



2018

*Celebration of Scholars*

Dickinson State University  
**2018 Celebration  
of Scholars:  
Achievement in  
Research, Humanities,  
and the Arts**

*Saturday, April 21, 2018*

*8:30 a.m. to 2:30 p.m.*

*Klinefelter Hall*

*Student Center Basement*

*Dickinson State University*

# CELEBRATION OF SCHOLARS ORGANIZING COMMITTEE

## Conference Coordinator:

Dr. Wendy Wilson  
Associate Professor of Psychology

## Committee Members:

Dr. Paul Barnhart  
Assistant Professor of Natural Sciences

Dr. Jundong Chen  
Assistant Professor of Math & Computer Sciences

Dr. Candice Moench  
Associate Professor of Teacher Education

Ms. Annika Plumer  
Administrative Secretary, Agriculture

Dr. Chip Poland  
Professor of Agriculture & Technical Studies

Dr. Suzanne Russ  
Associate Professor of Psychology

Dr. Analena Lunde  
Assistant Professor of Nursing

Dr. Jeremy Wohletz  
Assistant Professor of Music

### ***About the Celebration of Scholars:***

*Dickinson State University Celebration of Scholars is a forum in which students in all disciplines present scholarly work to an audience of peers, faculty, and community members. These scholarly endeavors include scientific research, explorations in humanities and the arts, and summations of scholarly accomplishments such as portfolios. Along with student presentations, the conference features a keynote address by a faculty researcher who has engaged in and published research in collaboration with undergraduate students.*



### **Keynote Speaker**

## **Ms. Mandy J. Guinn**

Mandy J. Guinn earned her B.S. in Biology and B.A. Degree in German from Concordia College in Moorhead, MN. In 2006, she completed her M.S. in Biology from the University of Nebraska. She joined United Tribes Technical College (UTTC) faculty in 2008. Over the last ten years, she

has taught a variety of courses in the Environmental Science Department including Biology, Chemistry, Research Ethics, Genetics, and Genomics. As a dynamic member of the UTTC community, she participates in numerous committees across campus and serves as current Chair of the Curriculum Committee. Her primary research focus is on North Dakota bat populations. In particular, she utilizes molecular techniques to learn about the bats' foraging patterns, social structures and economic impact on North Dakota agriculture. Ms. Guinn currently serves as the principal investigator for the USDA NIFA—BATS II award, which provides undergraduate research opportunities for underserved and underrepresented minority students. She resides in Bismarck, ND with her husband, three sons, and two dogs.

# 2018 Celebration of Scholars Schedule

**8:00 a.m.**

Welcome Reception

**8:30 a.m.**

Session I – Oral Presentations

1A Beck Auditorium: *Agriculture & Natural Sciences*

1B Klinefelter 219: *Nursing*

**9:30 a.m.**

Poster Presentations

**11:00 a.m.**

Session II – Oral Presentations

2A Beck Auditorium: *Agriculture*

2B Klinefelter 219: *Communications, Political Science &  
Language/Literature*

**12:10 p.m.**

Luncheon, Student Center Basement

**1:20 p.m.**

Keynote Address by Ms. Mandy J. Guinn, United Tribes Technical  
College

Beck Auditorium

**2:10 p.m.**

Awards and Recognition Ceremony

Beck Auditorium

## **8:30 – 9:30**

### **Oral Session 1A, Beck Auditorium (Moderator: Dr. Wendy L. Wilson)**

- “Profitability of Fungicide Use on Canola in Northeast Saskatchewan” by Carlie Bowditch
- “Profitability of Selling Beef Calves at Weaning vs. Backgrounding over 10 years in SW ND” by Kalli Post
- “Profitability of Adding Sheep to a Cattle Operation” by Meagan Raty
- “Post-Weaning Gain of Straight Bred Angus vs. Crossbred Black Baldy Heifers” by Travis Koenig
- “The Diversity of Microbial Communities in the Gastrointestinal Tract” by Jonathan Aman

### **Oral Session 1B, Klinefelter 219 (Moderator: Dr. Chris McCoy)**

- “How have the Advancements in Technology Increased the Incidence of Musculoskeletal Problems with the Use of Mobile Devices?” by Amber Knetter; Kelsi Frank; Angie Decker; Baboucarr Jallow
- “Nursing Bedside Shift Report” by Jennilyn Adkins; Christina Culver; Kayley Bogue; Kimberly Nollmeyer
- “Magnet Hospitals and Nursing Staff Incentives Polar Opposites Attracting Nurse Retention Rates” by Kari Moch; Jamie Haukenberry; Kayla Bohn; Jodi Artz
- “Post-Operative Cognitive Dysfunction” by Kelsey Deichert; Tammy Burke; Helen Anukwu

## **11:00 – 12:10**

### **Oral Session 2A, Beck Auditorium (Moderator: Dr. Ken Pierce)**

- “The Effect of Type of Creep Feed on Subsequent Post Weaning Performance in Beef Steers” by Emily Bendish
- “Effect of AI Sires on Pregnancy Rates in Angus Cows” by Justin Ward
- “Land Management Changes and its Effects on Soil Nutrients” by Levi Bassett
- “The Effects of Feeding Time on Calving Time in Beef Cattle” by Shayna Uffelman

