffman's theories about total institutions. While the institutional practices since Goffman's observation of warehousing people in asylums have improved, the institutional control that direct support professionals exert over clients remains present.

33

Title: The Evolution of the Theater Space: Ancient Greece to Present

Presenter(s): Paul Ragan

Advisor: Sheila Tabaka, Theatre

Abstract: The beginnings of theatre as we know it is today trace all the way back to Ancient Greece. Places like The Odeion of Herodes Atticus and the Theatre of Dionysus saw some of the first plays ever written. As the art form passed through the ages, it changed according to the times. One aspect of theatre though, stayed relatively the same over the years: the theater space. Elements of the theater space used in Ancient Greece, Rome, Medieval times, and the Italian and English Renaissances can still be seen in theatre today, just in different capacities due to technological advancements. This presentation will take one through these various historical periods and point out the similarities between then and now.

34

Title: Identity Work and Social Relationships in Distance Running

Presenter(s): Chase Hamilton

Advisor: Dr. Vicky Brockman, Sociology

Abstract: This project examines the studies of distance runners, and explores the importance of identity work for participants that engage in the serious-leisure activity of long-distance running. Running is often viewed as an individual's isolated effort of endurance, and the importance of self and social relationships are ignored. In order to gain a better understanding of the importance from social identity and social network ties, I utilize autoethnographic methodology. This approach involves an examination of my lived experiences as my primary data, highlighting the significant events, interactions and relationships forming my serious-leisure activity in which contributes to my social identity.

35

Title: College students attitudes towards marijuana use and legalization

Presenter(s): Colten Specht

Advisor: Dr. Vicky Brockman, Sociology

Abstract: States across the country are legalizing marijuana for both medical and recreation use. Thirty states now have legalized cannabis for a range of medical purposes, and nine states for recreational use. Minnesota, Wisconsin, and Florida permit medical cannabis for a narrow list of medical conditions. In addition, sixteen states permit CBD use (CBD is a naturally occurring cannabinoid constituent of cannabis). Among the states permitting recreational and medical use are California, Washington, Oregon, and six others. The issue of legalizing medical and recreational marijuana continues in state legislatures and state ballot initiatives, and many supporters contend that a tipping point in favorable public opinion for the legalization has been reached. This research will examine the shift in public opinion and the social and demographic factors behind this shift from prohibition to legalization.

36

Title: Theatre Depicted in Paintings

Presenter(s): Raxson Rax

Advisor: Sheila Tabaka, Theatre

Abstract: Visual and performing art, two different mediums that take influence from varying sources. But, when the two meet and take influence from each other, a unique experience full of history and beauty arises. This presentation will explore the significance that theatre can have on art and vice versa. It will specifically tackle pieces from the Ancient Greece time period all the way to the Elizabethan era. See what happens when these two art forms collide.

37

Title: Shakespeare In Love

Presenter(s): Whitney McCamish

Advisor: Sheila Tabaka, Theatre

Abstract: Of the confirmed 37 plays that Shakespeare wrote in his lifetime, one that reflects the plot of a modern-day romantic comedy is *A Midsummer Night's Dream*. Various pairs of lovers face trials and tribulations including, but not limited to, an arranged marriage, a donkey-man, and a magical love flower, all in the course of a single day. With one of the main themes being love, it is displayed in a multitude of ways, such as parental, true, and spell love. However, Shakespeare's work was from the 17th century and his definitions of love differ from modern definitions. These relationships will be explained, along with examples of the characters who display them, and lines that support these love forms.

38

Title: The *Mandrake* presented by Riverside Theatre starring Tom Hanks

Presenter(s): Danny McDonnell

Advisor: Sheila Tabaka, Theatre

Abstract: Join me as we learn about a pretty unknown showing of Niccolò Machiavelli's *The Mandrake* starring a now very well-known and beloved actor Tom Hanks. You will learn about the play itself, how it was received when it was first written, the company who put on the show, the space it was shown in, a little bit about Tom Hanks, and the significance of this particular showing.

39

Title: Magic, Myth, and Medea

Presenter(s): Caitlin Schmidt

Advisor: Sheila Tabaka, Theatre

Abstract: In Euripides' *Medea* many aspects of magic are used by one character: Medea. Researching *Medea* for information on her family background and the Greek mythology that surrounds Medea and Jason. However, what gives her the power that is shown in *Medea*? Looking at Medea in her Greek mythological origin, it can be concluded that her power comes from her family background.

40

Title: The History of the Occult in Dramatic Literature

Presenter(s): Jordan Stangeland

Advisor: Sheila Tabaka, Theatre

Abstract: Since the beginning of the theatre, storytellers and playwrights have been fascinated by the occult. Whether it's casting spells in *Medea* or trading their soul for power like in *Doctor Faustus*, the occult has been a prevalent theme in many dramatic works dating back to ancient Greece. By providing various examples of past works that contain occult themes, we're able to analyze and discover why playwrights have been using these dark themes for centuries. While it may just be a fascination with the unknown, there are valuable lessons to learn about the spectacle of theatre and the intriguing history of the darker side of dramatic literature.

41

Title: Stage Makeup in Shakespeare's Time

Presenter(s): Paran Kashani

Advisor: Sheila Tabaka, Theatre

Abstract: Stage Makeup in Shakespeare's time allows for us to appreciate how far technology has come in redefining makeup products. The pioneers of stage makeup helped the development and quality of productions in today's theatre world. Exploring the chemistry behind stage makeup alongside the

traditions and standards of the Elizabethans era allow us to gain perspective on this art form. Stage-lighting systems and distance from the audience acts as an obstacle in performance and interpretations of emotion, but stage makeup has the ability to enhance facial features and gestures that contributes to the drama of a script.

42

Title: The influence of women in Greek Theatre

Presenter(s): Alyssa Ehlen

Advisor: Sheila Tabaka, Theatre

Abstract: With a show as female empowering as Lysistrata, there must be a lot of female empowerment in ancient Greek culture. I believe it is important to see where we came from in order to make progress in the world today in both theatre and life. With Lysistrata in mind, I researched many aspect of ancient Greek culture in regards to women and the way they were treated back then. To my surprise, what I found was very general to how women were treated around the world for many years; as homemakers. So why exactly was Lysistrata written, and did it accomplish the goal it set out to accomplish? That answer is yes, and so much more.

43

Title: Greek through Medieval Costume Designs

Presenter(s): Dillon Baxendell

Advisor: Sheila Tabaka, Theatre

Abstract: Costume Designs are essential to creating a world in theatre, and it's important to admire the roots of costume design to fully understand how the methods and structure have evolved into what it is today. The theatre timeline from Greek to Medieval touch on important tools such as silhouette, composition and space, and use various elements such as masks and props to achieve their desired look or emotion. History helps teach us lessons and, in some aspects, grants us inspiration to incorporate ideas and concepts into our works as artists today. It's exhilarating and important to have knowledge on where our passions stem from.

44

Title: Sister Elizabeth Kenny and the Treatment of Polio

Presenter(s): Donna Bastemeyer-Parlin

Advisor: Dr. Thomas Williford, History

Abstract: In the 1940s and early 1950s, the number of polio cases in the United States was at its peak. During this time, Sister Elizabeth Kenny, a nurse from Australia, arrived in Minnesota and began presenting her approach for treatment of polio in its acute stages. Her method of working the muscles in order to regain strength, instead of immobilizing them, gained

support among medical professionals at the Mayo Clinic and University of Minnesota School of Medicine. After demonstrating the effectiveness of her technique, she trained doctors and physical therapists in her methods. This approach was then used to treat patients throughout the region, including those in Minnesota and South Dakota.

45

Title: Romeo and Juliet, The transition from stage to the big screen

Presenter(s): Jenny Homan

Advisor: Sheila Tabaka, Theatre

Abstract: This presentation is going to explore the history of Romeo and Juliet, written by William Shakespeare, and the story's performance. I will also be covering how this story was interpreted on stage and how it made it's way to the big screen. Each director weather be for the stage or the silver screen has had a different take on this play, some did well and others not so well. In this presentation will shed some light on this story's transformation to big screen from the stage and by presenting different ways let's different people see Shakespeare's play Romeo and Juliet and even though it presents different ways you still get the story and it keeps going and changing but the story lives in all those interpretations.

46

Title: The Republican Party of Minnesota's 1975 state convention: A response to political turmoil aimed at attracting disaffected voters

Presenter(s): Jesse McArdell

Advisor: Dr. Thomas J. Williford, History

Abstract: In 1974, Republican President Richard Nixon resigned from office in order to avoid impeachment proceedings for lying to the American public about his involvement in covering up the Watergate scandal. Republican lawmakers and activists around the United States struggled to cope with the backlash accrued from the affair, which included staggering losses in the 1974 mid-term elections. To overcome the negative effect of Watergate, delegates to the Republican Party of Minnesota's 1975 state convention adopted a new platform aimed at regaining popularity. In addition, they renamed themselves the Independent Republican Party of Minnesota, in an effort to draw clear distinctions with the national party. By 1978, this strategy seemed to be working: voters elected Independent Republican candidates to the Minnesota governorship and both U.S. Senate seats, and the party won a majority representation in the state house chamber.

