

11th Annual
1918

Dickinson
STATE UNIVERSITY

2 0 1 2
CELEBRATION OF
SCHOLARSHIP

THURSDAY, APRIL 26TH, 2012
2:45 PM - 7:15 PM

KLINEFELTER LOWER LEVELS
DICKINSON STATE UNIVERSITY

Dickinson State University Celebration of Scholarship 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.

2012 Keynote Speaker Dr. Alison Looby

Alison Looby is an assistant professor of psychology at the University of North Dakota (UND). She earned her B.A. in psychology at the University of California, San Diego and her M.A. and Ph.D. in clinical psychology from the University at Albany, State University of New York. She completed her pre-doctoral clinical psychology internship at the Western Psychiatric Institute and Clinic/University of Pittsburgh prior to moving to UND in 2011. Aside from her work at UND, Dr. Looby is also involved part-time in clinical work in the community.



Dr. Looby's research focuses on college student substance use, with a particular emphasis on marijuana and nonmedical stimulant use (e.g., Ritalin, Adderall). She is specifically interested in understanding how drug-related beliefs or expectations influence drug use, and in using this information to develop substance use prevention and treatment efforts for college students. Dr. Looby has published many research articles in the area of substance abuse and has received funding support from the National Institute on Drug Abuse. She is currently involved in mentoring several undergraduate students in research, all of whom have active and collaborative roles in her ongoing research projects.

SCHEDULE OF EVENTS

- 2:45** Welcome remarks by President Dr. D.C. Coston
- 3:00** Oral Presentations
- SESSION A. Research in Agriculture.**
Location: Beck Auditorium, Moderated by Dr. Sethuram Soman
- 3:00 Dukart, Katie. *Effects of Crossbreeding on Milk Production and Components in Dairy in Southwest North Dakota.*
- 3:20 Solberg, Abby. *Habitat Suitability Model for Black-tailed Prairie Dogs using Geospatial technologies in Southwest North Dakota.*
- 3:40 Moch, Angela. *Protein Seed Treatment in Hard Red Spring Wheat*
- 4:00 Besler, Brock. *Besler Farm Profitability Using Linear Programming*
- 4:15 Wells, Kyle. *Effects of Water Quality on Pregnancy Rates and How Water Quality Changes During the Summer*
- 4:30 Thom, Ethan. *Spatial Analysis to Estimate Factors Affecting Local Spring Wheat Basis*
- 4:45 Brown, Bryn. *Frequency of multiple births and survival rate of lambs to weaning in northwestern South Dakota*
- SESSION B. Agriculture, Teacher Education, Math/Computer Sciences**
Location: Klinefelter 218, Moderated by Ms. Margaret Marcusen
- 3:00 Kelly, Aaron & Fan, Gaoyang. *Using Fractal Geometry to Classify Leaves and Estimate the Leaf Mass of Trees*
- 3:20 Tanui, Faith. *M-Pesa: Changing Lives in a Dynamic World.*
- 3:40 Stefalo, Joe & Schmidkunz, Tyler. *Comprehension Strategies: Retelling & Questioning*
- 4:00 Mavity, Kathryn; Pearson, Madelyn; Roos, Brittany; Watt, Cassandra. *RTI: Response to Intervention in the Classroom*
- SESSION C. Scholarly work in the Humanities.**
Location: Klinefelter 219, Moderated by Dr. Steven Doherty
- 3:00 Charles, Brenda. *Immigration Issues Uncovered: The Hidden Effects of Criminal Deportees on Small Developing Islands*
- 3:20 Finken, Erin. *Duty, Desire, and Twisted Truth: Uncertainty in the World of the Modern Grotesque*
- 3:40 Igolkina, Evgeniia. *United Russia- the party in Power in the Russian Federation*
- 4:00 Ferris, Jody. *Prairie Fire: the transformation of Canadian grain producer attitudes toward the Canadian Wheat Board*
- 4:20 Lien, Amber. *Taking the Good with the Bad: Transformation of Indian Identity via Agriculture*
- 4:40 Meador, Robert. *No Negation of the Sea*
- 5:00** Poster presentations: Klinefelter Lobby, Room 130, Art Gallery
- 6:00** Keynote Speaker: **Dr. Alison Looby.** *Great Expectations: How our Beliefs Influence Substance Use and Research*
- 6:50** Arts presentation: **Form & Fusion** with artistic direction by Ms. Pattie Carr
- 7:10** Awards Presentation: **Dr. D.C. Coston**

POSTER SESSION

5:00 to 6:00 p.m. in Klinefelter Lower Level

LOBBY SOUTH

- Besler, Brock. *Besler Farm Profitability Using Linear Programming*
Charles, Brenda. *Factors Affecting Morality*
Haynes, Benjamin & Newton, Tia. *Importance of Questioning While Reading in the Classroom*
Kessel, Erica (LPN, AASPN), Wilhelm, Melanie (LPN, AASPN), & Wirrenga, Nicole (LPN, AASPN). *Effectiveness of TENS unit in relation to pain management in laboring women*
Luitel, Namrata (LPN, AASPN), Chepkirwok, Rebecca (LPN, AASPN) & Mellmer, Susan (LPN, AASPN). *Is High Fidelity Simulation More Effective Than Traditional Clinical Experience In Developing Critical Thinking Skills In Nursing Students?*
Mork, J., Dix, B., Bercier, M., & Kuck, T. *Comparison of post-tonsillectomy hemorrhage in children and adults*
Pfaff, John. *Feasibility of an Equine Operation in Southwest ND*
Wells, Kyle. *Effects of Water Quality on Pregnancy Rates and How Water Quality Changes During the Summer*

KLINFELTER 107

- Brown, Bryn. *Frequency of multiple births and survival rate of lambs to weaning in northwestern South Dakota*
Callahan, Holly. *Texting and Driving: Self-Imposed Distraction among High School, College, and Adult Drivers*
Ferris, Jody. *Prairie Fire: the transformation of Canadian grain producer attitudes toward the Canadian Wheat Board*
Hesseldal, Casper. *Is Procrastination a big part of your life?*
Jepson, Kathleen. *Chunking: a reading strategy that works*
Moch, Angela. *Protein Seed Treatment in Hard Red Spring Wheat*
Ogubunka, Rachel. *The correlation between stress and student life style.*
Reopelle, Molly. *Childrearing Tolerance*
Thompson, Ty. *Cautiousness Correlation Questionnaire*

