steering for deeper waters

2013 Upper Midwest Regional Honors Conference
April 18-20
The College of St. Scholastica
Duluth, MN
Campus Building Directory
Program Schedule

Thursday, April 18

3:00-5:00 p.m.  Registration:  Port Foyer
Campus Tours by Students

5:00 p.m.  Welcoming Remarks:  Somers Main Lounge
Dr. Debra Schroeder, Vice President UMHC, The College of St. Scholastica Honors Director
Fatima Alwan and Allison Lambert, Honors Student Members of Planning Committee
Dr. Larry Goodwin, President, The College of St. Scholastica
Bella Voce directed by Dr. Bret Amundson

6:00-10:00 p.m.  Swimming/Pizza Activity For Students at The Edgewater Water Park
Happy Hour/Dinner for Faculty at Midi's

Friday, April 19

7:30-8:30 a.m.  Continental Breakfast:  Somers Main Lounge

8:00-8:20 a.m.  Opening Remarks:  Somers Main Lounge
Dr. Debra Schroeder, CSS Honors Director

8:30-9:00 a.m.  State Caucuses
Minnesota: Science 1109
Iowa: Somers Heritage 1
South Dakota: Somers Heritage 2
North Dakota: Science 1104
Michigan: Science 2139
Wisconsin: Tower 87

9:15-9:35 a.m.  Presentation Sessions #1

Science 1109  “Steering Away from Deeper Waters” by Nicholas Dorman, Southwest Minnesota State University
“In the wake of Hurricane Sandy, the United States has been reminded of just how little control it has over the ocean. It may then come as a surprise that rising sea levels, while apparent, occupy a very minuscule part in the minds of many Americans. While previous calculations about sea level variance have predicted change at a consistent and slow growth, recent studies have found the ocean to be rising far faster than previously believed. In this paper, I seek to understand the reasoning behind this lack of urgency in the American mindset, derive critical implications if this rate of rising is left unchecked, and draw answers about what can be done, if anything, to steer us away from deeper waters.”

Science 1104  “Does Money Correlate With Happiness?” by Amanda Vincent, Bemidji State University
“General quality of life is not easily measurable. How people rate the quality of their life varies from person to person, and each person rates the quality of his or her own life with respect to multiple aspects. The scope of this project investigates the happiness aspect of quality of life in terms of one’s income. How a person evaluates the quality of his or her own life is the result of his or her own perception. The aim of this project is to measure the perception of quality of life of the subjects with respect to finances and career satisfaction. I will give the Oxford Happiness Inventory followed by a demographic survey to Bemidji State University students. Studies on
happiness have been done on the general population, and I am curious about comparing college students to this general population.”

**Science 2139 “Expanding Rugby in Minnesota and Beyond”** by Xanthi Gerasimo, University of Wisconsin, Stout

“This study utilizes a mixed methods approach to answer the question of how best to grow the sport of rugby given the current obstacles faced by the sport within the United States. Due to a lack of previous research on this topic, we conducted a comparative historical analysis of rugby, soccer, and football’s fluctuating histories along with survey data from over 1250 current players, coaches, officials, parents and administrators: the most complete data set on the topic. This study shows that the United States’ sports market has unique characteristics which need to be considered as rugby looks to expand. Specific characteristics of the U.S. market and specific obstacles are presented, along with policy recommendations. The data show that too great a time commitment was being asked of those involved with the game, and that a lack of access to support and knowledge are problems across all areas of the sport. More organized, systematic, top-down and bottom-up approaches are needed for continued growth to be achieved. This paper presents a statistical analysis of the data collected, alongside historical causes for the sport’s minority status in the U.S. market.”

**9:40-10:00 a.m. Presentation Sessions #2**

**Science 1109 “Steering Towards a Freshwater Solution: An Ocean of Possibilities”** by Molly Manthe, Southwest Minnesota State University

“The water in the world is ancient and has remained relatively constant throughout geologic time. Meanwhile, however, the world’s human population continues to rise and all of these people require freshwater for survival. Most countries in the world have enough food to feed their populations (food shortages are largely due to political and economic reasons), but many places do not have the drinkable water they require. This is an issue of shortage, as only 0.007 percent of the world’s water is accessible freshwater. Perhaps the next logical step would be to look to the oceans which cover ¾ of the Earth’s surface. Can desalination solve our freshwater crisis? This paper explores how desalination plants work, how successful the plants are, and the negative effects of the plants which include high energy costs and brine waste production. I will argue that although desalination poses significant problems it is the solution to our crisis and is the way of the future.”