Abstracts

Poster Session A – Agribusiness, Agronomy, Biology, Environmental Science, Exercise Science, Hospitality, Mathematics, Nursing & Physics

1

Title: Rebuilding Sustainable Coral Reefs: Exploring Coral Gardening and the 2D Coral Preparative Tool

Presenter(s): C. Bridget DuBrey

Advisor: Dr. Alyssa Anderson, Biology

Abstract: It is estimated that by 2050, about 75% of coral reefs will be highly to critically threatened. Considering this, restoration efforts to rebuild degraded reefs are imperative to maintain biodiversity and global economies. Two methods have been proposed to restore coral reefs, the coral gardening technique and the 2-dimensional coral preparative tool. Adaptations have been made to previous coral gardening technique methods to increase the success and efficiency of the method (Linden et al., 2011). The techniques not only show an increase in success and efficiency, but also use a sexual reproducing coral, something not previously accomplished. Another restoration technique, the 2-dimensional coral preparative tool (Rachmilovitz et al., 2017) helps restore coral reefs degraded by turf algae. The technique allows for degraded reefs to be tiled with healthy coral units that will continue to grow and restore the reef. These experiments indicate efficient and successful methods for rebuilding coral reefs

2

Title: The Potential of Melatonin in Reducing Alzheimer's Disease-Induced Cognitive Impairments

Presenter(s): Easton Popma

Advisor: Dr. Sandy Craner, Biology

Abstract: Alzheimer's Disease (AD) is a neurodegenerative disorder that causes severe memory loss and confusion. Contributing to billions in healthcare costs, AD damages a patient physically and their family emotionally. Melatonin, a naturally-produced compound with antioxidant properties, has been shown to potentially reduce AD symptoms. Gong *et. al* (2018) supplemented melatonin to AD-induced mice and tested their performance in spatial tests to assess melatonin's effects on AD symptoms.

Mice given melatonin had significantly better cognitive function than untreated mice. Rosales-Corral *et. al* (2012) studied melatonin's protective mechanism against AD by analyzing the brains of AD-induced mice treated with melatonin. Researchers concluded that melatonin scavenges free radicals produced by excessive amounts of A β peptide that accumulates in the brains of AD patients. Free radical reduction decreased the neuronal damage seen in AD. Overall, the highlighted studies show that melatonin can potentially ameliorate AD cognitive impairments due to its antioxidant properties.

3

Title: Genetic changes as a potential mechanism of malignant transformation of endometriosis

Presenter(s): Sarah Kleve

Advisor: Dr. Pam Sanders, Biology

Abstract: Endometriosis is a common gynecologic condition affecting roughly 10% of women. While considered a benign condition, one troubling aspect is the increased risk of developing ovarian cancer. Clear-cell carcinoma (CCC) and endometrioid carcinoma (EC) are endometriosis-associated ovarian cancers. Changes in the AT-rich interactive domain 1A, or *ARID1A*, gene have been investigated as a potential source of malignant transformation (Wiegand *et al.*, 2010). PCR was used in the study to determine mutations in this gene and immunohistochemical staining determined the corresponding loss of its protein product, BAF250a. Mutations and loss of BAF250a were found in endometriosis-associated cancers, but not in other ovarian cancer subtypes, suggesting these mutations can induce malignancy. Another study (Winarto *et al.*, 2017) demonstrated oxidative stress, as determined by MDA levels, can down-regulate *ARID1A* and lead to malignancy. Both studies suggest *ARID1A* is involved in promoting malignant transformation of endometriotic tissue.

4

Title: Mechanism of Isocitrate Dehydrogenase Associated with the avoidance Immune response in Glioma tumors

Presenter(s): Adrien Gustave

Advisor: Drs. Tony Greenfield & Sandra Craner, Biology

Abstract: Glioma tumors consist of eighty percent of malignant tumors that develop in central nervous system. More than half of gliomas are glioblastoma multiforme (GBM) and considered one of the most aggressive tumors. Mutations in the isocitrate dehydrogenase 1 and 2 (*IdH*) genes are present in over 80% of all adult diffuse gliomas and in up to 90% secondary GBM. *MuIDH* causes

hypermethylation of genomic DNA resulting in transcriptional repression of multiple genes including those involved in regulating the immune system. Using a syngeneic mouse model with mIDH and wild type IDH (wtIDH) gliomas, Amnkulor et al. (2017) showed mIDH caused down-regulation of leukocyte chemotaxis resulting in reduced infiltration of immune cells. Zhang et al. (2016) showed that human glioma cells carrying mIDH are highly resistant to NK killing due to down regulation of NKG2D expression. These studies indicate that mIDH suppress the immune response to glioma tumors.

5

Title: Bisphenol-A may accelerate Diabetes type 1 development

Presenter(s): Katie Boerboom

Advisor: Drs. Pam Sanders & Sandy Craner, Biology

Abstract: Bisphenol-A (BPA) is a known endocrine-disruptor used in common plastics and epoxy resins. Type 1 diabetes (T1D) is characterized by the bodies' destruction of insulin-producing pancreatic beta cells. Research was reviewed to see whether BPA exposure accelerates T1D. Non-obese diabetic (NOD) mice were exposed to BPA (Bodin *et al.*, 2013). Staining of pancreatic samples showed increased insulinitis within the pancreatic islets of the mice, at an exposure to BPA of 3x the daily suggested limit. NOD-mice were also exposed to a combination of BPA and phthalates (Bodin *et al.*, 2015). Lipopolysaccharide stimulation of pancreatic samples showed a reduced number of cytokines in the groups exposed to BPA, possibly through systemic-alteration of the immune system. Immunohistochemical analysis showed increased apoptosis within the islets, in both experiments. The correlation between BPA-exposure and T1D development requires more research on the safety of the chemical, as well as exposure levels.

6

Title: Mutations to the IRF6 gene correlated to the phenotypic expression of cleft lip/ palate

Presenter(s): Jordan M. Deuel

Advisor: Dr. Vaughn Gehle, Biology

Abstract: Cleft lip/cleft palate (CL/P) is one of the most common craniofacial disorders worldwide, affecting approximately 1 in 600 births in America alone. Single nucleotide mutations, or "polymorphisms" (SNPs), on the Interferon Regulatory Factor 6 (IRF6) gene, are highly correlated with CL/P. Park et al. (2007) analyzed SNPs from four separate populations affected by CL/P. Results showed a significant increase in CL/P incidence for SNPs in exon 7 and 8. Kondo et al.

(2002) utilized computer generated gene/protein models showing exon 7 and 8 as the SMIR/IAD protein binding domain (PDB). The IRF6 protein functions as a transcription factor, regulating expression of other genes. The PDB domain is required for dimerization of the IRF6 protein before it will bind to DNA. The aforementioned studies indicate that mutations to the PBD on IRF6 cause alterations in gene expression in unknown target genes, which produces the CL/P phenotype.

7

Title: The Ketogenic Diet Effectively Targets Brain Cancer Cell Metabolism

Presenter(s): Spencer Erickson

Advisor: Drs. Vaughn Gehle & Sandy Craner, Biology

Abstract: Several brain cancers remain deadly and lack effective treatment options. Cancer cells rely more heavily on glucose than healthy cells. The ketogenic diet is a high-fat diet that lowers blood glucose levels. Knowledge of whether this diet can improve survival for brain cancer patients may lead to improved outcomes for these individuals. Aminzadeh-Gohari *et al.* (2017) used a mouse model of neuroblastoma to investigate whether a ketogenic diet would enhance the effectiveness of chemotherapy. Survival was found to be greatest for mice treated with both chemotherapy and a ketogenic diet. Abdelwahab *et al.* (2012) investigated the effectiveness of a ketogenic diet and radiation therapy combination treatment on a mouse model of malignant glioma. The combination treatment group experienced a significant increase in median survival time. These results suggest that a ketogenic diet, in combination with standard therapies, may increase survival time for brain cancer patients.

8

Title: Role of complement C3 on Alzheimer's disease

Presenter(s): Gus Molina

Advisor: Dr. Tony Greenfield, Biology

Abstract: Exposure to Alzheimer's amyloid beta (A β) plaque and neurofibrillary tangles activates the complement system in the brain. Cleavage of central complement protein C3 releases anaphylactic C3a and opsonin C3b. The role of C3 in Alzheimer's is unknown its discovery may improve treatments. Shi et. al (2017) studied whether C3 played a role in plaque-related neuropathological changes and cognitive decline. Results showed that C3 deficient APP/PS1 mice were protected against neuron and synapse loss and also performed better on learning and memory tasks. Lian et al. (2015) studied whether astroglial NF- κ B activation and subsequent release of C3 impairs dendritic structure and network function.

They found that NF- κ B and C3 are induced in astroglia by exposure to A β and are upregulated in APP Mice which alters dendritic morphology and excitatory synaptic function. These studies indicate that C3 plays a role in loss of memory and synapses and C3 upregulation alters dendritic morphology.

9

Title: EGFR mutation involvement with lung cancer in never smoking Asian women

Presenter(s): Selena Herr

Advisor: Drs. Sandy Craner & Vaughn Gehle, Biology

Abstract: Lung cancer is the leading cause of death from cancer in the United States. Epidermal growth factor receptor (EGFR) mutations are common cause of lung cancer. Lung cancer in non-smoking Asian women is frequently caused by EGFR mutations. Hosgood et al. (2013) in a sample of 40 lung cancer patients, found EGFR exon 19 deletions were most common among non-smoking East Asian women. In 2015, Lin et al surveyed the 5-year survival of EGFR mutated patients who received Tyrosine kinase inhibitors (TKIs) as treatment. They showed patients with exon 19 deletions who were never or former smokers had statistically significant longer overall survival. These studies show that non-smokers can get lung cancer, that these cases of lung cancer are frequently caused by EGFR mutations, and EGFR exon 19 deletions are successfully treated with TKIs.

10

Title: Impact of climate change on phenology of migratory birds

Presenter(s): Britney Thompson

Advisor: Drs. Alyssa Anderson & Sandy Craner, Biology

Abstract: Climate change is associated with range shifts and changes in breeding cycles, species' abundance, and distribution worldwide; avian populations are not immune to these impacts. Here, I review previous studies to examine how warming climates impact migratory birds. Rising spring temperatures correlate with earlier arrival and poleward shifts for birds. Zelt et al. (2017) analyzed data in New York testing the null hypothesis that historical and modern spring migration arrival trends show no differences. Results indicated that birds arrived earlier in the modern dataset, where temperature were higher. Similarly, Virkkala et al. (2018) compared historical and modern datasets for bird populations in Finland and concluded that birds are traveling further and total bird density has decreased in southern Finland as compared to northern. Similar results found in other studies indicate global trends of birds arriving earlier to

breeding grounds and traveling further north which may cause problems for conservation organizations.