### **Oral Session 2B, Klinefelter 219 (Moderator: Dr. Eric Grabowsky)**

- “The Company of Victory and Its Call for Active Bodies” by Sovi Herring
- “The U.S. Supreme Court: Prisoners' Rights” by Samantha Davis
- “A Rhetorical Analysis upon Douglass' Surprise Attack” by Sovi Herring
- “Engaging Secondary English Students: Implementing Elementary Engagement Techniques to Benefit High School Students in the English Classroom” by Suzanna Moberg

# Poster Presentations, 9:30 to 11:00

## AGRICULTURE

- “Profitability of Fungicide Use on Canola in Northeast Saskatchewan” by Carlie Bowditch
- “The Effect of Type of Creep Feed on Subsequent Post Weaning Performance in Beef Steers” by Emily Bendish
- “Effect of AI Sires on Pregnancy Rates in Angus Cows” by Justin Ward
- “Profitability of Selling Beef Calves at Weaning vs. Backgrounding over 10 years in SW ND” by Kalli Post
- “Land Management Changes and its Effects on Soil Nutrients” by Levi Bassett
- “Profitability of Adding Sheep to a Cattle Operation” by Meagan Raty
- “The Effects of Feeding Time on Calving Time in Beef Cattle” by Shayna Uffelman
- “Post-Weaning Gain of Straight Bred Angus vs. Crossbred Black Baldy Heifers” by Travis Koenig

## COMMUNICATIONS

- “The Company of Victory and Its Call for Active Bodies” by Sovi Herring
- “Intruders from Reality: Superheroes Teaching Us to be Better People” by Sovi Herring

## EDUCATION

- “To Play or Not To Play” by Alexandra Kempenich
- “Reduce Stress, Regain Focus, Better Day” by Brenda Dolyniuk
- “Does Extended Recess Time Benefit Students’ Intellectual, Emotional and Social Development?” by Bryce Wigert
- “Caring for the Uncared-For” by Logan Caulk

# Poster Presentations, 9:30 to 11:00

## NATURAL SCIENCE

- “The Diversity of Microbial Communities in the Gastrointestinal Tract” by Jonathan Aman

## NURSING

- “How have the Advancements in Technology Increased the Incidence of Musculoskeletal Problems with the Use of Mobile Devices?” by Amber Knetter; Kelsi Frank; Angie Decker; Baboucarr Jallow
- “Nursing Bedside Shift Report” by Jennilyn Adkins; Christina Culver; Kayley Bogue; Kimberly Nollmeyer
- “Magnet Hospitals and Nursing Staff Incentives Polar Opposites Attracting Nurse Retention Rates” by Kari Moch; Jamie Haukenberry; Kayla Bohn; Jodi Artz
- “Post-Operative Cognitive Dysfunction” by Kelsey Deichert; Tammy Burke; Helen Anukwu

## POLITICAL SCIENCE

- “Capital Punishment and the Supreme Court” by Amanda D'Aniello

## PSYCHOLOGY

- “Forgiving Behavior: The Effect of Self-Esteem on One’s Willingness to Forgive Others” by Brittney Grove; Thomas Sease
- “Personality and Stress Response” by Jason Zecchhini
- “Measuring Stress in Students after Equine and Art Therapies” by Michaela Gorman
- “Psychological State of Surrender as Predictor of Response to Crisis” by Thomas Sease
- “Investigation of the Social Neuroscience of Human-Equine Interactions” by Tyrel Brown; Cade Coles; Kacy Waldner; Kendra Cox; Shelby Gustafson

## VISUAL ARTS (Gallery Area)

- “Vanitas” by Eden Jackson
- “A Navajo Woman's Way of Life” by Michaela Gorman

## **Jennilyn Adkins; Christina Culver; Kayley Bogue; Kimberly Nollmeyer**

**Sponsored by Dr. Analena Lunde**

**Department of Nursing**

**"Nursing Bedside Shift Report"**

Shift report has been an important part of nursing since the beginning of the profession. There are many advantages and disadvantages to different types of reporting. Bedside report has become a tool utilized by more hospitals around the world as a standard of practice by the nursing profession. Bedside report can positively affect patient care by improving communication, nurse-patient relationship, patient involvement, safety, and reducing the number of readmissions. For this qualitative research project, a questionnaire was developed to assess whether or not patients feel more involved in their care with bedside report and implemented at a local healthcare facility to identify any gaps in practice that could be improved.