KLINFELTER 108

- Dahl, Michelle. *TRHLP Honors Seminar Portfolio*
Garland, Afton. *Honors Seminar Portfolio*
Guillen, Trina. *Confidence*
Keller, Zach. *Honors Seminar Portfolio*
Klym, Emily. *Learning Through Leadership*
Ries, Julie. *To Stress or Not to Stress*
Wingertter, Katie. *Happiness*

POSTER SESSION

5:00 to 6:00 p.m. in Klinefelter Lower Level

LOBBY NORTH

- Clyde, Katie. *Age Verses Learning Ability in Horses*
Solberg, Abby. *Habitat Suitability Model for Black-tailed Prairie Dogs using Geospatial technologies in Southwest North Dakota.*
Thom, Ethan. *Spatial Analysis to Estimate Factors Affecting Local Spring Wheat Basis.*
Thorson, Brooks (LPN, AASPN), Kottre, HaLeigh (LPN, AASPN), & Smith, Kelsey (LPN, AASPN). *Most Effective Hand Hygiene for Reducing Post-Operative Infection*
Wells, Trace. *Proportionately Incorrect: A correlational study on political correctness.*
Mavity, Kathryn; Pearson, Madelyn; Roos, Brittany; Watt, Cassandra. *RTI: Response to Intervention in the Classroom.*
Tanui, Faith. *M-Pesa: Changing Lives in a Dynamic World.*
Langford, Ben, Morris, Matthew, & Thronburg, Susan. *Comparison of Trace Metals in Fresh Tomatoes versus Ketchup using Atomic Absorption Spectrophotometry*

ART GALLERY

Senior Exhibit: *Our 15 Minutes of Fame*

- Qin, Shasha. *Acrylic Painting.*
Teigen, Tessa. *Printmaking.*

Works from Art Classes:

- Jenna Alexander, Brian Berry, Meixuan Chen, Zibo Chen, Ashley Decker, Taylor Hort, Denise Johnson, Tyler Jahnen, Hee Ju Kim, Daniel Kurth, Trisha Loney, Nicole Marcoux, Caitlin Meyer, Anna Olson, Adam Orton, Emily Reese, Ona Reitt, Jessica Schmitt, Andrew Sparatta, Yeon-jil Yoon

Music:

- Bliss, Rachele. *Vocal, Soprano*
Buchholz, Adam. *Percussion*
Fichter, Damon. *Piano*
Laqua, Ron. *Trumpet*
Messer, Justi. *Percussion*
Schock, Kali. *Trumpet*
Wilz, Mariah. *Flute*

ABSTRACTS

Arranged alphabetically by last name of first student author

Besler, Brock with faculty advisor **Dr. Sethuram Soman.**

Department of Agriculture and Technical Studies, Dickinson State University

4:00 pm in **Beck Auditorium**

Besler Farm Profitability Using Linear Programming

Abstract: Increasing expenses and decreasing margins have made it more and more difficult for farmers and ranchers to make a profit. It is becoming very important for them to be more efficient in production so expenses can be reduced to a minimum or near minimum. Also, it has become more important to efficiently use the limited resources available to every farmer and rancher. Linear programming technique can be used to achieve the optimum amount of crops and livestock to produce, and maximize profit given the limited amount of resources. This study utilizes linear programming model to assess the profitability of my family's farm in northwestern South Dakota. Barley, oats, spring wheat, and crested wheatgrass alfalfa hay were the available crops for the model. The soil specific yields of each crop for each field were used to run the model along with the operating costs and constraints such as labor, machinery time and availability, and capital. The model was a useful tool to determine the optimum cropping system and evaluate the current cropping system. The results of the study give the optimized crop type and gross margins associated with each field. The study results also provide sensitivity analysis on costs, yields, and prices.

Brown, Bryn with faculty advisor **Dr. Woodrow W. Poland, Jr..**

Department of Agriculture and Technical Studies, CBEAS

4:45 pm in **Beck Auditorium**

Frequency of multiple births and survival rate of lambs to weaning in northwestern South Dakota

Abstract: Sheep are a dual-purpose animal producing meat and wool, and where reproductive success is very important. The objective of the study was to compare a purebred and a crossbred flock (151 and 137 ewes, respectively) with respect to frequency of multiple births, lamb survival rate, and the effect of ewe age on the frequency of multiple births. Animals were ear tagged at birth for tracking ease. Individual numbers were recorded and presence or absence noted. The lambs were accounted for at birth, at a month after birth, and again at weaning. Overall, the purebred flock produced more lambs (i.e. higher frequency of multiple births; $P < .001$), which contradicts most other studies comparing pure and crossbreeding programs in sheep. Although the purebred flock produced more lambs, lambs in the crossbred flock survived better throughout the summer to weaning ($P = .06$). In the purebred flock as the ewe ages ($P < .01$) the frequency of multiple births increased as well, but in the crossbred flock this frequency stayed fairly constant as the ewe aged. These data suggest purebred flocks, and in particular flock of older ewes, are more productive at birth; while survival rates of lambs is improved from birth to weaning in crossbred flocks. Sheep producers in northwestern South Dakota with purebred flocks should consider keeping older-aged, more prolific ewes; while producers having trouble with lamb survival should consider using crossbreeding as a means to increase survival rate.

Callahan, Holly with faculty advisor **Dr. Andrew McGarva.**

Department of Psychology, Dickinson State University

5:00 pm in **Klinefelter Conference Room**

Texting and Driving: Self-Imposed Distraction among High School, College, and Adult Drivers

Abstract: Distraction amongst drivers is a world-wide problem. A recent and severe form of distraction comes in the form of hand-held electronic devices that allow drivers to send and receive text messages.

Texting has a staggering effect on drivers' ability to safely operate a motor vehicle. Attention to text messaging while driving in a simulator has been observed to impair the ability to maintain lane position and obey traffic signs (Hosking, et al., 2009), lengthens braking times (Kircher, et al., 2004), and increases accident rates (Drews, et al., 2009). Wilson and Stimpson (2010) estimate the increase in texting amongst drivers accounts for over 16,000 of the 51,857 road fatalities caused by driver distraction from 2001 to 2007. Despite these massive numbers and the various campaigns employed to reduce texting while driving, the problem remains. The present study was intended to observe texting while driving not only amongst young drivers but among more seasoned drivers as well. It was hypothesized that, because of younger drivers' increased tendency to take risks (Cestac, et al., 2011; Deery, 1999), younger drivers would be more inclined to text while driving when compared with more mature drivers.