11

Title: Assessing Cardiac Autonomic Dysfunction via Heart Rate Variability in Multiple Sclerosis Patients

Presenter(s): Blythe Zeug

Advisor: Dr. Sandy Craner, Biology

Abstract: Multiple Sclerosis (MS) is a progressive immune-mediated disease damaging nerve cell myelin, leading to decreased brain and spinal cord function. MS may lead to cardiac autonomic dysfunction such as reduced heart rate variability (HRV). HRV is variability between heartbeats and is commonly measured in time and frequency indices. Studer et al. (2017) investigated Autonomic Nervous System (ANS) dysfunction in a 30-minute analysis. Results showed an imbalance between parasympathetic and sympathetic control of the ANS shown by altered HRV parameters in patients with progressive MS but not in patients with relapsing remitting multiple sclerosis (RRMS). Mahovic and Lakusic (2007) evaluated differences in HRV in RRMS patients through 24-hour analysis showing significantly lower HRV variables than healthy controls. These studies indicate more research is needed to understand the role HRV plays in determining autonomic dysfunction and differences in short-term and long-term studies.

12

Title: WITHDRAWN

Presenter(s):

Advisor:

Abstract:

13

Title: Agriculture Development in Croatia

Presenter(s): Ashle Benson & Amanda Stafford

Advisor: Dr. Sang Jung, Ag Management

Abstract: Many see Croatia as a beautiful country and a great vacation get-a-way however, beyond their bright blue beaches and tourist attractions lies a problem. Food insecurity, poverty, and trade issues are just a few of the everyday occurrences that Croatians face in comparison to developed countries. These issues along with numerous others affect the agriculture sector. Research was performed by the World Bank, United Nations, IFPRI, and along with a few other sources. These allowed us to analyze data and trends. We discovered that exports and imports have been increasing over the past four years, with a large portion of their imports being from the United States, a developed country, totaling \$20 million in 2016-2017. Their main agriculture products are corn, eggs, wheat and wine. The agriculture sector

produces only 4% of the country's Gross Domestic Product. In conclusion, our research has shown that Croatia depends heavily on tourist, imports and other non-domestic funding.

14

Title: A Short Term Assessment of Biotic and Abiotic Factors in a Wetland near Marshall, MN

Presenter(s): Aaron B. Wilson

Advisor: Dr. Emily Deaver, Environmental Science

Abstract: Wetlands provide a variety of ecological functions and values from affecting water quality to providing habitat. Once a week from September 5-October 17, 2018 water samples were analyzed and observation made at a shallow open water storm water run-off pond 1 mile north of SMSU on Hwy 23. Alkalinity ranged from 118-160 mg/L as CaCO_3 and pH 6.75-8.75. Dissolved oxygen (D.O.) levels were \geq 8 mg/L on all sample days but one, where it dropped to 1.4 mg/L. There did not appear to be a significant impact in the short term drop in D.O. as a large school of fathead minnows was observed afterward. Water temperature tended to decrease over the course of the study following the expected seasonal trend. With the presence of numerous species of vegetation (15) and animals (7), both terrestrial and aquatic, it appears this wetland functions as a valuable resource to the environment surrounding it.

15

Title: College Student Sleep Habits Affect Health

Presenter(s): Dianne Johnson, RN

Advisor: Dr. Nancyruth Leibold, Nursing

Abstract: The sleep study included 350 undergraduate college students age 18-24, chosen randomly from responses to an email of all current undergraduate students at Southwest Minnesota State University. A Pittsburg Sleep Quality Index, as well as a questionnaire regarding chosen behaviors related to sleep was given to the entire group. The entire group was asked to get 7-9 hours of sleep per night, without napping, for a semester. Wrist actigraphy (watch) was used for the entire group to monitor sleep. After two weeks, the control group participated in two 90 minute breakout sessions with nursing students to learn healthy sleep habits, while practicing meditation to reduce stress. The control group experienced less stress, improved academics, and better time management after participating in the two 90 minute breakout sessions. The monitor group struggled with getting 7-9 hours of sleep each night, without napping, and continued with their regular sleep pattern.

16

Title: Nonunique Factorizations in Matrix Number Theory

Presenter(s): Carter Barker

Advisor: Drs. Matt Zabka and Heather Moreland, Mathematics

Abstract: We are familiar with the Fundamental Theorem of Arithmetic, or prime factorization, for the integers (e.g. $6 = (3)(2)$ and $6 = (-2)(-3)$). My poster will discuss a different system's prime factorization.

17

Title: High altitude stratospheric ballooning, in conjunction with MN West Community and Technical College, Worthington campus

Presenter(s): Dylan A. Wenninger-Parsons & Katelynn M. Nohner

Advisor: Dr. Ken Murphy, Physics

Abstract:

18

Title: Agriculture Production Comparison in Sub-Saharan and Developing Countries

Presenter(s): Hallie Will & Shantel Koering

Advisor: Dr. Sang Jung, Ag Management

Abstract: Agriculture Production in Uganda subsidizes important items for citizens of the United States including coffee, tea, cocoa, soybeans, vanilla, and fish fillets. The agreements between countries is equally important to a developing country such as Uganda because the United States exports critical modernization products including computers, packaged medicaments and laboratory reagents. The United States also supports Uganda with agriculture products such as wheat, cereal meal, sunflower seeds and citrus. Production practices and policies in Uganda directly affects the people of the United States. Research was done on the production practices Uganda uses to produce valuable products. Dependence on rain fed agriculture, limited access to markets and outdated agricultural practices puts Uganda and in turn the United States at risk. Research was focused on the comparison in agriculture production practices between Uganda and the United States and how a method used has an impact past the country it is used in.

19

Title: Allelopathic Effect of Citrus Peels on Early Growth of Corn

Presenter(s): Ryan Souther, Erin Richardson & Louis Lozinski

Advisor: Dr. Pam Sanders, Biology

Abstract: Allelopathic effects of citrus peels have been looked at as a natural herbicide. We investigated allelopathic effects of lemon, lime, and

orange peel extracts on growth of corn plants (*Zea mays* 'Kandy Korn'). We hypothesized that lemon, lime, and orange peel extract will inhibit height and shoot dry weight of corn plants with lime inhibiting it the most and oranges the least. 23-day old corn seedlings were treated with 100g/L extracts of lemon, lime, orange peels, and water as a control. Plant height was measured for 22 days and dry weight measured at harvest. All corn plants treated with a citrus extract exhibited a significantly reduced plant height and dry weight. Lime, and lemon extracts reduced corn plant growth significantly more than the orange extract. None of the citrus extract treated plants were significantly different in dry weight. Results show citrus peel extract does inhibit growth of corn.

20

Title: Cover Crops and Soil Fertility Benefits

Presenter(s): Cole Bly

Advisor: Dr. Lee French, Agronomy

Abstract: Cover crops and soil fertility have been a growing part of farming in the recent years. Cover crops have shown to provide many benefits to soil fertility and health. Cover crops help prevent erosion, improve soil structure; builds organic matter, weed control, water retention, and increase biodiversity. Cover crops have shown to have cost benefits in a crop system and allows growers to save on inputs cost like herbicides and chemicals. Cover crops are an economical way to preserve and improve soil fertility for sustainable agriculture.

21

Title: The Allelopathic Effects of Sunflower Seed Extract on Vegetative Corn Growth

Presenter(s): Tara Thapa Magar & Paul Thurin

Advisor: Dr. Pam Sanders, Biology

Abstract: Sunflower (*Helianthus annuus*) is a flower that known to contains allelopathic chemicals. This study investigated the effects of various concentration of sunflower seed extract on height and dry weight of corn seedlings (*Zea mays*). We predicted that all the concentration of sunflower seed extract would have significant effect on inhibition of height and dry weight. Fourteen days corn seedlings were watered with 20, 60 and 120 g/L seeds extract. The plant height was measured over 24 days and dry weight was collected at harvest. All concentration of sunflower seed extract did not inhibit the height and the dry weight of the corn plants compared to the control.

22

Title: Continuous Nowhere Differentiable Functions

Presenter(s): Brook Stang

Advisor: Drs. Heather Moreland and Matt Zabka, Mathematics

Abstract: In mathematics, a function is continuous if the graph can be drawn without picking up the pencil. A function is differentiable if the graph is smooth. So, if there is a sharp point on the graph, then the function is not differentiable at that point. Without picking up your pencil, try drawing a graph that has a sharp point everywhere. This is impossible to do, so intuitively it seems that functions that are continuous but nowhere differentiable do not exist. However, we will see that this is not the case and construct a couple of examples of these continuous but nowhere differentiable functions.

23

Title: Pulse Wave Velocity and Arterial Measures in Spinal Cord Injured/Disordered Subjects

Presenter(s): Jonathan Dicke, Morgan Darner, Blythe Zeug, Ellie Senica, Jordan Scheidecker & Kelly Fitzsimmons

Advisor: Dr. Jeffrey W. Bell, Exercise Science

Abstract: Cardiovascular dysfunction is a leading cause of death in individuals with spinal cord injury and spina bifida (SCI/D). This population shows worsened autonomic control, higher rates of peripheral arterial disease, and altered vascular function. Pulse wave velocity (PWV), augmentation index (AIx), and ankle brachial index (ABI) are well-known assessments of vascular status. These tests were performed at rest on 16 individuals with SCI/D and compared to 25 able-bodied controls (ABC). AIx, normalized at a heart-rate of 75 bpm, and PWV were measured by applanation tonometry with electrocardiogram-gated waveforms. Groups were compared using a multi-level general linear model. In ABC versus SCI/D, ABI (1.04 ± 0.10 vs. 0.97 ± 0.07 , $p=0.02$) and AIX ($-5.83 \pm 10.70\%$ vs. $1.21 \pm 9.23\%$, $p<0.05$) were significantly different. Femoral-Tibial PWV (8.63 ± 1.31 vs. 9.70 ± 2.49 m/s, $p=0.08$), however, only approached significance. No significant correlations between variables were found, indicating these assessments analyze vascular status differently and batteries of assessments should be used in clinical settings.