## **Jonathan Aman**

**Sponsored by Dr. Joshua Steffan**

**Department of Natural Sciences**

**"The Diversity of Microbial Communities in the Gastrointestinal Tract"**

The gut microbiome is comprised of microbes that affect the body and maintain homeostasis. The purpose of this study was to determine the diversity of bacteria in the gastrointestinal tract between four animal species, rat, guinea pig, veiled chameleon, and chinchilla. To determine bacterial diversity, DNA was extracted from the fecal material of each species, and amplified, via Polymerase Chain Reaction using primers targeting the 16S rRNA gene and containing illumina-tagged barcodes suitable for down-stream sequencing and bioinformatics. The DNA samples were pooled together and sent off for DNA sequencing. Extensive bioinformatics and statistical analysis were then applied to the sequencing data. The results presented herein, demonstrate the diversity of bacterial species within and between each animal species. Ultimately, the diversity of bacteria that inhabit each animal are different due to the different habitats they inhabit and the diet of each animal species. Therefore, with an understanding of the gut microbial diversity within these animals, we hope in the future that correlations can be made to understand the diversity within other animals, including humans, to either prevent or treat future bacterial diseases within the gastrointestinal system, and other related immunological-related conditions dependent upon the bacteria inhabiting the gut microbiome.

## **Levi Bassett**

**Sponsored by Dr. Joshua Steffan**

**Department of Agriculture and Technical Studies**

**"Land Management Changes and its Effects on Soil Nutrients"**

Changes in agriculture land use usually results in changes to soil properties. The goal of this project was to determine if livestock grazing has an effect on soil nutrient levels on lands taken out of CRP. Three different land uses were compared: undisturbed land, no-till agriculture without livestock grazing, and no-till with fall/winter livestock grazing. Soil nutrient levels were determined at three different soil depths. Results indicate that nutrient levels remain higher overall when livestock are included in a management system. Implications of this research is the ability to reduce input cost of fertilizer and the availability of nutrients for plants throughout the growing season.

## **Emily Bendish**

**Sponsored by Dr. Chip Poland**

**Department of Agriculture and Technical Studies**

**"The Effect of Type of Creep Feed on Subsequent Post Weaning Performance in Beef Steers"**

Cattle ranching has been a way of life in North Dakota since the 1880s. Throughout the years ranchers have learned different management practices to add gain onto their cattle including creep feeding and backgrounding. The objective of this project was to discover if the type of creep feed effects post weaning



performance of beef steers during a backgrounding phase. One group of steers was provided access to a commercial creep feed and another group a homemade ration. At weaning time the steers were weighed and 19 steers weighing under 620 pounds were backgrounded for 116 days ( $572.2 \pm 53.9$  lbs.). At weaning, there was a tendency for weaning weight ( $P=.11$ ) to be larger for the steers fed the homemade creep. Two calves fed the commercial creep died during the backgrounding phase. Removing these data and recalculating average weights, weaning ( $P=.26$ ) and final ( $P=.53$ ) weights and overall gain ( $P=.88$ ) were not affected by source of creep feed. From these results, it can be concluded that since there is no significant difference in backgrounding weights or gain due to source of creep feed. Producers have latitude in their choice of creep feed with little concern for negative post weaning performance effect.

## **Carlie Bowditch**

**Sponsored by Dr. Chip Poland**

**Department of Agriculture and Technical Studies**

**"Profitability of Fungicide Use on Canola in Northeast Saskatchewan"**

Growers in the North Eastern part of Saskatchewan are limited as to what they can grow. With 95 frost free days, many crop rotations consist of wheat and canola. The problem with this short and non-diverse rotation is that disease spores can live in the soil and dead plant material for three years. Sclerotinia Stem Rot (SSR) infects the stem of many broad leaf plant species. Although it cannot infect wheat, it will infect canola if it is planted in the rotation more than every three years. This disease requires moist, cool temperatures, which favors the North East Saskatchewan region. The challenge with assessing profitability is that the producer must apply the preventative chemical before the disease is visibly present in their field. This means the producer must bear the cost of the chemical and application with out knowing if the disease will have a drastic impact on yield or not. Although there are disease and moisture forecasts, they are not reliable enough to use to accurately calculate the risk of disease. Fungicide is the most effective and cost-efficient mechanism to control SSR on canola currently on the market. The question is, is the cost of fungicide more or less than the damage caused by the disease in the area every year?

## **Tyrel Brown; Cade Coles; Kacy Waldner; Kendra Cox; Shelby Gustafson**

**Sponsored by Dr. Wendy L. Wilson**

**Psychology Program; Department of Social Sciences**

**"Investigation of the Social Neuroscience of Human-Equine Interactions"**

Several hormones and physiological processes are involved in mediating social interactions of bonding and attachment in human and animals. For example, progesterone has been linked with anxiolytic, mood-lifting, calming and positive psychological effects in bonding and attachment situations. In contrast, low levels of cortisol have been associated with oxytocin release and decreased stress levels. Studies have linked these beneficial effects of pet ownership or human animal interactions (primarily dogs) in humans. However, a relatively new area of research, is attempting to understand the biological underpinnings of the beneficial effects of human-equine dyads. This study will investigate baseline saliva levels of progesterone and cortisol in both human and equine bonded pairs, followed by an "interaction" session and a post-test sample, with heart rate measures taken throughout the study. Following termination of the study participants will fill out a pet attachment and bonding scale. Expected results: biological and physiological measurements will correlate with attachment and bonding scale values in humans, with higher progesterone levels, lower heart rates, and decreased cortisol levels following the interaction session compared to baseline levels in human-equine pairs.