Charles, Brenda with faculty advisor **Dr. Karen Foster.**

Department of English, Dickinson State University

3:00 pm in **Klinefelter 219**

Immigration Issues Uncovered: The Hidden Effects of Criminal Deportees on Small Developing Islands

Abstract: The U.S Immigration policy of deporting violent criminals back to their countries of birth seems to be in the best interest of Americans, but as good global citizens can the U.S ignore the innocent citizens of these countries? Small developing islands like Antigua have seen an increase in violent criminal activities that they are ill-equipped to handle as a result of increase in deportation of violent criminals. Many of these criminals have lived in the U.S for most of their lives and most of their criminal behaviors are not common to the small islands of their birth. My presentation will challenge the structure of this immigration policy and show its effects from a point of view not usually given. I will also show the trickle-down effect which ultimately comes back to the American people, who are affected by issues such as the increase in violent crimes against tourists in these countries. As scholars it is important that we are aware of current issues (both locally and internationally). My presentation will foster increased awareness as global citizens.

Charles, Brenda with faculty advisor **Dr. Andrew McGarva.**

Department of Psychology, Dickinson State University

5:00 pm in **Klinefelter Lobby**

Factors Affecting Morality

Abstract: Psychologists, starting with Kohlberg and Piaget have continually investigated moral behavior and development. This research shows some factors that may affect the construct of morality. In the present research, using the survey method with a sample of college staff and students, correlations have been shown. The results of this study have shown that the more hours a person spends playing video games, the less moral they are. This research also shows that an increase in number of friends is correlated with a decrease in morality. Correlations have also been found between other variables gathered from the survey results. There is a significant correlation between hours spent playing video games and number of friends, as well as with alcohol consumption. The

intent of this study is to encourage further investigation on morality and the other variables that correlate.

Clyde, Katie with faculty advisor **Dr. Woodrow W. Poland, Jr.**

Department of Agriculture and Technical Studies,, Dickinson State University
5:00 pm poster in **Klinefelter 218**

Age Verses Learning Ability in Horses

Abstract: Learning and memory ability of horses ranging in ages from 4-33 years, assessed by timing individual horses, while they learned to navigate their way through a maze in order to find a treat. Each horse was tested twice at two separate trials. All of the horses appeared to memorize this task and many preformed it even faster the second time they were tested. (19.1 and 16.6 seconds in first and second attempts, respectively; $P = .05$) This study was conducted to see if age affected a horse's ability to learn to navigate through a maze. The youngest horses tested approached the maize with a more investigative behavior, whereas, the older horses appeared more careless of their surroundings and more focused on finding the treat. Hoses in the 6 to 7 year-old group were the slowest while horses older than 20 years-old were the fastest ($P = .10$). Older horses were the quickest at navigating through the maze in both trials. Results suggest that both age and experience are important factors in explaining the time necessary for a horse to navigate a maze.

Dahl, Michelle with faculty advisor **Ms. Margaret Marcusen.**

Theodore Roosevelt Honors Leadership Program, Dickinson State University
5:00 pm in **Klinefelter 107**

TRHLP Honors Seminar Portfolio

Abstract: This portfolio will showcase many papers, projects, and presentations I have completed throughout my academic career at Dickinson State University. It also provides examples of extra curricular activities I have been involved in. This portfolio ties my educational experiences directly to the learning outcomes of the Theodore Roosevelt Honors Leadership Program, demonstrating my leadership abilities with regards to the program.

Dukart, Katie with faculty advisor **Dr. Woodrow W. Poland.**

Department of Agriculture and Technical Studies, Dickinson State University
3:00 pm in **Beck Auditorium**

Effects of Crossbreeding on Milk Production and Components in Dairy in Southwest North Dakota.

Abstract: This study was designed to determine if there is a difference in milk yield and components between crossbred and purebred dairy cattle in southwestern North Dakota. Twenty-five dairy cows were sampled, 17 crossbred and eight purebred, on three different sampling dates. Milk samples were analyzed for butterfat, other solids, lactose, protein, solids not fat, milk urea nitrogen, somatic cells, and freezing point. Additionally, milk was weighed at morning and night milking on the sample days. Sample date, breed, and days in lactation were included as possible sources of variation in milk components and yield. Sample date ($P < .10$) had an affect on concentrations of butterfat, other solids, and milk urea nitrogen, and night milk production. Breed ($P < .10$) had an affect on concentrations of other solids, protein, solids not fats, and milk nitrogen urea. Days in lactation ($P < .10$) affected lactose, other solids, protein, solids not fats, butterfat, and milk urea nitrogen. Peak milk production was about 69 lbs. /day and it occurred around 97 days of lactation. Numerically purebred cow's producer more total milk than crossbred

cows (70.75 vs. 67.7). This study concludes that there is a difference in crossbred and purebred dairy cows in some milk components and production. Dairy producers in southwestern North Dakota should consider purebred dairy for pounds of milk and crossbred for an increase economically important milk components.

Ferris, Jody with faculty advisor **Dr. Steven Doherty.**

Department of Political Science, Dickinson State University
4:10 pm in **Klinefelter 219**

Prairie Fire: the transformation of Canadian grain producer attitudes toward the Canadian Wheat Board

Abstract: The Canadian Wheat Board Act of the Canadian government established a single desk wheat marketing system following strong producer pressure to stabilize wheat commodity prices in the 1930s. Participation in the system is still mandatory for all wheat producers in Western Canada. The growing professionalization of the Canadian wheat producer, the increased concentration of the industry around a number of larger scale and more corporate producers, and the ability of private producers to more readily access the technical and marketing information that had been previously provided by the Wheat Board have caused a dramatic decrease in support for the continued role of this institution. This poster session will examine this transformation of producer attitudes toward government regulation of this commodity, noting the significant cultural, institutional and technical forces that have resulted in a crucial transformation of agricultural public policy and the role of interest groups in Canada.

Finken, Erin with faculty advisor **Dr. Alan Church.**

Department of English, Dickinson State University
3:20 pm in **Klinefelter 219**

Duty, Desire, and Twisted Truth: Uncertainty in the World of the Modern Grotesque

Abstract: In Winesburg, Ohio, Sherwood Anderson manages to create a cohesive and credible world despite the fact Winesburg exists only through Anderson's heterodiegetic narrative technique, a technique featuring minimal description, shifting characters, and an unpredictable timeline. Entering the world of Winesburg through Text World theory, Finken analyzes how readers create a cohesive mental representation of Anderson's world in response to his narration, allowing them to understand the Winesburg grotesque by studying the attitudes, motivations, and goals of the characters in the context of their reading experience.