24

Title: Post-exercise ankle-brachial index in spinal cord injured/disordered subjects

Presenter(s): Morgan Darner, Jonathan Dicke, Ellie Senica & Blythe Zeug

Advisor: Dr. Jeffrey W. Bell, Exercise Science

Abstract: This study compared post-exercise blood-pressure in 11 healthy able-bodied (C) and 8 spinal cord injured/disordered (SCI/D) during upper-body exercise. Participants arm-cycled (Sci-Fit Pro-1) at

increasing workloads (25, 50, and 75 Watts). Pressures (in mm Hg) were taken by bi-directional Doppler (Natus) and limb-appropriate cuffs within 1 minute of completing workloads. Ankle-brachial Index (ABI) was calculated by dividing systolic pressure of legs/arms. A 10-minute rest period was taken after each workload. ABI was different in C versus SCI/D ($p=0.01$) but stable over 25 (1.057 ± 0.106 vs. 0.932 ± 0.095), 50 (1.035 ± 0.123 vs. 0.894 ± 0.099), and 75 Watts (1.010 ± 0.146 vs. 0.913 ± 0.066). Arm pressures increased proportionally at 25 (123.27 ± 8.38 vs. 135.75 ± 10.38), 50 (146.82 ± 11.81 vs. 148.88 ± 17.50), and 75 Watts (164.55 ± 12.85 vs. 153.86 ± 5.55). Leg pressures also increased proportionally at 25 (131.45 ± 15.70 vs. 126.25 ± 12.76), 50 (151.64 ± 21.03 vs. 132.75 ± 16.26), and 75 Watts (165.09 ± 18.23 vs. 140.43 ± 11.4). These similar responses suggest upper-body post-exercise ABI may be useful for detecting peripheral arterial disease in SCI/D.

25

Title: Seasonal Evaluation of the SMSU Horseshoe Pond

Presenter(s): Hunter Czycalla

Advisor: Dr. Emily Deaver, Environmental Science

Abstract: Southwest Minnesota State University's horseshoe pond is a man-made storm water runoff pond near the entrance sign. In order to evaluate changes in the wetland, water samples were measured weekly from September 11 to October 30, 2018 including depth change, water temperature, dissolved oxygen, nitrate, phosphate, pH and alkalinity. Water temperature dropped from 22°C to 9.7°C as the season changed. On Sept. 18 water levels increased by 33.6 cm due to heavy rainfall. Another significant increase in water level occurred on Oct. 9th, increasing by 12.7 cm, also in response to heavy rainfall. Dissolved oxygen stayed above 9 mg/L except on Sept. 18th date when it dropped to 3.8 mg/L. This low value is surprising because there is an aeration fountain in the pond, but the fountain was not running during most of this study. The changes in water level after rain events indicate that this pond does function to collect storm water runoff.

26

Title: Allelopathic Interference of Raspberry Plant Extracts on Young Basil Plant Growth

Presenter(s): Caedyn Reinhardt, Thazin Win, Amy Heibult & Candace Thomas

Advisor: Dr. Pam Sanders, Biology

Abstract: Raspberries (*Rubus idaeus* L. var. *strigosus*) have been studied for their allelopathic effect in forests, which led us to conduct this study. Do certain parts of the raspberry contain more

allelopathic chemicals than others? We watered with raspberry root, stem, or leaf extract (50 g/L) and compared their effects on basil (*Ocimum basilicum*) grown in greenhouse conditions ($20\text{-}30^{\circ}\text{C}$). The effects were measured using total leaf length, and height of basil over a 25-day period. We hypothesized that raspberry root extract would decrease basil growth the most, followed by leaf and stem extract. With stem extract, basil height increased by 8% and with leaf extract group, basil height decreased by 9%. With leaf and root extract groups, basil total leaf length decreased by 10-13%. With leaf and stem extract groups, both basil dry weights decreased by 14%. We conclude that raspberry leaves, stems, and roots contain allelopathic chemicals.

27

Title: Riparian Wetland: Ecological Observations of a Segment of the Redwood River near Legion Field in Marshall, Minnesota

Presenter(s): Candace Thomas

Advisor: Dr. Emily Deaver, Environmental Science

Abstract: Riparian wetlands transition between uplands and rivers or streams, act as environmental buffers, and provide wildlife corridors. Observations were noted for a 175-meter² segment of wetland and floodplain along the Redwood River, a tributary of the Minnesota River, from 9/3/18 to 11/16/18. Water quality measurements using LaMotte kits (dissolved oxygen, nitrates, phosphorous, pH, alkalinity) were collected for 9 weeks. Nitrogen levels fluctuated significantly (0.5 to 8.0 ppm as nitrate nitrogen), attributed to upstream and surface inflow of organic and inorganic sources. Three vegetation zones were identified, with bluejoint grass dominant in the wet areas, 20+ species of annual plants, water-tolerant shrubs, and trees in the floodplain, and mature cottonwoods, prairie wildflowers, and turf grass in the upland. Wildlife observed included 16 species of invertebrates; leopard frogs; 13 bird species; squirrels, rabbits, and tracks of 6 mammals. The productivity of this small section along the Redwood is characteristic of riparian ecosystems.

28

Title: Effects of Stretching on the Posture of Division II Wrestlers

Presenter(s): Kallyssa Klatt

Advisor: Kris Cleveland, DPT, Exercise Science

Abstract: College wrestlers have higher strain on postural muscles that may be caused by training the wrestling 'stance' which is a hunched over posture. To determine if a stretching program will improve posture of wrestlers. Ten male NCAA Division 2 wrestlers had posture and spinal range of motion assessed at the beginning of their season. Five

participated in a stretching program that consisted of neck, chest, abdominal, and back stretches completed before practice each day. All ten wrestlers then had their posture reassessed after 8 weeks. There were no significant differences between the pretest and posttest results of the posture analysis. Both groups showed significant improvement in active and passive spinal range of motion from the pretest to the post test. It is likely that the normal flexibility and training routines were enough to improve spinal range of motion. More research should be done during off-season training.

29

Title: Characterization of a Marshall, Minnesota Flood Control Pond and Wetland

Presenter(s): Chance Steward

Advisor: Dr. Emily Deaver, Environmental Science

Abstract: Wetlands are important biological systems as they provide habitat, mitigate pollutants, and store floodwater. Water quality and biota of a Marshall, Minnesota flood control wetland were monitored to determine change over a nine week study period. Water quality was measured weekly for temperature, dissolved oxygen, nitrate, phosphate, pH, alkalinity, and water level change. Biota were identified and numbered as observed. Large variations in water level were measured, including a 43 cm increase between September 11, 2018 and September 18, 2018, likely due to rainfall events. Dissolved oxygen increased from 6.9 ppm to 12.6 ppm, indicating a strong inverse relationship with decreasing water temperatures. Broadleaf cattail, which browned during study period, was the most abundant vegetation at 40% relative abundance, while the Canada goose was the most abundant wetland animal with approximately 305 geese observed. Water quality, vegetative appearance, and animal abundance demonstrated an expected relationship to the transitioning season.

30

Title: Bilateral Deficit in Counter Movement Jump between Basketball Players

Presenter(s): Derek Harder

Advisor: Dr. Mostafa Hegazy, Exercise Science

Abstract: Jumping is important for offense and defense in basketball. Bilateral deficit (BLD) is maximum voluntary force produced by a subject with the muscles of one limb is less when these muscles are active simultaneously with the homologous muscles in the contralateral limb than when they are active alone. Since guards consistently jump off one foot and post off two, it is likely that each group adapted to BLD differently. **Purpose:** To compare BLD in guards and posts of a Division II men's

basketball in a countermovement jump (CMJ).

Methods: Participants performed three multi-trial series of left-legged, right-legged and two-legged maximal CMJ and reach. Ground reaction force and reach height were recorded and compared using an independent T-test. **Results:** Guards did not show a larger difference in BLD compared to posts.

Conclusion: There was no significant difference between positions suggesting training has no need to be adjusted according to position.

31

Title: Seasonal effects on water quality and biota in the McFarland Pond

Presenter(s): Cody Friedges

Advisor: Dr. Emily Deaver, Environmental Science

Abstract: The changing of seasons causes changes in wetland environments. Phenomena such as fall turnover and precipitation rates can have a drastic effect on water quality. Biota inhabiting these wetland environments are also affected by seasonal changes either directly or indirectly. LaMotte water quality test kits were used once weekly every Thursday in the early afternoon to measure dissolved oxygen, nitrogen, phosphate, alkalinity, and pH levels in the McFarland Pond near Southwest Minnesota State University. Observations of biota were recorded, and abundance and frequency were noted. Water quality results changed in response to heavy rain events. The biota of the pond also responded to seasonal changes as expected. As it grew colder vegetation began to go dormant or die, waterfowl became less common as time went on, and water bound organisms responded to water quality changes. Overall the wetland followed the expected trends for the seasonal change being observed.