## **Logan Caulk**

**Sponsored by Dr. Christine McCoy**

**Department of Teacher Education**

**"Caring for the Uncared-For"**

What happens to children in the school setting whose parents physically abuse them or fail to provide the essentials for survival? The purpose of this research was to discover how school-aged children who have

undergone abuse differ from their peers behaviorally, cognitively, emotionally, and socially. The results suggest that said children suffer severe damage that the educational system may be considered ill-equipped to address. This leads to the following questions: What can teachers do for these students? How can we as educators care for the seemingly uncared-for?

## **Amanda D'Aniello**

**Sponsored by Dr. Steven Doherty**

**Political Science Program; Department of Social Sciences**

**"Capital Punishment and the Supreme Court"**

The Supreme Court of the United States has long held capital punishment to be constitutional. Firing squads, electric chairs, and most recently lethal injections have been utilized to this end. For just as long, voices of opposition have denounced, and called for an end to the practice. Many cite the eighth amendment protection from cruel and unusual punishment. Others cite the constitutional guarantee to life. The Supreme Court serves an important function in deciding the constitutionality of given laws, as well as ensuring our laws keep pace with our collective standards. Through this project, I explore how the Supreme Court has evolved in their reasoning on cases involving capital punishment.

## **Samantha Davis**

**Sponsored by Dr. Steven Doherty**

**Political Science Program; Department of Social Sciences**

**"The U.S. Supreme Court: Prisoners' Rights"**

The purpose of this research is to show how the history of prisoners' rights evolved through the Supreme Court, how their interpretation of the Constitution affected their decisions, and the ramifications it had to the running of the penal system.

## **Kelsey Deichert; Tammy Burke; Helen Anukwu**

**Sponsored by Dr. Analena Lunde**

**Department of Nursing**

**"Post-Operative Cognitive Dysfunction"**

Post-Operative Cognitive Dysfunction(POCD) is a varying degree of cognitive dysfunction that can occur days to months as a post-operative complication. POCD is increasingly recognized as a common phenomenon that occur after major surgery in the elderly. Approximately 16-45% of orthopedic patients develop POCD. Studies have shown 40% of older adults that develop POCD never return their preoperative cognitive status, and 70% of patients with POCD die within 5 years of diagnosis. POCD has led to several deaths and will continue to do so if measures to prevent/reduce POCD are not implemented. The objective of this research is to determine if the use of a screening tool for cognitive impairment will reduce the likelihood of developing POCD after surgery in elderly patient.

## **Brenda Dolyniuk**

**Sponsored by Dr. Christine McCoy**

**Department of Teacher Education**

**"Reduce Stress, Regain Focus, Better Day"**

Modern society offers plenty of distractions and unwelcome attractions that expose children to various demands and expectations. Different factors in children's lives such as family, school, and hypermedia environment constantly provide stimulation and expectations such as the need to succeed academically, perform competitively in extracurricular activities, to be popular, wear the "right" brand of clothes, and own the latest technological gadgets. Children also suffer from bullying, behavioral issues, problems with attention and self-regulation, sleep disorders, computer/technology dependency, and lack of motivation to engage with classroom learning. These expectations often create stress which impacts children's mental health and well-being, and hampers their school performance. Educators are faced with the challenge of establishing a

learning environment that can support children's need for tools to listen inwardly to their bodies, feelings, and ideas. I investigated the use of yoga practices in school settings and its potential to bring emotional balance to mind and body. This research also looked at the practice of yoga as an effective tool to promote self-regulation in children.

## **Michaela Gorman**

**Sponsored by Dr. Wendy L. Wilson**

**Psychology Program; Department of Social Sciences**

**"Measuring Stress in Students after Equine and Art Therapies"**

The purpose of this study is to measure the effectiveness of alternative therapy methods in relation to stress, such as Equine-Assisted therapy and Art therapy. We are looking to support the notion that alternative therapies can be useful. Our approach is divided into a treatment and control group. All our participants will be asked to complete a learning session where we will teach our participants a short lesson about horse anatomy and safety. We then separate the two groups and for our control group we present a mild stressor, a timed memory test where they recall the horse anatomy terms. Afterward they will self-report their stress experience from that event. For the treatment group, they will be asked to encounter a horse and complete a combined equine and art therapy session. This session is a solution focused therapy exercise where participants will be verbally guided by the instructor. They will be asked to approach a horse and using their hands they paint solutions to a mild stressor they are experiencing in their life. Afterward they will self-report their stress experience. We hypothesize that the animal and art interaction will result in lower stress scores because of the alternative therapy intervention.