**Science 1104 “Attendance and the Minor Leagues--Does MLB Affiliation Matter?”** by Dylan Gronlund, Bemidji State University

“Minor league baseball has two different formats under which a team can play. One is by affiliation with a major league baseball club, where players are drafted by the top team and then sent through the ranks of affiliation. The other format is through an independent league, where players are drafted by a team, and try to work into the major league system. The question that remains is, are affiliated teams more successful in drawing fans to their games than independent teams? There is also the question of whether teams have seen an increase or decrease in attendance since the recent economic downturn. In answering these questions, there will finally be a definitive answer as to whether or not certain leagues have more success at drawing fans to their games than others. These answers will also showcase what effect the recent economic downturn has played on the attendance at minor league baseball games.”

**Science 2139 “Stress Management for Students Using Complementary and Alternative Medicine”** by Jerrica Huber, South Dakota State University

This presentation will focus on different varieties and methods of Stress Management through Complementary and Alternative Medicinal techniques. Complementary and Alternative medicine (CAM) includes diverse and alternative methods and medicine to reach the common
goal of healing. There are several categories of CAM that can assess and treat stress. These categories include alternative medicinal systems, mind-body medicine, dietary supplements, body-based methods, and energy therapies. The major difference between CAM techniques and those used in modern Western medicine is the holistic approach to the individual present in CAM. The root of the problem is not found and fixed in Western medicine. The overall health and wellness of the person's mind, body, and spirit is maintained and approached as a whole in CAM. The spirit and vigor for life in a patient with cancer is not assessed during a regular Western medicinal doctor's visit, whereas the mental health of a patient with cancer treated holistically, using CAM methods, is a major factor. CAM techniques often analyze high levels of stress to be a major factor of illness. By using such methods as acupuncture, massage, yoga, biofeedback and many others, stress can be reduced and the overall health and wellness of an individual restored. CAM therapies, especially those for stress management, are increasingly becoming a part of common Western techniques. Knowledge of these methods and the integration of them into America's culture will be presented.

10:05-10:25 a.m.  Presentation Sessions #3

Science 1109 “Exploring the Deeper Waters of Charitable Giving” by Jenna Radke, Southwest Minnesota State University

“What motivates this generation to give to charities? Are people driven by their need to help the less fortunate? Do we fall victim to clever tricks by corporations who seek profit through charitable giving? Or are we simply inherently selfish beings who feel that in order to give we must also receive? In this paper I will address these questions by first exploring the origins which have led to the development of Cause Marketing (CM). Many corporations today have found that they have much to gain by establishing a CM strategy which associates the purchase of a product with a donation to a charitable organization. These companies have developed programs which aim to raise profits while also improving the overall perception of their company in the eye of the consumer. I will uncover the hidden costs and unethical implications of these CM strategies. While it may be easy to paint corporations in a negative light for their opportunist campaigns to save the world, we must also place partial blame on the consumers who eagerly buy their products with the false front of giving to charity. If this was truly the consumer’s motivation, then why not give to the charity directly? Such considerations raise the ultimate question addressed in this paper, "Can charitable giving be a bad thing?"

Science 1104 “Mapping Affluence over Time: Utilizing GIS to Analyze Spatial Patterns of Affluence and Expendable Income in Aberdeen, South Dakota” by Michael Newman and Menno Schukking, Northern State University

“By applying Geographic Information Systems to historic personal property records, the authors map and analyze the spatial distribution of certain luxury items across Aberdeen, South Dakota from the early twentieth century to discern whether the city held patterns of affluence. The authors examined 35 years of personal property assessment records available through the Brown County Office of Equalization in order to identify luxury items; items whose ownership implied high levels of expendable income and affluence. The authors then entered data into Excel spreadsheets and imported it into ArcGIS. The authors geocoded the data using address matching and then overlaid the data on historic Sanborn Fire Insurance maps of Aberdeen. The first affluence snapshot presented examines the distribution of automobiles in 1914. The second affluence snapshot builds upon the first and observes the distribution of residential electric refrigerators in 1933. By comparing patterns of these luxury items at their earliest, and thus most luxurious, points, the authors seek to highlight areas of affluence over time to discern whether and how the social stratification of luxury goods in the city changed between World War I and the Great Depression.”
Science 2139 “Farmland Market Research: What’s in it for Honors Students?” by Dr. Larry Janssen, South Dakota State University
“Farmland markets are "barometers" reflecting current and prospective economic and financial conditions in agriculture. Farmland values reflect underlying trends in farmland net returns and expected changes in net returns. For example, farmland values in South Dakota (and the Upper Midwest) have doubled in the past 5 years, while housing prices have been static! In the past 20 years, cropland values increased seven-fold while cash rents only increased four-fold! Inquiring students (of all ages) want to know what factors explain these trends, will these trends continue, and what are the major implications? Are we heading for another major bust or will the farmland boom continue for many more years? Farmland market research helps students gain a longer term perspective on these important economic issues. This presentation highlights key findings from the senior authors 25-30 year involvement in conducting farmland market research and also co-teaching rural real estate appraisal classes. The many contributions of student engagement in annual farmland market survey research at SDSU are highlighted along with the application of land market research findings to student class projects and to education outreach programs. Finally, key results from a 2012 Honors Independent Research project on the topic: Agricultural Policy and Land Values A Long Term Perspective is presented as another example of farmland market research. This study was completed by SDSU Honors and Economics student, Olivia Tyrrell, who also worked on the 2012 annual land market survey. This model of student engagement is recommended for future Honors projects.”