32

Title: Comparing Landing Mechanics by Front Row Positions After a Spike in Division II Volleyball Players

Presenter(s): Kaylee Burmeister

Advisor: Dr. Mostafa Hegazy, Exercise Science

Abstract: Volleyball includes high-intensity jumping and landing during spiking, that strains the lower extremities. The purpose of this study was to determine if front row player ground reaction forces (GRFs) differ in game-like (GL) and non-game like (NG) situations. Twelve female front-row Division II volleyball players participated in this study. Participants performed 18 volleyball spikes (9 GL, 9 NG) with three volleyball spikes from outside (OH), middle (MB), and right-side (RH) positions. GL included a passer, setter, and snow shovel as a blocker. NG included a controlled toss acted as the set, with no shovel. For GL, OH compared to RH had a greater left peak loading rate ($p < 0.05$). All other

court positions were not statistically different, but left peak GRF approached significance ($p=0.057$). For NG, no differences were found between positions for all variables. OH experience quicker development of left GRF upon landing leaving less time to absorb landing forces.

33

Title: Observations of Southwest Minnesota State University Mattke Stadium Stormwater Runoff Pond

Presenter(s): Ely Rogers

Advisor: Dr. Emily Deaver, Environmental Science

Abstract: Wetlands are important ecological systems that house a variety of plants and animals. Observations lead to insights about changes over time and organisms inhabiting them. The wetland studied is a manmade storm water retention pond that collects run off from the SMSU football stadium. Over 9 weeks in fall 2018 data was collected weekly in the wetland on nitrogen, alkalinity, phosphorus, pH, dissolved oxygen, temperature, and water level. Alkalinity was the most variable, ranging from 136-251 mg/L as CaCO_3 . Many crayfish chimneys were found on every visit to the wetland, indicating an active population of crayfish. Numerous human impacts were noted including garbage in the wetland, a bird deterrent alarm at the stadium and the presence of athletes near the wetland. The measured changes in water quality are likely due to a change in season. The bird deterrent alarm and human activity may be responsible of the lack of bird sightings.

34

Title: The Relationship between Hip and Core Muscular Endurance and Lower Extremity Injuries in Division II Women's Soccer

Presenter(s): Lukas Johnson, Macy Violett & Jenna Loch

Advisor: Dr. Mostafa Hegazy, Exercise Science

Abstract: Soccer is popular worldwide with recent growth in the United States; this is associated with increased rates of lower-extremity injuries. **Purpose:** Compare pre- and post-season core muscle endurance of injured to uninjured female soccer players during an NCAA Division 2 season. **Methods:** Twenty-two players participated in this study, completing four muscular endurance tests: hip abduction, hip external rotation, prone-bridge, and side-bridge. Hip abduction and external rotation tests were performed to exhaustion and conducted bilaterally with pacing by a metronome at 30 bpm. Static prone- and side-bridge tests ended when form could not be maintained. **Results:** A series of independent t-tests showed uninjured players had significantly greater hip external rotator endurance

than injured, both pre- (Left: 74.0 ± 50 vs 42.9 ± 29 ; Right: 72.55 ± 37 vs 51.09 ± 37) and post-season (Left: 114.09 ± 48 vs 76.2 ± 58 ; Right: 128.64 ± 50 vs 70.8 ± 53). **Conclusion:** Hip external rotator endurance training may reduce risk of lower-extremity injury.

35

Title: Short Term Study of Changes in the KMHL Broadcasting Shallow Marsh

Presenter(s): Sean Kofi Amegashie

Advisor: Dr. Emily Deaver, Environmental Science

Abstract: Wetlands are important because they provide shelter for organisms and filter rainwater runoff. The KMHL marsh was sampled once a week from September 6 to November 1, 2018. Water chemistry and physical changes were measured, including: pH, alkalinity, nitrates, phosphates, dissolved oxygen (D.O.), temperature, and change in water level. An inventory of plants and animals was also conducted. Duckweed (*Lemna minor*) entirely covered the water surface and dense pockets of Cattails (*Typha angustifolia*) grew along the edges. Alkalinity was the most notable water parameter and ranged from 320-521 mg/L as CaCO_3 , with one exception when it dropped to 75 mg/L as CaCO_3 after a 7" rainfall over 24 hours. Alkalinity values above 300 are high for this region and indicate potential contamination, likely from overland flow. Despite these high alkalinity values, the wetland has extensive vegetation and aquatic invertebrate populations.

36

Title: The study of AmericInn Shallow Marsh Wetland in Marshall, MN

Presenter(s): Ola Abimbola

Advisor: Dr. Emily Deaver, Environmental Science

Abstract: Wetlands are important because they act as natural filters for sediments, and serve as habitat for various wildlife. An investigation of water quality, diversity, and human influence was conducted over a 7 week period between September and October 2018. Water quality data included alkalinity, pH, temperature, and dissolved oxygen. Rainfall events correlated with water depth increases of 14.0, 7.0, and 5.5 cm for week 3, 5, and 6 respectively. Dissolved oxygen was extremely low with the highest value of 2.8 mg/L. Dissolved oxygen less than 5.0 mg/L is extremely stressful for aquatic organisms. The surface of the water was completely covered in Duckweed reducing oxygen diffusion from the atmosphere. The extremely low dissolved oxygen, shallow water depth and anoxic sediment all contribute to the low diversity of aquatic organisms, with only a few zooplankton found in the wetland.

Based on the findings, the water quality and diversity of this wetland is poor.

37

Title: A Short Term Evaluation of Wildlife and Aquatic Conditions of a Minnesota-shaped Wetland near Southwest Minnesota State University

Presenter(s): Samantha Pankratz

Advisor: Dr. Emily Deaver, Environmental Science

Abstract: Minnesota wetlands are numerous and their water quality effects the biota and surrounding areas. A Minnesota shaped man-made stormwater runoff pond was monitored with water tests and observations once a week from September 11 until October 30, 2018. LaMotte water test kits were used to test the pH, total alkalinity, nitrate-nitrogen, dissolved oxygen, and phosphate of the water. No phosphorus was measured but there was a significant increase in dissolved oxygen from 4 mg/L to 12 mg/L. Change in water depth was monitored and ranged from an increase of 10.16 cm to 25.4 cm total. Nine plant species were identified with narrow-leaved cattails dominating 55% of area. Seven species of waterfowl were observed including Canada geese and a great blue heron. A river otter was observed on one date. This pond had waterfowl present on every sample date indicating it's importance for nesting and migrating waterfowl.

38

Title: Effects of Salinity on Corn and Okra Growth

Presenter(s): Kennedy Lund, Brendan Kienlen & Colton Bates

Advisor: Dr. Pam Sanders, Biology

Abstract: Salinity stress plays a significant effect on plant growth around the world. This study investigated the effects of salt on dry weight and height of corn and okra plants. We predicted that the salt stress would inhibit the height and dry weight of the corn plants, and increase the height and dry weights of the okra plants, compared to their controls. 19-day-old seedlings of corn and okra were transplanted into groups of 6 and treated with 200 m/M and 0 m/M NaCl solutions. Plant height was observed over 21 days and dry weight collected after harvest. The NaCl solution inhibited corn height by 40% and okra height by 49.5%, as well as inhibiting the dry weight of corn by 72.5% and dry weight of okra by 70%. The corn and okra were inhibited similarly by NaCl.

39

Title: Deep Marsh Wetland Water Quality Project in Marshall, MN

Presenter(s): Michael Luke

Advisor: Dr. Emily Deaver, Environmental Science

Abstract: Wetlands are an important feature because of their ability to filter water and provide habitat for hundreds of species. An observational study was done for 7 weeks from September 7 to November 2, 2018 monitoring the changes in water quality of a shallow marsh. Water quality was measured including: dissolved oxygen (D.O.), pH, alkalinity, phosphate, nitrate, water temperature, as well as changes in water depth. There was little to no measurable nitrate and phosphate for the duration of the study. There was an inverse relationship between temperature (which decreased) and dissolved oxygen (which increased). The D.O. increased from 2.4 to 3.8 mg/L, and then from 4.3 to 7.8 mg/L by week five. Results indicate that the progressively colder temperatures increase the dissolved oxygen to sustain the observed aquatic life including cattails, bullrush, muskrats, and dragonflies.

40

Title: The Allelopathic Effect of Orange Peel Extract on Height and Dry Weight of Basil vs Tomato Plants

Presenter(s): Tanisha Neeley, Baylie Bloomquist & Joey Heinen

Advisor: Dr. Pam Sanders, Biology

Abstract: Consumers are searching for more natural herbicides. Oranges have been studied for their potential allelopathic effects as an herbicide. In order to see some of the possibilities, we studied the effects of orange peel extract on height and dry weight of 24-day-old tomato plants (*Solanum lycopersicum*) and 42-day-old basil plants (*Ocimum basilicum*). The plants were treated with 25 g/L orange peel extract or tap water as a control. Plant height was measured for a total of 24 days, plants were harvested, and dry weight was measured after three days in the oven. The height of the treatment tomato was 10.8% higher than the height of the control tomato. None of the other results were significant.

41

Title: Water Quality and Biotic Analysis of a Redwood River Riparian Wetland in Marshall Minnesota

Presenter(s): Margaret Provo

Advisor: Dr. Emily Deaver, Environmental Science

Abstract: Riparian wetlands are areas of land found along the banks of any stream or river that periodically floods. The quality of the water that floods this area influences the characteristics of the wetland. A riparian wetland along the Redwood River was sampled once a week from September 6, until November 1, 2018. Data was collected on dissolved oxygen, nitrate, phosphate, and alkalinity of the river water. Along with a record of pH, water temperature, depth, and biota observations. Water depth was

directly influenced by weather and increased by 33 cm on September 20, 2018. There was an inverse relationship between dissolved oxygen and water temperature. Quackgrass, an invasive grass, dominated the area. Quackgrass along with 6 other plant species covered 90% of the study area. Most parameters studied changed very little throughout the study, which may contribute to the dense wetland vegetation.