## **Michaela Gorman**

**Sponsored by Mr. Gregory Walter**

**Department of Fine and Performing Arts**

**"A Navajo Woman's Way of Life"**

I first became interested in art when I was 12 years old. I began drawing horses and my affinity for them is deeply rooted in my own personal nature, familial heritage and cultural tradition. As people, we all have different backgrounds that build our foundations on who we are. Each of us has a story behind us and this is what makes us unique in our nature. As an artist, I am looking to tell my Navajo traditional story using art as my storyteller. The story of Changing Woman and the Creation of the Clans sheds light on the importance of identity among people of my tribe. My story sprouts into paintings that I create and thus my artwork intertwines the uniqueness of my personal nature. Navajo people have many ancient stories to tell and I strive to express our metaphysical concepts into physical art. This series gives my roots a voice to show the world the unique nature of who I am.

## **Brittney Grove; Thomas Sease**

**Sponsored by Dr. Wendy L. Wilson**

**Psychology Program; Department of Social Sciences**

**"Forgiving Behavior: The Effect of Self-Esteem on One's Willingness to Forgive Others"**

Forgiveness is an important part of human social relationships. People actively make decisions to forgive or not forgive others. However, many factors can influence these decisions. This research intends to explore the factor of self-esteem. Research in psychology has shown that there is a negative correlation between self-esteem and likelihood of forgiveness. Based on this research, our study intends to go beyond correlation and determine if self-esteem is a casual factor of forgiveness. We predict that a low state self-esteem will cause subjects to be more forgiving and that a high state self-esteem will cause subjects to be less forgiving. People's state self-esteem can be increased or decreased by writing about their successes or failures. There is evidence that the size of a person's signature reflects their state self-esteem, with a larger signature reflecting a higher state self-esteem. In our study we used the physical measure of change in signature size to determine the subject's self-esteem. The Willingness to Forgive Scale, a questionnaire with twelve hypothetical situations,

was used to determine the extent of the subject's forgiveness. This research will contribute to the knowledge basis of the psychological factors involved in forgiveness.

## **Sovi Herring**

**Sponsored by Dr. Eric Grabowsky**

**Department of Fine and Performing Arts**

**"The Company of Victory and Its Call for Active Bodies"**

This paper contains an analysis of the advertising campaign "Just Do It" by Nike. The goal is to outline Nike's most basic lines of success through analysis of the most crucial parts of the company's everyday business practices; the purpose and call to action, several advertisements belonging to this series, the other competing companies in the business and the terminal and instrumental values the campaign reinforced when viewed by society. The history behind this now iconic phrase, as well as the amazing achievements of the company, will light any competitive spirit to become what Nike embodies; victors. This particular campaign began in 1980 in hopes of bringing the company from the brink of bankruptcy. Their small clientele base of professional and collegiate athletes did not provide as much revenue as Nike needed, forcing the company to make twenty percent cutbacks just before Christmas of that year. Nike Directors of Marketing Insights & Planning, and Advertising, Jerome Conlon and Scott Bedbury respectively, tapped into a new clientele base that would not only help the company, but also the entire United States of America, and soon the world.

## **Sovi Herring**

**Sponsored by Dr. Eric Grabowsky**

**Department of Fine and Performing Arts**

**"A Rhetorical Analysis upon Douglass' Surprise Attack"**

Frederick Douglass was a man of principle and morals in a time that the world ran rampant with ignorance. He was a man ahead of his time, but strived with every movement to bring a future he desired for the world closer to societies eyes. In 1852, over 150 years ago, Douglass was well known for his abolitionist stance as well as his amazing tactics in public speaking. His way with words and presence is likely the reason the city of Rochester, New York asked Douglass to speak at the 76th Fourth of July Celebration. Only his gracefully crafted speech, "What to the Slave is the Fourth of July," was not one that inspired pride in one's homeland, but instead, the speech's style in relation to pathos left his audience in a deep state of inter reflection due to his powerful strategy of occasion—pointing out slavery during the nation's celebration of freedom. Douglass' presentation is through a written version of his speech and it requires careful analysis through the structure, parallel usage of language, and its correlation to pathos and ethos.

## **Sovi Herring**

**Sponsored by Dr. Eric Grabowsky**

**Department of Fine and Performing Arts**

**"Intruders from Reality: Superheroes Teaching Us to be Better People"**

This paper argues that writers of visual entertainment keep in mind societal values and try to attract and influence their viewers behaviors. Most superhero fans can agree to one statement across the board; D.C. makes better television shows and Marvel excels in movies. With this in mind it is only fair to judge what each do best. For D.C. the bulk of the analysis will be focused on the pilot episode of Smallville and Marvel's Age of Ultron, focusing on the iconic character Iron Man. The analysis of each will pertain to a few key functions critical for the overall enthrallment of the superhero movements. The fine details of the writing, adaptation from the previously portrayed hero, actor to character association, use of special/visual effects/enhancement, lighting and the lessons attached to the production will be the key defining points of these screen productions.

## **Eden Jackson**

**Sponsored by Mr. Greg Walter**

**Department of Fine and Performing Arts**

“Vanitas”

“Vanity of vanities, says the Preacher, vanity of vanities! All is vanity.” Ecclesiastes 1:2.