Garland, Afton with faculty advisor **Ms. Margaret Marcusen.**

Theodore Roosevelt Honors Leadership Program, Dickinson State University
5:00 pm in **Klinefelter 107**

Honors Seminar Portfolio

Abstract: During my four years at Dickinson State University, I have been involved in the Theodore Roosevelt Honors Leadership Program. Five learning objectives for the program have been listed to be fulfilled for a well rounded education. By taking a variety of classes in the Leadership Program, my major, and general education requirements, I have been able to complete these objectives and enhance my education. This portfolio is a sampling of different projects and papers I have completed over the last four years that show fulfillment of the learning objectives.

Guillen, Trina with faculty advisor **Dr. Andrew McGarva**.

Department of Psychology, Dickinson State University

5:00 pm in **Klinefelter Lobby**

Confidence

Abstract: Confidence is a psychological construct we all can identify with. It influences what we choose to do and how well we do it. In the present study I attempted to measure this variable by devising a paper-and-pencil questionnaire assessing not only confidence but factors that confidence might correlate with, including: exercise habits, stress, diet, sexual behavior, athletics, and academic performance. This questionnaire was administered to (29) DSU students enrolled in a variety of general education courses. My hypothesis was that overall health would be positively related to confidence, but this was not supported by the data. There was a no significant correlation between exercise, diet and confidence. An interesting relation was observed between alcohol intake and confidence with the most confident drinking the most.

Haynes, Benjamin & Newton, Tia with faculty advisor **Dr. Christine McCoy**.

Department of Teacher Education, Dickinson State University

5:00 pm in **Klinefelter Lobby**

Importance of Questioning While Reading in the Classroom

Abstract: Our project focused on the importance of questioning to increase comprehension during reading. The research-based technique Question Answer Relationships (QAR) was used (Raphael 1984,85). We worked with small groups of 5th grade students in two classrooms teaching and applying the four types of questions in QAR. A pre and post assessment was given to measure student knowledge of QAR. These assessments included informal interviews and traditional tests. We will share our experiences and data gathered from working with fifth grade students

Hesseldal, Casper with faculty advisor **Dr. Andrew McGarva**.

Department of Psychology, Dickinson State University

5:00 pm in **Klinefelter 106**

Is Procrastination a big part of your life?

Abstract: Procrastination, in a sense, is a disease that affects people from all backgrounds and age groups. It can be classified as a disease because it tends to impair individuals on daily basis, and when something can affect you physically and mentally it can be viewed as a disease. In this experiment I will be giving out a questionnaire in order to more accurately analyze the groups that are most impacted by procrastination and why it affects them more than others.

Igolkina, Evgeniia with faculty advisor **Dr. Steven Doherty**.

Department of Political Science, Dickinson State University

3:40 pm in **Klinefelter 219**

United Russia- the party in Power in the Russian Federation

Abstract: The former Communist nations of Eastern Europe provide a fascinating example of the establishment and transition of political institutions from closed authoritarian structures to more open and democratic political institutions. Political Parties are key players in this process and the development of partisan institutions in the states of the former Soviet Union has been a complex process. Many observers of political parties in these states have advanced a "party of power" hypotheses, a paradigm that suggests that parties in this region are more extensions of the existing political power structure, rather than ideologically-driven efforts to mobilize partisan

support from the public in a competitive electoral environment. The purpose of this research is to examine the relevance of this model for the Russian Federation by examining the establishment and consolidation of power of United Russia, the most dominant political party currently in the Russian Federation. The ability of United Russia to further extend its electoral dominance through electoral activities and other sources of influence will be profiled in an effort to test the appropriateness of the "party of power" hypothesis to contemporary Russian electoral system. Special attention will be given to the extension of United Russia influence in the Voronezh Oblast, a region of the Russian Federation which earlier was considered by Many observers to hold a strong partisan attachment to the Communist Party. This session examines the "party of power" hypothesis in the establishment of United Russia influence in the current Russian Federation, with a special emphasis on the growing dominance of United Russia in the Voronezh Oblast of Southwestern Russia.

Jepson, Kathleen with faculty advisor **Dr. Christine McCoy**.

Department of Teacher Education, Dickinson State University

5:00 pm in **Klinefelter Lobby**

Chunking: a reading strategy that works

Abstract: The purpose of this action research was to study what decoding strategies that three (struggling) students in 2nd grade used while reading. The researcher then selected the strategy of "chunking" to assist these students with reading independence (Ehri & McCormick, 1998). The researcher taught the strategy through direct instruction then monitored students behaviors with prompts such as "what can you do to help yourself?" The use of prompts or questions has been identified by literacy researchers to increase student independence (Clay, 1993; Fountas & Pinnell, 1996). The final stage of the study collected data on how often the selected students utilized the strategy technique. Kathleen will share her new understanding of the importance of teaching student's strategies and how effective one strategy "chunking" can be.

Keller, Zach with faculty advisor **Ms. Margaret Marcusen**.

Theodore Roosevelt Honors Leadership Program, Dickinson State University

5:00 pm in **Klinefelter 107**

Honors Seminar Portfolio

Abstract: The portfolio represents my body of work throughout my undergraduate career. It includes a wide variety of topics but has a central focus on leadership, and more specifically, servant leadership. I have had the opportunity to both initiate and participate in a number of programs or events that have enhanced both my leadership awareness and skills. The portfolio highlights some of these events as well as other projects that I have completed that represent the time I spent growing as a student and a leader during my time at Dickinson State University.

Kelly, Aaron & Fan, Gaoyang with faculty advisor **Dr. Nicomedes Alonso**.

Department of Mathematics and Computer Science, Dickinson State University

3:00 pm in **Klinefelter 218**

Using Fractal Geometry to Classify Leaves and Estimate the Leaf Mass of Trees

Abstract: Most systems of leaf classification are based on qualitative rather than quantitative approaches. We wish to develop a mathematical system for classifying leaves that allows us to compare leaves based on some consistent quality they possess. We do this using the fractal nature of leaves. In this talk, we will explain fractals and how trees and leaves possess fractal-like characteristics. We will then use the fractal

dimension of leaves to approach a potential classification system. Finally, we will discuss using the fractal dimension of the crown of a tree to estimate the total leaf area of the tree. It will be emphasized that this may potentially be extended to finding an approximation for the leaf mass of the tree.