10:30-10:50 a.m.  Presentation Sessions #4

Science 1109 “Visions of Human Rights from Indigenous Populations” by Fatima Alwan, The College of St. Scholastica
“The history of human rights is uniquely all-encompassing. Throughout past centuries, visions of human rights can be found in writings and practices from cultures across the globe, each distinctly contributing to the transformation and progression of human rights throughout history. However, there is consistently a crucial vision missing- that of indigenous populations. My presentation will explore indigenous people’s visions of human rights from the late 18th century up until present day. I also will analyze possible origins of human rights present in indigenous legends and cultural practices, and compare these to classical human rights philosophy. It is important to learn history from the perspective of the oppressed because history is most often told from the perspective of the victor. It is strikingly evident regarding historical accounts of encounters with indigenous peoples in the Americas that most people’s understandings of indigenous cultures and history is poorly understood- and what better way to begin understanding each other than to reflect upon the basic human rights that we all share?”

Science 1104 “The Effects of Today’s Technology on Eyewitness Testimony” by Samantha Bullard, Northern State University
“The human mind is not a video recorder; memories can change over time or due to suggestion. The inaccuracy of memory means eyewitnesses are bound to make errors (Magnussen, 2010). With the constant increase of hand-held technology today, people are becoming further distracted by their hand-held devices and pay little attention to the world surrounding them. With people not noticing their surroundings, how can they be depended on as eyewitnesses? A news article about distracted walkers brought to light the impact technology has on situational awareness. According to this article, reported injuries due to walkers being distracted by technology have more than quadrupled over the past seven years (Lowy, 2012). One particular study by Nasar (2008) had participants walk while either talking on the phone or holding a phone in their hand to test for situational awareness. Several unusual objects were in various positions along the walk. The participants who held the phone and had no conversation noticed significantly more objects than the participants talking on the phone, showing cell phone usage results in
situational blindness. This study shows the impact technology has on eyewitness testimony. The author conducted an experiment with four high school classes. Two of the classes (39 students) had laptops on their desks; the other two classes (34 students) just had school books on their desks. The author set up a crime (stealing a briefcase) to occur during class. The students then filled out a questionnaire about what they witnessed. The findings showed a significant difference in what the students with laptops witnessed compared to the students without laptops."

**Science 2139 “Social Success!” by Kyla Larsen, South Dakota State University**

“Come socialize with the SDSU Social Committee and have some fun while we talk about the different events we have put on for our Honors students this year as well as events we still have planned. Not only will you get to hear about these social activities, you will get to participate in them, too. We will get you up and moving around the room, meeting new people, and having fun while learning about different ideas you can take back to your own campus. We will even share about how to make your event successful even if it doesn’t start out that way. There will be ice breakers along with fun activities we have had at our Awkward Party, Christmas Party, and 50’s Sock Hop (just to name a few).”

**11:00-11:20 a.m.  Presentation Sessions #5**

**Science 1109 “Business Intelligence in Higher Education” by Elena Samota, The College of Saint Scholastic**

“Business intelligence (BI) adoption is increasing across industries in response to a growing demand for more information to support improved performance and better decision making. Higher education is one of the areas where BI can play an essential role in performance improvement and decision making. While much of the research in the field investigates the needs of the business sector, less is known about the needs of higher education. In this study, the BI needs and practices of a single academic institution are studied using perspectives from administration, faculty, and information technology professionals. The results of the study are used to demonstrate the current information and knowledge needs of a single higher education institution and how existing data sources may be leveraged to meet these needs. The findings from this study may be used to support additional research to better understand BI needs and practices across higher education.”

**Science 1104 “The Enduring Value of Antoine De Saint Exupery's The Little Prince by Elizabeth L. Bosworth, Jeremy P. LaRocque, Jordan A. Nichols, Charles Woodard, Tim Nichols, and Nels Granholm, South Dakota State University**

"Each semester Mrs. Marcia Chicoine, wife of SDSU President David Chicoine, sponsors an Honors College book discussion, The First Lady's Literary Circle. Last fall (2012) we had the privilege of analyzing a truly fundamental text, Antoine De Saint-Exupery’s *The Little Prince*, which explores rich and fundamental themes of what it means to be human and how our humanity ought to be reflected in our day-to-day actions. *The Little Prince*, an especially valuable text for college students and professors, provides increasingly relevant moral instruction in these troubled times. For example, according to *The Little Prince*, when one tames something or someone, one has explicit, serious, and ongoing responsibilities to whom or what has been tamed. Finally, when it comes to basic understanding of the world and one’s place in it, *The Little Prince* expressed this foundational truth: On ne voit bien quavec le Coeur. Lessential est invisible pour les yeux (It is only with the heart that one can see rightly, what is essential is invisible to the eye). Please join us for our analysis of this fundamentally important and enlightening text *The Little Prince.*”