During the 16th and 17th centuries Dutch artists began painting dramatic and symbolic still life scenes depicting the brevity of life. A breakthrough in the art world occurred as vanitas images emerged from the canvases. Symbols such as skulls, hourglasses, bubbles, and rotten fruits and vegetables were placed within the still life paintings. Vanity, brevity, and death have not escaped our lives in the 21st century, in fact; in some way they are more a part of our daily lives than ever before.

Previous vanitas paintings showed the riches and coveted glories of a different century. I implemented that same connotation by paralleling the theme of planned and perceived obsolescence in our modern electronic realm. Which seemed fitting, since I have personally struggled with several “vital” electronic devices breaking easily, along with the desire to have the latest and greatest new gadget.

This digital photography collection represents my take on traditional vanitas, along with ‘modern’ vanitas.

## **Alexandra Kempenich**

**Sponsored by Dr. Christine McCoy**

**Department of Teacher Education**

“To Play or Not To Play”

Promoting academic growth in students is every teacher’s goal and as a teacher who chose to seek an early childhood endorsement. I have always been interested in age 3 to 8 development. One tool that is beneficial to promote cognitive, social and emotional development is the role of play. This research looked at several factors related to this topic in hopes of answering the following questions. What types of play are seen in the classroom? What are the benefits of play in the classroom? And, how and why has the role of play in the classroom changed over time?

## **Amber Knetter; Kelsi Frank; Angie Decker; Baboucarr Jallow**

**Sponsored by Dr. Analena Lunde**

**Department of Nursing**

“How have the Advancements in Technology Increased the Incidence of Musculoskeletal Problems with the Use of Mobile Devices?”

The use of portable technology over the last twenty years has created an increase in musculoskeletal injury and discomfort among people of all ages. The purpose of this research project is to bring awareness of proper body ergonomics with use of electronic devices both portable and stationary technology. Stationary technology such as desktop computers, have far less adverse effects on the musculoskeletal system than mobile devices. These findings indicate that there is a need for further public education on proper body mechanics when using portable and stationary technology to prevent injuries from happening.

## **Travis Koenig**

**Sponsored by Dr. Chip Poland**

**Department of Agriculture and Technical studies**

“Post-Weaning Gain of Straight Bred Angus vs. Crossbred Black Baldy Heifers”

The beef cattle industry in the United States and North Dakota is very important with 30.5 million head in the U.S. (USDA, 2014) and 943,000 head in North Dakota (Petry, 2014). This means producers need to be profitable, and crossbreeding can help producers increase profit margin by increasing the longevity and reproductive ability in their herds. The objective of this study was to compare post-weaning gain between straight bred Angus and crossbred Black Baldy heifers, to see which group could be moved into a breeding program sooner. This study was done south of Belfield, ND, at the Open A Angus Ranch where weaning

weights were collected on straight bred and crossbred heifers before being brought into a feedlot. The heifers were weighed again to collect yearling weights. The results of this study concluded that there was a tendency for breed to effect weaning weight ( $P=1$ ) by 35 pounds. Yearling weights ( $P=.08$ ) were affected by 40 pounds where average daily gain was not affected ( $P=.66$ ). However, the crossbreds were 9.25-days older, which added 25 pounds of additional gain. Studies have shown similar results to what has been concluded here, but more research needs to be done.

## **Suzanna Moberg**

**Sponsored by Mr. Kevin Moberg**

**Department of Language and Literature**

**"Engaging Secondary English Students: Implementing Elementary Engagement Techniques to Benefit High School Students in the English Classroom"**

Recalling her own positive experiences throughout grade school, Moberg researches the effectiveness of the engagement techniques used by her teachers. Contrasting those strategies with the ones used in her own high school experience, she investigates how implementing elementary activities can enhance adolescents' experience learning English. Using the novel ADVENTURES OF HUCKLEBERRY FINN by Mark Twain, Moberg demonstrates how applying elementary engagement techniques can help secondary students meet English Language Arts standards while having fun, a goal for her future classroom.

## **Kari Moch; Jamie Haukenberry; Kayla Bohn; Jodi Artz**

**Sponsored by Dr. Analena Lunde**

**Department of Nursing**

**"Magnet Hospitals and Nursing Staff Incentives Polar Opposites Attracting Nurse Retention Rates"**

For hospitals to provide high quality patient care and be profitable, they must retain nursing staff. Evaluation of incentives that promote nursing staff satisfaction provides insight to why magnet hospitals have higher nursing staff retention rates than non-magnet hospitals. The American Nurses Credentialing Center (ANCC) distinguishes magnet status hospitals by their ability to attract and maintain nurses by promoting job satisfaction, nurse leadership, and positive patient outcomes. Our research showed magnet hospitals promote nurse collaboration with other medical professionals which increases nursing retention rates while developing nurse leadership skills. Magnet hospitals facilitate and encourage continuing nurse education courses to develop evidence-based nursing skills. By having the resources to further their skills, nurses are able to provide up to date, high quality patient care. Magnet hospitals provide a work culture that encourages prompt error reporting and professional accountability to foster learning opportunities instead of punishment. Gaps of our study included the limited availability of research comparing magnet to non-magnet hospital and overall lack of research on non-magnet hospitals. While conducting the research we discovered nursing retention is higher in magnet status Sanford hospitals compared to non-magnet Sanford hospitals.