Kessel, Erica (LPN, AASPN), Wilhelm, Melanie (LPN, AASPN), & Wirrenga, Nicole (LPN, AASPN) with faculty advisor **Cheryl Lantz PhD, RN.**

Department of Nursing, Dickinson State University
5:00 pm in **Klinefelter Lobby**

Effectiveness of TENS unit in relation to pain management in laboring women

Abstract: Transcutaneous electrical nerve stimulation (TENS) units have been used since the 1970s for management of many types of pain. Despite an increase in non-pharmacological methods of pain management during labor, the TENS unit has not been utilized often in labor. The TENS unit offers a laboring woman more freedom and control in managing pain, without possible side effects caused by medications. The use of PICOT format to assess evidence based practices was done for this literature review, in application of TENS during labor. Seventy journal articles were reviewed and it was determined that four articles were relevant in using the PICOT format. Of these 4 articles, researchers found the application of TENS in laboring women was effective to manage pain, yet there is a lack of scientific reasoning as to why it is effective. The gate and distraction theories were reasons given for effective TENS use. Suggestions for future studies are to develop methodology for TENS uses and to increase the number of participants for TENS studies during labor, which would be beneficial to determine TENS effectiveness.

Klym, Emily with faculty advisor **Ms. Margaret Marcusen.**

Theodore Roosevelt Honors Leadership Program, Dickinson State University
5:00 pm in **Klinefelter 107**

Learning Through Leadership

Abstract: "Do what you can, with what you have, where you are." These words were spoken by our nation's 26th President, Theodore Roosevelt. In honor of the genuine leader, the honors program at Dickinson State University was named after him. Had it not been for the Theodore Roosevelt Honors Leadership Program, I would not be the leader that I am today. The portfolio I created for Honor's Seminar demonstrates my leadership journey during my time in the program. The following learning outcomes of the program are demonstrated through various papers, projects, and experiences: think critically and creatively, communicate effectively, model responsible citizenship, cultivate global awareness and an appreciation cultural diversity, and display a commitment to ongoing leadership development. The skills and lessons I've learned from the program will enable me to follow Theodore Roosevelt's advice to do what I can, with what I have, where I am.

Langford, Ben, Morris, Matthew, & Thronburg, Susan with faculty advisor **Dr. Kenneth Pierce.**

Department of Natural Sciences, Dickinson State University
5:00 pm in **Klinefelter Lobby**

Comparison of Trace Metals in Fresh Tomatoes versus Ketchup using Atomic Absorption Spectrophotometry

Abstract: Trace metals are common in many foods. Since it is commonly speculated that nutrient value is lost during food processing, dieticians usually recommend fresh

foods over processed or preserved ones. Due to their nutritional value, there is ongoing extensive research to verify these speculations. The analysts hypothesized that fresh tomatoes would have a higher trace metal content than the commercially packaged ketchup. The objective of this experiment was to compare the amount of magnesium, calcium, and iron content in fresh tomatoes versus commercially packaged ketchup. Using Atomic Absorption Spectrophotometry (AAS), calibration curves were plotted, from which sample concentrations were then determined.

Lien, Amber with faculty advisor **Dr. Frank Varney.**

Department of Social Sciences, Dickinson State University
4:25 pm in **Klinefelter 219**

Taking the Good with the Bad: Transformation of Indian Identity via Agriculture

Abstract: With the passage of the Homestead Act in 1862, a great land cultivation era commenced on the Great Plains. Just six years after the Homestead Act's passage, the Treaty of Fort Laramie attempted to address a number of lingering issues between the United States and Indian nations. Specifically, the new treaty promised Native Americans the right to obtain tillable land. Within a short span of time, the American psyche had applied the Homestead Act principles of land procurement and cultivation to Native Americans, a process that culminated in the Dawes Severalty Act and the subsequent allotment of reservation lands. Through the Homestead Act, the government officials returned to the Jeffersonian precedent of promoting land ownership and cultivation to "civilize" the nation's American Indian inhabitants. As a consequence, policy makers failed to realize that Indians valued land for its inherent qualities and not for what it could produce to feed the masses. This resistance led to a transformation of Native American identity. My paper "Taking the Good with the Bad" will utilize first-person narratives in an attempt to document the varying degrees of identity growth or decline during one of the nation's most turbulent eras.

Luitel, Namrata (LPN, AASPN), Chepkirwok, Rebecca (LPN, AASPN) & Mellmer, Susan (LPN, AASPN)

with faculty advisor **Cheryl Lantz PhD, RN.**
Department of Nursing, Dickinson State University
5:00 pm in **Klinefelter Lobby**

Is High Fidelity Simulation More Effective Than Traditional Clinical Experience In Developing Critical Thinking Skills In Nursing Students?

Abstract: In today's complex healthcare environment, nurses are faced with intense patient acuity, managing difficult illnesses, and rapidly changing technology. Nursing education has been equally challenged: Inconsistent clinical experience resulting from shortages of faculty and clinical sites has led to the increasing use of high-fidelity simulation (HFS) within nursing education. High-fidelity simulators mimic physical findings and respond to student interventions. It is believed to assist students in the development of critical thinking skills and nursing competencies. Nurse educators are guided by evidence-based research to assist with decisions regarding best practices for the use of HFS. The purpose of this review is to determine if HFS is more effective than traditional experience in the development of critical thinking skills. A search of literature analyzed in PICOT format resulted in 14 articles. Of these, 4 were relevant and reviewed. Findings largely suggest that HFS benefits students as well as traditional clinical experience in knowledge acquisition and critical thinking skills. Implications of research show that HFS is a useful facsimile to traditional clinical experience. Gaps in research include a lack of studies that clearly defines the elements of critical thinking.

Critical thinking skills are strongly emphasized in nursing education but it is a complex concept that is without a consensus definition.