42

Title: Hunger & Poverty Issues in Yemen

Presenter(s): Leah Stevens, Deena Weber & Tyler Molitor

Advisor: Dr. Sang Jung, Ag Management

Abstract: In the less developed country of Yemen, many people are experiencing hunger and malnutrition. The main problem seems to be political conflict and other factors resulting in the citizens suffering greatly. When obtaining data, we used the SMSU Library webpage to further help our search into the country of Yemen and used class information that we have discussed. The statistics show that Yemen is greatly impacted compared to a developed country. In conclusion, we learned in International Ag Development how to improve the situation in this less developed country.

43

Title: An analysis of the complimentary events during fall sporting events at Southwest Minnesota State University and their impact on student's willingness to attend

Presenter(s): Ashley Livermore, Dean Zinda & Hanna Johnson

Advisor: Dr. Joyce Hwang, Hospitality Management

Abstract:

44

Title: Residents of Marshall's Opinions on Food Quality and Selections Offered at Concession Stands During Various Sporting Events at the High School and College Level

Presenter(s): Emilie Reider, Tristin Leshovsky & Gabrielle Long

Advisor: Dr. Joyce Hwang, Hospitality Management

Abstract:

45

Title: Most Popular Bar Food in Marshall

Presenter(s): Lauren Sellner, Autumn Schmitz & Evan Bauch

Advisor: Dr. Joyce Hwang, Hospitality Management

Abstract:

46

Title: WITHDRAWN

Presenter(s):

Advisor:

Abstract:

Poster Session B – Computer Science, History, Philosophy, Political Science & Psychology

47

Title: Joy of Gone!

Presenter(s): Aayush Bajra Bajracharya & Sayana Shrestha

Advisor: Drs. Shushuang Man, Dan Kaiser & Kourosh Morteza pour, Computer Science

Abstract: Joy of Gone! is an android application created using Android Studio, PHP, MySQL and GoDaddy. The clients sign up or login to schedule an appointment to pick up their unwanted furniture. They will be asked to select their preferred appointment time from our open hours of operation. They are required to enter the address of the location we are picking up the goods from and also the estimated weight of the goods. The project is currently a prototype. We will extend the features of our project by adding functionality for the clients to be able to buy and sell their reusable items. A device running the application requires an internet connection and Android OS 4.4 or above for the application to work accurately. Android Studio is used for the design view and we will use a PHP server - side scripting language to communicate between the server and Android Studio.

48

Title: Expert Eyebrows

Presenter(s): Raj Tajale & Nhuja Shakya

Advisor: Dr. Dan Kaiser, Computer Science

Abstract: In the 21st century, technology is involved everywhere you go. Hospitals, restaurants, shopping, education are some examples of places where technology is widely used. So Expert Eyebrows is an Android application for a beauty salon shop where the users will be able to sell the services and checkout directly from their android smartphone. Additionally, the application helps the users to track the sales, record number of times the customer visits the stores; which can be used for different discount schemes. This application uses an SQL database to store all the

accounts of the customers in an online server (Go Daddy).

49

Title: Robots Finding Robots: Using Machine Learning to Distinguish Synthetic Speech from Human Speech

Presenter(s): Gregory Bowen

Advisor: Dr. Dan Kaiser, Computer Science

Abstract: Advances in machine learning have allowed computers to utilize more realistic voices. Current technology allows for voices that sound so similar to a real person that other people cannot tell them apart. This raises a question: If people cannot tell the difference, could a machine? Our research focuses on the use of machine learning to isolate the differences between recorded human voice and popular synthetic voices such as Apple's Siri and Amazon's Alexa. Ultimately, this technology could be used to establish confidence in the authenticity of a caller, or to reduce the incidence of "robo-callers" in the telecommunications world.

50

Title: Marshall Bus Tracker

Presenter(s): Rijan Prajapati & Hisila Manandhar

Advisor: Dr. Dan Kaiser, Dr. Shushuang Man, Dr. Morteza Kourosh, Computer Science

Abstract: Tracker is an android app of Marshall red route transit. It is created using Android Studio. The application allows users (Marshall people and bus driver) to check the list of bus stops and their corresponding direction (path). The application also has a sign-up activity to protect the information of buses. The application is connected to a database server. All the databases are stored in the server. The main objective of our project is to allow users to track the Marshall red-route bus stops and also keep the records for bus service and repair. This way user can search the stops and get more idea where to go. The application uses latitude and longitude for the bus stops.

51

Title: Online shopping application

Presenter(s): Anusha Prajapati & Sanjay Prajapati

Advisor: Dr. Dan Kaiser, Dr. Shushuang Man, Dr. Morteza Kourosh, Computer Science

Abstract: DMIS is an android app lets you browse thousands of products, search for items using a barcode scanner and keywords. Users will be able to create their own accounts and save all their personal, shipping and payment information. Upon successful login, users can browse items, view item's detailed information, add items to their carts and many more features. Users will be able to review their previous

orders. Store owners are able to apply a discount to qualifying orders. The database is stored in a Godaddy server and is accessed using PHP and MySQL.

52

Title: Nepali Bhojan: An Application for all Nepalese Food Recipes

Presenter(s): Sujan Shahi & Ankit Parajuli

Advisor: Drs. Dan Kaiser, Shushuang Man & Kourosh Morteza Kourosh, Computer Science

Abstract: With the idea of sharing the knowledge and love of cooking Nepalese food in mind, we decided to build Nepali Bhojan. Nepali Bhojan is a mobile application that lets a user find recipes for Nepalese Food. It allows the user to search recipes based on the ingredients available to them. We plan on making the application available on both iOS and Android devices.

53

Title: SAI company website and web application

Presenter(s): Smiti Shakya & Sabin Dhaugoda

Advisor: Drs. Dan Kaiser, Shushuang Man & Kourosh Morteza Kourosh, Computer Science

Abstract: SAI is an aluminum utensil manufacturing industry in Nepal. They do not have an e-commerce website and most customers rely on a one-on-one meeting or phone call with the company regarding the pricing information, changes in price and to finalize the sale. We want to make the process of connecting with the company easier for the customers and especially for the everyday clients who make a bulk purchase for their retail store. Our goal is to make a responsive website for the company providing the details, history and contact information. Another goal is to make a web application that clients can use to get information about the products.

54

Title: Street League

Presenter(s): Ram Shrestha & Anil Gurung

Advisor: Drs. Dan Kaiser, Shushuang Man & Kourosh Morteza Kourosh, Computer Science

Abstract:

55

Title: Online Game of Bridge

Presenter(s): Jackson Bunes

Advisor: Computer Science

Abstract: Drs. Dan Kaiser, Shushuang Man & Kourosh Morteza Kourosh, Computer Science

Abstract: Bridge is a card game played with multiple people, for my project I made an online game of bridge using JavaEE and JavaFX. This game allows

four people to play a game of bridge over the internet. The reason I did this is because I like to play games online with multiple people and I enjoy card games. While making this game I split the project into a few parts first the cards, then the deck, the game, the server, and the client. I did these tasks one at a time then combined them together to make the game.

56

Title: Weekly Football Picks Challenge

Presenter(s): Snowflower Yang & Cody Abraham

Advisor: Drs. Dan Kaiser, Shushuang Man & Kourosh Morteza pour, Computer Science

Abstract: Just recently the US Supreme Court struck down a federal ban on sports betting. It is now up to each state to decide whether they want to allow sports gambling with five states already passing legislation in the last six months. Our program allows a business or bookie to easily enter and keep track of which user's selected which NFL teams to beat or cover the spread for every matchup that happens each week of the regular season. The program that we created has many areas that can be expanded on for increased functionality including adding more than just NFL teams.

57

Title: TutorBoard: Creation of a Networked Tutoring Application for Math and Computer Science

Presenter(s): Gregory Bowen, Brook Stang, Jackson Bunes & Justin Trotter

Advisor: Dr. Shushuang Man, Computer Science

Abstract: At SMSU tutors are underutilized. Per hour worked, tutors may spend only a fraction of it helping students since the students would need to come to campus. We aim to solve this problem by creating a stable, extendable network application to allow students to communicate and work with tutors through the internet. TutorBoard contains a whiteboard to help with subjects like Math, Art, Geography, or any subject that does not easily transfer to raw text. Initial features of TutorBoard also include image upload and transfer, a chat client, and real-time text updates. Future updates may include voice chat, video transfer, and file upload. We hope our application can be of use to the Academic Commons, Writing Center, and Computer Science tutors.

58

Title: MMAP-X: Mobile Multiplatform Application Production with Xamarin for Local Navigation

Presenter(s): Gregory Bowen & Brook Stang

Advisor: Dr. Shushuang Man, Computer Science

Abstract: For many students, a new semester means finding where new classes are being held. Unfortunately, with confusing signage and unique room numbering schemes finding the correct room for a class can be a challenge. We propose the creation of a Campus Map App to guide students through the academic buildings via GPS. With a myriad of possible devices, such as Android, IOS, and Windows Phone, we have chosen to use Xamarin to build the app. Xamarin is a C# based framework for WODE (Write Once Deploy Everywhere) app development. It is capable of compiling for Android, IOS, Blackberry, Windows Phone, Windows, and OSX. We intend to explore the capabilities of Xamarin in order to create a GPS enabled pathfinding application to guide visitors around the buildings. Ideally, this project would be presented to the audience for their personal use and further beta testing once the project is completed.

59

Title: Does the use of insulin pumps and continuous glucose monitors with prototyping methods reduce the burden of type one Diabetes?