## **Kalli Post**

**Sponsored by Dr. Chip Poland**

**Department of Agriculture and Technical Studies**

**"Profitability of Selling Beef Calves at Weaning vs. Backgrounding over 10 years in SW ND"**

Producers must decide when the best time is to sell their calves to make the largest profit. Ten years of data from Finbin were used to get information from cow-calf and backgrounding enterprises in southwestern North Dakota. Objectives of this study were to compare average net returns and to determine the factors associated with profitable backgrounding enterprises. Cow-calf enterprises had an average net return of \$126.37 compared to backgrounding return of \$23.07. Annual backgrounding data was divided into three net return groups (NRG): enterprises with the lowest 40% net return (LNR), median 20% and highest 40% (HNR). Total expenses were not affected by NRG or year. Total overhead expenses were affected by year ( $P<.05$ ). Gross margin and net return were affected by NRG ( $P<0.01$ ), year ( $P<.01$ ) and the interaction ( $P<0.01$  and 0.10, respectively). Gross margin differences between LNR and HNR were approximately \$78 in the first

six years and rose to approximately \$270 in the last two years. Differences in NRG were lowest in the first two years and were maximized in the final two years (\$86.80 and \$201.80, respectively). Backgrounding net returns were affected more by differences in gross margins than differences in direct or overhead expenses.

## **Meagan Raty**

**Sponsored by Dr. Chip Poland**

**Department of Agriculture and Technical Studies**

**"Profitability of Adding Sheep to a Cattle Operation"**

Historically, cattle and sheep production have both contributed significantly to the economy of Montana. The objective of this study was to assess the profitability of adding sheep to an already existing cattle operation in North Central Montana in hopes of diversifying the operation and to increase production. In reference, an enterprise budget, income statement, balance sheet, depreciation schedule, and cash flow statement for a 100 head cow operation were developed. Then in comparison, forms were created to reflect adding 100 head of ewes (one ewe per cow) to this base operation. Results of the enterprise budgets suggest that adding ewes to the base cattle operation would generate \$30.56 per ewe or \$3056.00 total for the operation in profit or Return to Management. This is over a profit of \$195.47 per cow or \$19,547.00 for the cattle only option. Results of net farm income, equity, and cash flow estimates will also be presented.

## **Thomas Sease**

**Sponsored by Dr. Suzanne Russ**

**Psychology Program; Department of Social Sciences**

**"Psychological State of Surrender as Predictor of Response to Crisis"**

Personal crises are a predictable part of the human experience, entering people's lives from external causes such as personal loss or internal causes like depression or addiction. Some individuals suffer lingering adverse effects from such crises, while others emerge from crises transformed and born anew. This study utilized online crowdsourced data from 347 U.S. adults who reported that they were currently experiencing a state of crisis. Factors included: (a) differences in the types of crisis that may produce transformational results, and (b) the psychological state of surrender that may facilitate recovery. Data were also utilized to validate the State of Surrender (SoS) scale, which demonstrated strong psychometric properties in three other samples. Results presented include the types of crisis identified and the role of the state of surrender in predicting response to crisis. Continued evidence validating the SoS scale as a predictor of response to various treatments may prove beneficial to determining treatment readiness or vulnerability to influence.

## **Shayna Uffelman**

**Sponsored by Dr. Chip Poland**

**Department of Agriculture and Technical Studies**

**"The Effects of Feeding Time on Calving Time in Beef Cattle"**

During calving season, beef producers can go months without getting an uninterrupted night of sleep. Beef producers must closely monitor their expecting first calf heifers to ensure the highest survival rate for their calves. The purpose of this study was to see if the time of feeding in beef heifers can influence the time of day that the heifer will calve. Recorded data from first calf heifers over three years (2015-2017) was analyzed from a black angus beef producer near Saint Xavier, Montana. These heifers were fed daily between 4:00 PM and 6:00 PM. The date and time that they calved was recorded. This data was then analyzed to see what time the majority of the calves in the group were born, as well as the ratio of calves born at night compared to those born during the day.

## **Justin Ward**

**Sponsored by Dr. Tobias Stroh**

**Department of Agriculture and Technical Studies**

**"Effect of AI Sires on Pregnancy Rates in Angus Cows"**

Sires may have many effects on the cows and heifers they have inseminated, one of which is pregnancy rate. The main objective of this study was to determine whether sires used in artificial insemination (AI) are different in their ability to produce pregnant cows. Data was collected from insemination and pregnancy checks in 2016 and 2017 from three different ranches. Ranches were managed similarly and used many of the same sires. The two data sets were combined and sire effects on parameter values were estimated. Individual sire parameters were each compared to 0 and then compared against each other. Pregnancy rates were positively affected when females were inseminated subsequent to showing signs of heat. Results also showed positive effects when the female was bred in 2016. Parameter estimates for individual sire effects ranged from -2 to 2. Sire results displayed significant effects on pregnancy rate among six of the 43 used. Three sires expressed significantly positive effects and three expressed significantly negative effects on pregnancy rates. In conclusion, there was considerable variation between sires in their ability to produce pregnant Angus cows.