Mavity, Kathryn; Pearson, Madelyn; Roos, Brittany; Watt, Cassandra with faculty advisor **Dr. Christine McCoy.**

Department of Teacher Education, Dickinson State University
4:00 pm in **Klinefelter 218**

RTI: Response to Intervention in the Classroom

Abstract: Response to Intervention (RTI) is a new approach to identifying students with learning disabilities and represents a major shift in the special education process with the Individuals With Disabilities Act (IDEA). Schools are required to implement an RTI model so identification and intervention that takes place in a timely manner and students receive the instruction needed. These researchers studied RTI models found in the literature: Jumpstart RTI Using RTI in Your Elementary School Right Now, and RTI: A Practitioner's Guide to Implementing Response to Intervention. The group went to two Dickinson Elementary Schools, observed the process over several weeks, and interviewed staff and administrators. In this presentation we will share the research journey and findings. In addition a comparison of each schools RTI model is connected to the literature and the differences and similarities of the schools is provided.

Meador, Robert with faculty advisor **Dr. Holly McBee.**

Department of English, Dickinson State University
4:00 pm in **Klinefelter 219**

No Negation of the Sea"

Abstract: An original creative non-fiction piece.

Moch, Angela with faculty advisor **Mr. Toby Stroh.**

Department of Agriculture and Technical Studies, Dickinson State University
3:40 pm in **Beck Auditorium**

Protein Seed Treatment in Hard Red Spring Wheat

Abstract: Nutriseed ZMC, first tested in 2011, was designed to place micronutrients on wheat seed to accelerate early vegetative growth and promote a vigorous root system. With a slow release formulation, Nutriseed ZMC ensures continuous fertilization to the young crop. NutriSeed ZMC was studied on the Huether Farm near Mott, North Dakota, during the summer of 2011, on six different fields totaling 1,037 acres with a control and treated area in each field. The fields were all sprayed with a burn-down and seeded at 128 pounds of wheat per acre, between the dates of May 13-17th. Nitrogen was banded with the seed at 120 pounds per acre. Fields were scouted for weed pressures and sprayed accordingly. Harvest ran from August 15th through August 23rd. Yield was determined by yield monitors and adjusted to bushels in the bin. Six protein samples were taken from each field, three treated and three controlled which were analyzed by Southwest Grain Elevator in Lemmon, South Dakota. Data revealed no significant difference in yield or protein between the treated and non-treated fields. Two fields showed significant differences for protein with the use of the treatment, however this was not consistent across the remaining four fields.

Mork, J., Dix, B., Bercier, M., & Kuck, T. with faculty advisor **Cheryl Lantz PhD, RN.**

Department of Nursing, Dickinson State University
5:00 pm in **Klinefelter Lobby**

Comparison of post-tonsillectomy hemorrhage in children and adults

Abstract: The purpose of this research review was to compare post-tonsillectomy hemorrhage between children ages seventeen and under and adults ages 18 and over using the PICOT format to assess evidence based research studies. The literature search revealed 20 studies regarding this topic; 5 were analyzed for this PICOT question. This research is important to assess trends and base quality care practices for tonsillectomy patients. A literature review will be displayed which shows evidence regarding an increased incidence of post-tonsillectomy hemorrhage in adults versus children. There is also an existing relationship between post-operational hemorrhage, the type of procedure used, and the age of the patient. The poster will: explain the findings of our literature review and present conclusions and ideas for future studies to address the gaps in research.

Ogubunka, Rachel with faculty advisor **Dr. Andrew McGarva.**

Department of Psychology, Dickinson State University
5:00 pm in **Klinefelter Lobby**

The correlation between stress and student life style.

Abstract: Stress is a physiological and psychological state that affects us all on a daily basis. Some people are under more stress than others and, as has been shown by a growing body of epidemiological research, the effects of stress are detrimental. There are a number of mind-body diseases that are influenced by stress, including those relating cardiovascular and immunosuppressive health. For the present study, a survey was constructed to measure student stress and lifestyle, composed of 25 Likert-style and fill-in-the-blank questions. It was administered to 27 college undergraduates enrolled at a small public liberal-arts university located in the upper Great Plains, USA. The results suggest relations between stress and work, relationship status, age, parenting, eating habits, and grade point average.

Pfaff, John with faculty advisor **Mr. Toby Stroh.**

Department of Agriculture and Technical Studies, Dickinson State University
5:00 pm in **Klinefelter Lobby**

Feasibility of an Equine Operation in Southwest ND

Abstract: The purpose of this project is to determine if an equine operation in Southwest North Dakota would be feasible. This operation would have three different enterprises; raising foals, buying, training and reselling horses, as well as training customers' horses. This project analyzed buying a 65 acre property in Southwest North Dakota to sustain the operation, also buying equipment, ten mares, one stud, and also five horses to train and resell. To analyze profitability, five years of projected balance sheets, income and expense statements, along with several economic ratios and indicators. This project showed a first year net income of \$44,140 and a margin after debt servicing of \$4,695. In the fifth year of the project there was a net income of \$46,395 and a margin after debt servicing of \$13,124. The equity of this operation went from \$33,465 in the first year to \$90,493 in the fifth year. Overall, this project shows a positive profit margin which is very tight the first year, but gradually grows over the five years of the projection. This operation has a lot of risk associated with it, but if sound management is practiced it could be profitable.

Reopelle, Molly with faculty advisor **Dr. Andrew McGarva.**

Department of Psychology, Dickinson State University
5:00 pm in **Klinefelter Conference Room**

Childrearing Tolerance

Abstract: There are likely differing attitudes about children and parenting. The present investigation is intended to measure individual differences in how one regards the act of childrearing. A 27-item questionnaire was created using Likert-style items and administered via the internet. Respondents ranging in age from 18-76 indicated not only their attitude toward children but also the levels of tolerance. The purpose of this study was to demonstrate correlations between attitudes toward children and childrearing practices such as the use of corporal punishment and allowance freedom.

Ries, Julie with faculty advisor **Dr. Andrew McGarva**.
Department of Psychology, Dickinson State University
5:00 pm in Klinefelter Conference Room

To Stress or Not to Stress

Abstract: The present investigation was an attempt to devise a self-report measure of stress. Twenty-five DSU students enrolled in general education classes were given a questionnaire involving Likert-style items addressing both stress as well as factors believed to be related to this construct. Interestingly, it was observed that self-report of stress were significantly related to pet ownership and how much time respondent spent with family. Other noteworthy correlations include those between age and extracurricular activities, hours worked and time available to eat meals, and annual income and hours spent watching television. The results will be discussed by describing a lifestyle conducive to a low-stress life.