Presenter(s): Dylan A. Wenninger-Parsons

Advisor: Dr. Shushuang Man, Computer Science

Abstract:

60

Title: Rock Paper Scissor Client Server

Presenter(s): Snowflower Yang, Sayana Shrestha, Jason Kleindl & Cody Abraham

Advisor: Dr. Shushuang Man, Computer Science

Abstract:

61

Title: Multipurpose Interactive Drawing Board: Tutorials, Drawings or Games

Presenter(s): David Shittu & David Mcharo

Advisor: Dr. Shushuang Man, Computer Science

Abstract:

62

Title: The Yellowstone Trail

Presenter(s): Tyler Patterson

Advisor: Dr. Tom Williford, History

Abstract: Prior to the twentieth century the United States had a major issue with transportation: outside of the railway system, roads were underdeveloped, often muddy, rutted trails that sometimes led to nowhere. With the federal and state governments not obligated to provide maintenance to the existing paths, the responsibility to advocate for improvements fell to local businessmen and lobbyist groups. These efforts in the Midwest were led by the Good Roads Association, Joseph Parmley, Michael

Dowling, and the Yellowstone Trail Association. Thanks to their effective lobbying of governments on the local, state, and federal levels, the nation's first transcontinental highway for automobiles, which started as a graded and graveled road between Ipswich and Aberdeen in South Dakota in 1912, stretched from Plymouth Rock to Puget Sound by the end of the 1920s.

63

Title: The Civilian Conservation Corps Camp in Jordan, Minnesota, 1940-1942

Presenter(s): JoAnn Chambs

Advisor: Dr. Thomas Williford, History

Abstract: The Civilian Conservation Corps (CCC) was a program started by Franklin Delano Roosevelt to help America recover from the Great Depression. This program was a semi-military program for young men that taught them important training as they worked in conservation. Jordan, Minnesota benefitted from this program beginning in 1940 when the CCC arrived in both Scott and Carver counties to assist the local economy by aiding farmers. There were more than 70 farms that signed up to have assistance in slowing erosion, learning about contour farming, and planting thousands of trees. The men in the CCC learned how to work a trade, received training, and an education while in the program. This program ended when the U.S. entered World War II and the nation needed these young able-bodied men.

64

Title: Jane Grey Swisshelm: Gender and Politics in Journalism

Presenter(s): Brianna Krumwiede

Advisor: Dr. Thomas Williford, History

Abstract:

65

Title: The 34th Infantry Division at the Battle of Monte Cassino

Presenter(s): Ethan Fisk

Advisor: Dr. Thomas Williford, History

Abstract: Hailing from the Midwest, the 34th Infantry Division—the “Red Bulls”—fought valiantly in the Italian campaign of World War II. The Battle of Cassino was exceptionally grueling. As part of the Gustav Line, a defensive position guarding the road to Rome, Axis forces dug into the rugged hills and their fortifications created a killing field. Beginning on January 20, 1944, the Red Bulls faced a series of obstacles and challenges in their attempt to break through. After a horrid three weeks of fighting, the Division gained ground in Cassino and its surrounding hills, but after suffering an eighty-percent casualty rate, they were unable to secure the

objective. The Red Bulls were relieved, and to secure Monte Cassino the Allies had to amass a force five times stronger before finally defeating the Germans and opening a route to Rome.

66

Title: The T4 Program

Presenter(s): Josh Falk

Advisor: Dr. Thomas Williford, History

Abstract: The T4 Program stands for the Tiergartenstraße 4 Euthanasia Program. Named for the Chancellery offices that directed it from Berlin, this program was aimed at “cleansing” Germany of incurably ill, physically or mentally disabled, emotionally unstable, and elderly people. This program claimed thousands of lives and was the beta testing for the Holocaust. The T4 program relied heavily on a devious medical facade, which fooled the public into believing they were caring for medically ill patients. The Nazis administered this program through two individuals, Dr. Karl Brandt and Chancellery Chief Philipp Bouhler. These men organized how each of the six euthanasia facilities operated. One such new designation of authority allowed both Dr. Karl and Chief Bouhler to expand mercy killings to all physicians to increase the efficiency of each facility. “Wartime is the best time for the elimination of the incurably ill,” (Adolf Hitler).

67

Title: Largest mass execution in human history

Presenter(s): Colin Hoppe

Advisor: Dr. Thomas Williford, History

Abstract: The U.S.-Dakota Conflict of 1862 lasted only five months but left a long-lasting scar not only on Minnesota but also on the nation. While the Civil War was raging in the south, Dakota warriors decided to protest violently against treaty violations, attacking white settlers throughout southwestern Minnesota. By the time the U.S. and Minnesota forces defeated the Dakota, there were nearly 800 casualties from both sides. This would lead to a debate between the state and the federal government on what should happen to 303 Dakota warriors sentenced to death by courts martial. The U.S. President Abraham Lincoln made the final decision on these executions, in one of his most controversial decisions, determining that only 38 should be hung.

68

Title: Easy Company

Presenter(s): Cody Huiras

Advisor: Dr. Thomas Williford, History

Abstract: E Company of the 101st Airborne during World War Two was one of the best fighting units in the entire war. Their experiences together from when

they first started training at Camp Toccoa in Georgia through their further preparation in England made them particularly effective on D-Day and through their fight through Normandy. The men of E Company were dropped behind German lines and fought to help the Allies secure a foothold in Europe to help end the war.

69

Title: Workforce development in greater Minnesota

Presenter(s): Loic Dah

Advisor: Dr. David Sturrock, Political Science

Abstract: Workforce development is important for Greater Minnesota; more jobs equals economic growth. However, generally in Minnesota and particularly in Greater Minnesota, the job demand is increasing as people retire faster than they are replaced. From that observation, we tried to understand the different workforce patterns existing in Greater Minnesota. Specifically: Is there a decline in the workforce? What are the most affected sectors? What are the most affected regions? To answer those questions, we gathered surveys, studies and interviews from the Minnesota Department of Employment and Economic Development and the Center for Rural Policy and Development. We found that the baby boomers will represent 32% percent of the labor force by 2022 while they represented 88 percent in 1989. Thus, the workforce is declining statewide especially in rural areas. This means an increasing demand for labor in many sectors of activity which could later impact the choice of college majors.

70

Title: Trends in Health Insurance Access in Minnesota

Presenter(s): Alex Kinda

Advisor: Dr. David Sturrock, Political Science

Abstract:

71

Title: Lake Mille Lacs: An examination of the socioeconomic consequences accrued from a general decline in the fishing industry

Presenter(s): Jesse McArdell

Advisor: Dr. David Sturrock, Political Science

Abstract: For generations, Lake Mille Lacs in East Central Minnesota has been renowned as one of the premier fresh water lakes for harvesting North American Yellow Pike, or Walleye. As the commercialized fishing industry experienced a significant boom in the latter half of the 20th century, many people living in close proximity to the lake became economically dependent upon commercial fishing tourism. However, in April 2017 the Minnesota

Department of Natural Resources imposed a controversial ban on walleye harvesting between late May and mid-September. I have examined the social and economic effects of this ban and evaluated some of the arguments on both sides of the issue. I hope my findings will provide guidance for determining the best policy for future walleye harvesting in Lake Mille Lacs, and other lakes throughout the state of Minnesota that struggle with maintaining healthy populations of yellow pike.

72

Title: The Generation Effect Integrated with Colors

Presenter(s): Jordyn Horn, Samantha Onken, Liz Breyfogle & Christina Rebstock

Advisor: Dr. Scott Peterson, Psychology

Abstract: This study investigated how color affects the generation effect. The generation effect is a phenomenon where information that is generated from our mind is better remembered than information that is provided for us. Participants were students from Southwest Minnesota State University. Half of the students were shown thirty slides with a whole word on each slide, and the other half were shown fragments of those same words (with 2-3 missing letters). The background of the slides was either blue, red, or white. We proposed three hypotheses: 1) Memory for words printed on a colored background will be better than for words printed on a white background. 2) Memory will be better for fragmented words (those that must be generated) than for whole words. This is the generation effect. 3) The generation effect will be greater for words printed on a colored background than for words printed on a white background

73

Title: The Effects of Mnemonics on Learning English Among Non-Native Speakers

Presenter(s): Mariah Henry, Hannah Stremmel & Aaron Tyson

Advisor: Dr. Scott Peterson, Psychology

Abstract: The goal of this study is to investigate the effects of an imagery mnemonic on learning English for non-native English speakers. There have been many studies on the cognitive aspect of mnemonics, and many more on remembering all kinds of content (McBride & Cutting, 2019). However, there have not been many studies regarding learning a new language. In our study we compared vocabulary learning under conditions of using an imagery mnemonic versus not using an imagery mnemonic. We hypothesize that the group of students given an imagery mnemonic, an image that is used for memorization, will remember the assigned English words better than the group of students not given the

mnemonic. Furthermore, we predicted that participants using the imagery mnemonic will have a higher reported enjoyment level and lower perceived difficulty of the memorization task than those participants not using the imagery mnemonic.

74

Title: Metacognition and College Students' Study Strategies

Presenter(s): Marta Rubin & Samantha McNeel

Advisor: Dr. Scott Peterson, Psychology

Abstract: The purpose of this research is to determine whether there are differences in study strategies for students with high vs. low metacognitive awareness as measured by the Metacognitive Awareness Inventory (MAI). This research is important because it helps to explain the role of metacognitive awareness in student learning. It also gives students the opportunity to reflect on their study habits and possibly identify more effective ways of studying for their classes. We asked 33 SMSU students to complete the 19-item MAI and identify their most common study strategies via Google Forms. Our survey results indicate that students who scored high on the MAI use more effective study strategies such as self-quizzing, reflecting while reading and making connections to real life examples. Students who scored lower on the MAI use similar techniques, but just not as often. It is important to be aware of effective ways to improve academic performance.