## **Bryce Wigert**

**Sponsored by Dr. Christine McCoy**  
**Department of Teacher Education**

**"Does Extended Recess Time Benefit Students' Intellectual, Emotional and Social Development?"**

There is a belief that more classroom time during the school day will benefit students' intellectual development. This has resulted in shortening or eliminating brain breaks such as recess in order to increase classroom time to cover the growing curriculum. Some claim that decreased recess time is essential to cover academic needs, while others say that recess is one of the most crucial parts of a student's school day. The purpose of my research is to investigate the impact recess has on the students' emotional, social, and intellectual development. This research looks at various studies that examine students' intellectual, emotional, and social development and its relationship to extended and shortened recess time.

## **Jason Zecchini**

**Sponsored by Dr. Wendy L. Wilson**  
**Psychology Program; Department of Social Sciences**

**"Personality and Stress Response"**

In previous studies personality has been shown to play a major role in potential health issues. For example, having a hostile personality is associated with increased risk of cardiovascular disease or a stroke.

This study focuses on the relationship between personality and a stress response using non-intrusive measure of the participants. The study consists of individuals who were initially given a personality inventory, followed by ten minutes of difficult changed blindness tasks. Change blindness is a perceptual task in which minute differences in two stimuli, in this example pictures, are missed. In the changed blindness tasks, individuals are given two almost identical pictures and asked to identify the difference between the photographs. The pictures are flashed back and forth or on and off. There will be three sets of pictures, and participants are given 10 minutes total to complete the tasks. Physiological measures are taken before and after the tasks.

In this study personality type was measured using a "Big Five" inventory. Personality was measure in terms of openness, conscientiousness, extraversion, agreeableness, and neuroticism. A stress responses are measured by the change in blood pressure and heart rate.







# 2017 CELEBRATION OF SCHOLARS AWARD WINNERS

**Tessa Sian**

Best Oral presentation in Agricultural/Natural Sciences Category  
Sponsored by Dr. Chip Poland, Department of Agricultural and Technical  
Studies

*Delaying Bud Break of Grape Vines with the use of Amigo Oil*

**Felicity Merritt**

Best Oral presentation in Teacher Education, Nursing, Natural Sciences  
Sponsored by Dr. Craig Whippo, Department of Natural Sciences

*Phenotypic and Genotypic Variation of Natural Arabidopsis thaliana  
Accessions in Response to Na<sub>2</sub>SO<sub>4</sub> Stress*

**Ashlee Armstrong**

Best Poster presentation in Agricultural/Natural Sciences Category  
Sponsored by Dr. Josh Steffan, Department of Natural Sciences

*Nutrient Levels of Tomatoes as Affected by Soil with Commercial  
Fertilizer vs. Compost*

**Taylor Henningsgard, Brenna Hansen & Stephanie Guajardo**

Best Poster presentation in Teacher Education

Sponsored by Dr. Christine McCoy Department of Teacher Education  
*Does Having LGBT Parents Impact Students Socially, Academically,  
and Emotionally in School?*

**Ann Koppinger, Monique Yslas & Karen Reid**

Best Poster presentation in Psychology and Nursing

Sponsored by Dr. Andrew McGarva, Psychology Program  
*How Do You Like Me Now?: The Effects of Glasses and Cellphone  
Use on Interpersonal Perceptions*

**Briana Dolechek**

Best presentation in Fine Arts

Sponsored by Mr. Greg Walter, Department of Fine and Performing Arts  
*Art: More than Meets the Eye*

# ACKNOWLEDGMENTS

**Websites:** Dr. Suzanne Russ, Dr. Wendy L. Wilson, Mr. Josh Nichols

**Publicity:** Dr. Jeremy Wohletz; DSU Printing Services

**Special Events and Scheduling:** Mr. Trent Myran and Facility  
Operations

**Food Services:** Sodexo

**Plaques:** Mr. Randy Peters and Four Seasons Trophies

**Program Development and Printing:** Dr. Suzanne Russ & Dr. Wendy  
L. Wilson; Quality Quick Print

**Faculty Sponsors:** Dr. Joshua Steffan, Dr. Christine McCoy, Dr. Chip  
Poland, , Mr. Toby Stroh, Dr. Analena Lunde, Mr. Greg  
Walter, Dr. Eric Grabowsky, Dr. Steven Doherty, Mr. Kevin  
Moberg, Dr. Suzanne Russ, Dr. Wendy L. Wilson

**Special Assistance:** Mr. Derek Nitschke

**Introduction of Keynote and Awards Announcements:** Dr. Tom Mitzel  
& Dr. Wendy L. Wilson

**Oral Presentation Moderators:** Dr. Chris McCoy, Dr. Wendy L.  
Wilson, Dr. Eric Grabowsky, Dr. Ken Pierce

**Judges for Category Award Winners**

**In addition to multiple Student Volunteers**