Solberg, Abby with faculty advisor **Dr. Sethuram Soman**.
Department of Agriculture and Technical Studies, Dickinson State University
3:20 pm in Beck Auditorium

Habitat Suitability Model for Black-tailed Prairie Dogs using Geospatial technologies in Southwest North Dakota.

Abstract: Black-tailed prairie dogs are a keystone species that were once widespread throughout the Great Plains. Black-tailed prairie dogs change the surrounding environment they live in, which can cause issues for farm and ranch producers due to digging burrows and clipping of vegetation. Due to their status as a keystone species, conservation biologists, farmers, and resource managers are interested in developing effective management approaches directed towards identifying, managing, and there by conserving and restoring the population of black-tailed prairie dogs. This study examines several characteristics of black-tailed prairie dogs colonies in Stark County, North Dakota, including slope, vegetation type, distance from road and urban influence, and also distance from existing black-tailed prairie dog towns using geospatial technologies, such as GIS and remote sensing. A habitat suitability model was developed using geospatial technologies and applied to the study site to identify potential habitat for prairie dogs. The resultant maps that were created show the areas that have the most preferable habitat locations for black-tailed prairie dogs. The model findings could be used for black-tailed prairie dog monitoring and management, and estimating black-tailed prairie dog expansion potential.

Stefalo, Joe & Schmidkunz, Tyler with faculty advisor **Dr. Christine McCoy**.
Department of Teacher Education, Dickinson State University
3:40 pm in Klinefelter 218

Comprehension Strategies: Retelling & Questioning

Abstract: There are many different research-based comprehension strategies that are studied and findings are published each year at all levels of education. As teachers, we

are pressured to learn and to use varied strategies within our classrooms that will enhance the learning environment and productivity in all students. The question is, "What comprehension strategies do work in the classroom?" We have focused our action research on two major components of comprehension: retelling and questioning. one researcher taught the retelling elements of: story grammar, details, inferences predictions and conclusions, connections, and genre (Shea & Cole, 1997). The second researcher studied placement of questions (Harris & Sipay, 1990; Gunning, 2008). We will share our experience with these comprehension strategies from a 3rd grade and a 5th grade classroom.

Tanui, Faith with faculty advisor **Dr. Charles Conrick IV**.
Department of Business & Mathematics, Dickinson State University
3:20 pm in Klinefelter 218

M-Pesa: Changing Lives in a Dynamic World.

Abstract: Mobile phones have become part of our day to day lives. This technology has revolutionized communication. It has reduced the time and resources used for effective communication. Mobile phone technology has also created a fast and reliable channel to pass information. While mobile phone calling rates remain high by world standards, the technology has allowed millions of people to go way past landline phones into 21st century connectivity. Cell phone users and subscribers are now able to send money across wide distances. Companies such as Safaricom in Kenya have allowed users to purchase "air-time" (pre-paid cell phone credit) and also send this credit to users within the same network. In 2007, Safaricom launched M-Pesa, which is a short message service-based money transfer system that allows users in a network to withdraw, send and deposit money using their cell phones. It has become a success story in Kenya. This research will explore mobile money and also how it can be implemented in the United States by mobile phone carriers such as AT&T, Verizon and T-Mobile. It also includes reviews and opinions from mobile carriers on launching such a service in the United States.

Thom, Ethan with faculty advisor **Dr. Sethuram Soman**.
Department of Agriculture and Technical Studies, Dickinson State University
4:30 pm in Beck Auditorium

Spatial Analysis to Estimate Factors Affecting Local Spring Wheat Basis

Abstract: Basis is a useful marketing tool utilized by agriculture producers to manage price risk, and is influenced by multiple factors such as availability of storage, transportation cost to nearby market, harvest time etc.. Previous studies have also shown that due to the existence of spatial arbitrage opportunities in the grain-market, a specific location's basis is influenced by its neighboring locations basis levels. This would suggest that spatial spillover effects exist between geographically separated locations that influence basis. The two main objectives to this study were to develop a regression model to estimate the factors that influence local wheat basis at five locations in southwest North Dakota and northwestern South Dakota, and determine whether the basis levels at these geographically separated markets are spatially linked. The ordinary least square (OLS) regression model results indicate that factors such as transportation costs, Minneapolis cash price, stock ratios, and time of harvest were all significant factor in affecting the local wheat basis. But the spatial autocorrelation results showed that the five locations' wheat-basis was not spatially linked, suggesting that the spillover effects from one location to the other is not significant. This result was expected since the

demand for spring-wheat from Southwest Grain comes from cities such as Minneapolis and Portland rather than small towns in the area.

Thompson, Ty with faculty advisor **Dr. Andrew McGarva**.
Department of Psychology, Dickinson State University
5:00 pm in Klinefelter Conference Room

Cautiousness Correlation Questionnaire

Abstract: A questionnaire constructed to measure how cautious a person is using 5-scale Likert-style questions, was administered to twenty-four DSU students enrolled in general education classes. I had hoped to find correlations between the different situations and the rating of cautiousness; this however was not supported by the data. How many people a person lives with and cautiousness was positively correlated. Other significant and non-significant relationships were found as well. Results will be discussed in terms of identifying a cautious personality type.

Thorson, Brooks (LPN, AASPN), Kottre, HaLeigh (LPN, AASPN), & Smith, Kelsey (LPN, AASPN) with faculty advisor **Cheryl Lantz, PhD, RN**.
Department of Nursing, Dickinson State University
5:00 pm in Klinefelter Lobby

Most Effective Hand Hygiene for Reducing Post-Operative Infection

Abstract: Healthcare associated infections account for an estimated 1.7 million infection and 99,000 associated deaths each year affecting nursing staff due to their close contact with patients during surgery; before, during, and after surgical procedures. The purpose of this literature review was to assess the research based evidence for effectiveness of 3 chemical agents; alcohol, iodine, and chlorhexidine, used in hand hygiene during surgical procedures. The PICOT format was utilized to assess the current state of literature. The number one way to prevent these infections is meticulous hand hygiene. 55 research articles were reviewed, and five of the articles stated chlorhexidine is a more effective agent to kill bacteria and reduce postoperative infection. A suggestion for future experimental studies is to compare all presurgical hand hygiene chemical agents to one another.