75

Title: Facial Recognition and the Effects of Emotion on Memory

Presenter(s): Hannah Herlyn & Kayla Chisum

Advisor: Dr. Scott Peterson, Psychology

Abstract: The purpose of this research project is to test the effects of emotion on facial recognition and memory of SMSU peers. Multiple variables affect emotional intelligence and the ability to remember faces, of which include: cultural context, semantic relatedness, genetics, mood and dependence on contextual codes (Scollon, C. N., Howard, A. H., Caldwell, A. E., & Ito, S. (2009).) Our hypothesis was that extraverted women would remember faces better than introverted males, and that both genders would remember happy faces better than sad or neutral (Schmid, P. C., & Mast, M. S. (2010).) The method conducted for this experiment was to give three separate groups a test with either happy, angry or neutral faces. After being shown faces from the KDEF face database paired with a name, participants circled the ones they could remember from a grid and filled out the Eysenck Personality Questionnaire, before being tested on the names associated. Data was

collected and findings were consistent with previous research.

76

Title: Effects of Vision on Learning

Presenter(s): Kailee Herdina, Shawn Valez & Malik Johnson

Advisor: Dr. Scott Peterson, Psychology

Abstract: In an education setting where much of what we learn by is visible, such as power point presentations, we are examining the relationship between eyesight and learning/ memory. We wish to look at three general questions. The first is if people with visual disabilities struggle more with learning in both simple and complex tasks. The second is, if they do struggle, do they retain more information due to the extra effort they put in. Lastly, we want to question how teaching methods may need to change, given the research, if at all. As such we used a series of short term and long term memory tests in two sessions separated by a week. The subjects are randomly assigned into two different groups. The Control group has use of both eyes, while the second group has an eyepatch to stimulate vision impairment. The immediate findings seem to verify our fist hypothesis.

77

Title: Comparing Stress, Coping Strategies, and Life Satisfaction for Athletes vs. Non-Athletes

Presenter(s): Joel Wallace

Advisor: Drs. Scott Peterson & Bill Pavot, Psychology

Abstract: Everyone has stress, but can the way we respond to that stress affect our overall life satisfaction? Is there a difference between student-athletes and non-student-athletes? A three-part survey was created to collect data on stress, resilience, and overall life satisfaction in order to find these answers. The survey was administered to high school and college students, including both student-athletes and non-student athletes, in the area. We expected to find a difference in stress, resilience, and overall life satisfaction levels between student-athletes and non-student athletes.

78

Title: Should All Public Playgrounds Be Accessible Playgrounds?

Presenter(s): Alyssa Strand

Advisor: Dr. Brett Gaul, Philosophy

Abstract: Playgrounds are all over the world, but are all of them accessible? Accessible playgrounds help young children with special needs by helping their social development, but they are underutilized. Accessible playgrounds are a nature of play, helping

to enhance inclusion of children with special needs to interact with peers. In this review, I will discuss the importance of an accessible playground, the pros, the cons, and my opinion on accessible playgrounds. This will help people understand why young children with special needs need the accessible playgrounds. Accessible playgrounds need to be incorporated into educational plans, and research about whether interventions improve social skills and acceptance of children with special needs.

79

Title: WITHDRAWN

Presenter(s):

Advisor:

Abstract:

80

Title: Marketing Morality: Large Businesses Marketing Unhealthy Food in Time of Food Insecurities

Presenter(s): Amanda J. Stafford

Advisor: Dr. Brett Gaul, Philosophy

Abstract: Ethical issues are in our day to day life, and so is marketing. Recent trends have arisen around healthy eating and the marketing of fad diets. Although there has been increased marketing of fad diets in the United States, there has also been increased marketing of junk food and higher rates of food insecurity around the world. The ethical issue researched here, using the World Bank data, personal interviews, and other sources, studies if large businesses are being ethical in marketing unhealthy foods in a time when food insecurity is all around us. Even in Marshall, Minnesota, the location of unhealthy food impacts access for people. Fast food and convenience stores market fast and good-tasting foods, but research shows how marketing these foods can do more harm than good. In conclusion, there are many different views of morality: some stances show unhealthy food marketing as ethical, while others disagree greatly.

81

Title: Veganism: Should You Join the Bandwagon?

Presenter(s): Jessica Stai

Advisor: Dr. Brett Gaul, Philosophy

Abstract: This research project evaluates the decision about switching to a vegan lifestyle. The decision is increasingly a bigger ordeal than it was in the past. The vegan lifestyle is more common and widespread than ever. Many individuals make the choice for various reasons that should positively affect one's life. One's overall health, particular health concerns, fewer chemicals, environmental impacts, and the treatment of animals are the top factors

influencing this lifestyle. It might be a short-term solution to your interest. However, research has shown that the short-term benefits of veganism may not be consistent in the long-run. These outcomes should provide weight on the decision at hand. Ultimately, it's the individual's own decision to be made.

82

Title: Friedrich Nietzsche and Morality

Presenter(s): Cassie Mages

Advisor: Dr. Maureen Sander-Staudt, Philosophy

Abstract: Friedrich Nietzsche had a very controversial ethical and moral theory. He wrote several books focusing on different ideas. One of his more famous ideas is that of the "super-man" or "over-man", meaning an individual that strives to exist beyond traditional views of god and evil, or master and slave. He was also known for his idea of individuals creating their own ethics and morals, rather than following something that has morals and ethics already laid out for them. Nietzsche thought that by having your own morality meant that you had the makings of a "super-man"/"over-man".

83

Title: Filial Piety Dissolving Over Generations

Presenter(s): Addie Miller

Advisor: Dr. Maureen Sander-Staudt, Philosophy

Abstract: This study was done to show a reflection of Confucian ideals based on filial piety and its presence, or lack thereof, over generations. Filial piety can commonly be reflected into certain family traditions in the years before the 2000s. Research was completed through various peer-reviewed articles and experiments. It was revealed that; indeed, the awareness and examples of Confucian ideals are decreasing rapidly. This conclusion has led to further research on the millennial generation and those following it relating to their heightened narcissistic actions.

84

Title: Aristotle's Ethics

Presenter(s): Courtney Trotter

Advisor: Dr. Maureen Sander-Staudt, Philosophy

Abstract:

85

Title: Hume: Psychology Meets Philosophy

Presenter(s): Shae Sazama

Advisor: Dr. Maureen Sander-Staudt, Philosophy

Abstract: Born May 7, 1771 was a boy whom would eventually be known to the world as David Hume. A man far ahead of his time for his views and knowledge on the body and mind, along with his theories as to

why we function the way we do. Through logical reasoning we shall delve into the mind of this great man and discover just how it was that he broke the gap between Psychology and Philosophy with his Metacognitive and Epistemological thinking.

86

Title: Core Elements of Confucian Virtue Ethic

Presenter(s): Stacey Vue

Advisor: Dr. Maureen Sander-Staudt, Philosophy

Abstract: The philosophy of Confucius is known as Confucianism. It strongly emphasizes personal and governmental morality, correctness of social relationships, justice, and sincerity. Living in an era of crisis where society turned into selfishness and anarchy, Confucius wanted to spread the values of compassion and tradition back into his society. His system of ethics is based on six virtues: xi, zhi, li, yi, wen, and ren. Xi is the attribute of learning. Zhi is the virtue of character. Li is about community and one's interaction and responsibilities toward those around him. Wen is about leisure and self-development. Ren is to achieve harmony that implies love, compassion and equality. Each attribute has a different focus and meaning which allows a person to concentrate on an area for self-improvement.

87

Title: 'Created neither from the head nor the heel': Aquinas and the Mediaeval Woman

Presenter(s): Sophia White

Advisor: Dr. Maureen Sander-Staudt, Philosophy

Abstract:

88

Title: The Nietzsche's Vision of restructuring Morality and the Fallacy of Sex and Gender in his Theory

Presenter(s): Ascharya C. Motoori

Advisor: Dr. Maureen Sander-Staudt, Philosophy

Abstract: Nietzsche is one of the unique philosophers of his age in making remarkable claims on morality, sex and gender. Philosophers from Aristotle to Hume and many others focused their ethic with consistency which is not common to observe in terms of Nietzsche's ethic.

89

Title: The Morality of Man: Evaluating the Conclusions of Euthyphro's Dilemma through the Philosophy of St. Augustine and St. Aquinas

Presenter(s): Wyatt Albers

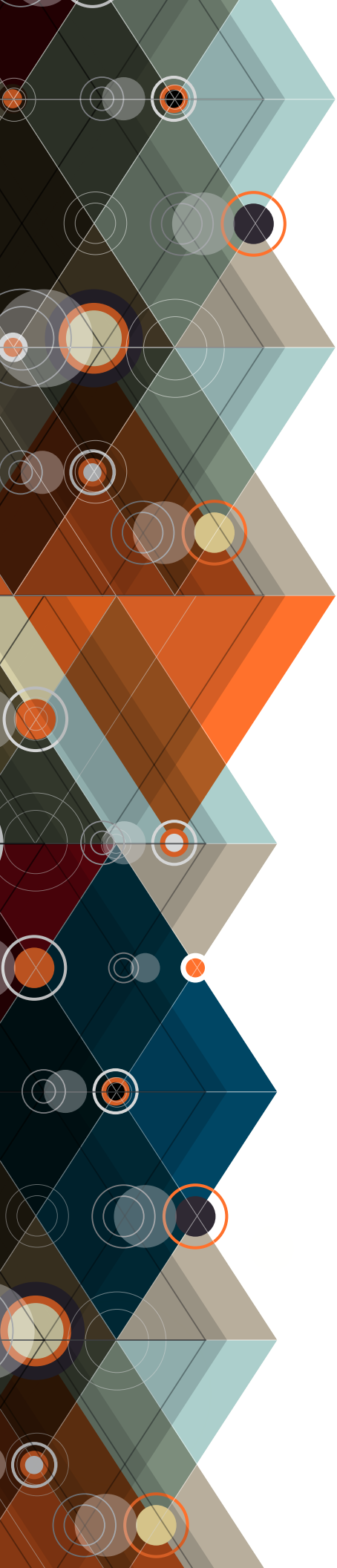
Advisor: Dr. Maureen Sander-Staudt, Philosophy

Abstract:

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