Wells, Kyle with faculty advisor **Dr. Woodrow W. Poland, Jr. and Dr. Sethuram Soman**.
Department of Agriculture and Technical Studies, Dickinson State University
4:15 pm in Beck Auditorium

Effects of Water Quality on Pregnancy Rates and How Water Quality Changes During the Summer

Abstract: This project was set up to determine how water quality changes during the breeding season and if water quality affects the pregnancy rates of beef cattle. Four hundred sixty six cattle were involved representing 5 different producers and seven distinct herds. The study consisted of collecting 4 water samples over the summer. The samples were collected in May, June, July, and August and tested to determine if nitrate, selenium, total dissolved solids (TDS) and sulfate had an effect on fall pregnancy rates. The first water sample was taken before bulls were turned out for the breeding season, with the other 3 samples taken in the pastures the cattle grazed in until the end of the breeding season. Each herd was body-condition scored before bull turnout and received salt and mineral supplements throughout the breeding season. Pregnancy rates were evaluated in December. TDS and sulfate were positively correlated with each other in June and July, and negatively correlated with pregnancy rates. Nitrates and selenium

showed little change over the summer, and little effect on the pregnancy rates. This data suggests that elevated TDS and sulfate concentration during the breeding season can negatively affect pregnancy rates in beef cattle.

Wells, Trace with faculty advisor **Dr. Andrew McGarva**.
Department of Psychology, Dickinson State University
5:00 pm in Klinefelter Lobby

Proportionately Incorrect: A correlational study on political correctness

Abstract: The following is a study on political correctness via a questionnaire. The questionnaire was intended to challenge the subjects' views on organizational and societal scenarios dealing with various types of problems. The questionnaire itself was composed of 28 questions with 15 being used to gauge the subjects' levels of political correctness via a 5-point Likert Scale. The other 13 questions were used to determine possible relations with other variable, such as: income, years of education, and age. A total of 26 subjects taken from Dickinson State University Students and residents of Dickinson, ND filled the questionnaire out. The questions did not seem to correlate well with each other and the majority had to be thrown out. The results, possibly as a result of a poorly defined construct and/or a result of poor sampling were generally insignificant. The most significant correlation was that as the age of a participant increased the less the participant was considered to be politically correct. The results will discuss possible reasons as to why this correlation was the highest amongst the other results.

Wingerter, Katie with faculty advisor **Dr. Andrew McGarva**.
Department of Psychology, Dickinson State University
5:00 pm in Klinefelter Lobby

Happiness

Abstract: Happiness is an important part of everyday life. Everybody wants to achieve happiness, therefore there have been many studies and much research conducted in order to find the source of happiness in individuals. Although there is no single source of happiness, there are many ways for individuals to achieve happiness. This research has been conducted at a rural university in North Dakota, USA. Twenty-five college students participated in this questionnaire, which was conducted using the Likert Scale. The results showed that there is a strong positive correlation between laughter and happiness.

ARTS PRESENTATIONS

DANCE: Beck Auditorium at 6:50 p.m.

A series of original student works created for the **2011-12 Alcohol Awareness Through the Arts Program** will be presented immediately after the keynote speaker. The *Alcohol Awareness Through the Arts Program* is in its 11th year at Dickinson State University under the direction of **Ms. Pattie Carr**. The program uses all of the arts to give voice to the issues of binge drinking and alcohol abuse from the students' perspective. Following are the featured performances:

- **The Effects:** A contemporary dance choreographed by Jessica Aparicio with dancers Nathan Amberg, Jessica Aparicio, Amy Brockmier, Jermaine Christie, Laura Dolezal, Rudy Frazier, Amanda McCabe, Keneisha Miller, and Bethany Schatz.
- **My Sweet Child:** Written and read by Rudy Frazier.
- **Suction Cup:** Written and read by Robert Meador.
- **Untitled:** Painting by Justin Dvorak

VISUAL ARTS: Art Gallery

The **DSU Art Gallery** will present **Senior Exhibits: Our 15 minutes of Fame** under guidance by Ms. Carol Eacret-Simmons. The exhibit will feature featuring acrylic painting by **Shasha Qin** and printmaking by **Tessa Teigen** from the Department of Fine and Performing Arts. The gallery will also feature a Faculty Art Exhibit and works by DSU students Jenna Alexander, Brian Berry, Meixuan Chen, Zibo Chen, Ashley Decker, Taylor Hort, Denise Johnson, Tyler Jahnen, Hee Ju Kim, Daniel Kurth, Trisha Loney, Nicole Marcoux, Caitlin Meyer, Anna Olson, Adam Orton, Emily Reese, Ona Reitt, Jessica Schmitt, Andrew Sparatta, Yeon-jil Yoon

MUSIC: Art Gallery

The **DSU Music program** under direction of **Dr. Carolyn Burns** will present a variety of music in the art gallery during the poster presentations at 5:00 p.m. Musicians include:

Rachelle Bliss – vocal, soprano

Justin Messer – percussion

Adam Bucholz – percussion

Kali Schock – trumpet

Damon Fichter – piano

Mariah Wilz – flute

Ron Laqua, trumpet

ACKNOWLEDGMENTS

Conference coordinator: Dr. Suzanne Russ

Collaborative Research Committee: Dr. Lynn Burgess, Dr. Karen Foster, Mr. Pete Leno, Ms. Margaret Marcusen, Dr. Rebecca Pitkin, Dr. Chip Poland, Dr. Suzanne Russ, Dr. Sethuram Soman, Mr. Toby Stroh.

Moderators: Dr. Steven Doherty, Ms. Margaret Marcusen, Dr. Sethuram Soman

Award Judges: Dr. Gary Cummisk, Dr. Peter Grimes, Dr. Andrew McGarva, Dr. Kris Ringwall, and Dr. Wendy Wilson

Musical Coordinator: Dr. Carolyn Burns

Artistic Director of Dance: Ms. Pattie Carr

Visual Arts Coordinator: Ms. Carol Eacret-Simmons

Publicity: Ms. Marie Moe, Ms. Melissa Everson, Ms. Amy Magstadt

Special Events and Scheduling: Mr. Dustin Heick

Food Services: Sarita Haven and Sodexo

Program Development: Dr. Suzanne Russ

Program Cover Design and Printing: Quality Printing

SPECIAL THANKS TO:

- ❖ Dr. Chip Poland, Dr. Rebecca Pitkin, and Ms. Margaret Marcusen for valuable contributions to conference organization
- ❖ The Collaborative Research Committee for the development of a broad promising vision of research at Dickinson State University
- ❖ Dr. D.C. Coston for supporting and enhancing the vision and efforts of the Collaborative Research Committee.