**Science 2139 “The Hummer Card Trick and the Gilbreath Shuffle--Not Just an Old Song and Dance” by Jessica DeNeui, Cami Fuglsby, Michelle Mastel, and Michael Preheim, South Dakota State University**
“Many magic tricks rely on sleight of hand or diversion. However, Bob Hummer and Norman Gilbreath were known for creating magic tricks based on mathematics. We will investigate card tricks inspired by Hummer and Gilbreath and the mathematics which explains them. The hummer shuffle and the card tricks related to that depend on pattern recognition and combinatorics. The Gilbreath Shuffle depends on combinatorics and an astounding property that even with a random shuffle, a deck of cards retains some unique characteristics involving modular arithmetic. The work we will show was generated by students in a Spring Topics course, The Mathematics of Magic taught at South Dakota State University and is based on the book Magical Mathematics, the Ideas that Animate Great Magic Tricks by Persi Diaconis and Ron Graham.”

11:25-11:45 a.m. Presentation Sessions #6

Science 1109 “Micro-Financing: The Not So Miracle Cure” by Amy Bruner, The College of St. Scholastica

“When one thinks about “solving” the problem of global poverty, a hot button topic in the past couple of years has been micro-financing. The central piece for the micro-financing movement has been microcrediting. Through micro-crediting the cost and the risks of lending to the poor have been reduced. In turn, the poor can receive loans to fund small business endeavors with a much lower interest rate than was previously possible. At first glance this program seems like a great idea, and yet the results have fallen short. So why has the micro-financing movement not made the impact that people have hoped for? As Jonathon Morduch would state, we have become “boxed in” by the way we have conducted the micro-financing movement thus leaving us with less than revolutionary results. The focus on micro-financing cannot simply ride on loaning money. (1) The poor, despite popular belief, need a way to not only loan money but also a way to save and have insurance on the micro level. When the focus is simply on loaning money, the poor often use the loaned money for daily necessities instead of funding a business. This defeats the purpose of micro-crediting and does nothing to help lift the poor out of poverty. (2) Another problem is the poor usually do not receive a steady flow of income. This means they can’t commit to the rigid payment plans that the micro-crediting institutions enforce upon them. (3) Finally, Micro-financing was initially designed to eventually be a self-sustainable program. Right now this isn’t the case. Micro-crediting organizations still rely heavily on donations and subsidies, which was not the goal of institutions. The hope that micro-financing would be a self-sustainable miracle cure for the poor has clearly not been the case, so now we are left to decide what to do next. Depending on what economist you study, the answers to improve micro-crediting would be different. Morduch would state that we need to combine the micro efforts with macro efforts. To break out of the box we have built surrounding micro-financing we need to turn our focus from just loaning money. In order to do this the focus would have to move from not just a micro level to also a macro level with government and foreign aid involvement. If one studies the works of Duflo and Banerjee, we would see a plan that empowers individual nations and promotes a “grass root” effort among the people. No matter what economic theory one chooses to embrace it is important to acknowledge the downfall of the current system. The poor, unlike what so many believe, manage a financial portfolio much like you and I. The challenge now is to build a micro-financing system with macro support that not only fits the lifestyle but can also empower the poor.”

Science 1104 “How a Total Immersion in a Native Prairie in Concert with a Critical Analysis of Leopold’s A Sand County Almanac May Lead to an Intrinsic Valuation of Land” by Benjamin Stout, Tim Nichols, Charles Woodard, and Nels Granholm, South Dakota State University

“Each semester Mrs. Marcia Chicoine, wife of SDSU President David Chicoine, sponsors an Honors College book discussion called First Lady’s Literary Circle. During the 2011 fall semester we discussed Aldo Leopold’s A Sand County Almanac and coupled that reading with a native prairie experience; we visited the Aurora Prairie, a pristine, native prairie close to the University.
Students were asked to immerse themselves in this native habitat, record their observations, thoughts, and feelings, and relate them to the themes of Aldo Leopold’s *A Sand County Almanac*, one of the most fundamental and compelling texts on ecological principles and how humans ought to value the natural world. The intent of this exercise was to allow us to more deeply experience, appreciate, and ultimately live fundamental ecological themes explored by Aldo Leopold. It was also hoped this experience would enable our students to visualize land as having intrinsic worth as well as instrumental value. The results of this experiment were somewhat disappointing. Although some students began to perceive the natural world as having value other than strictly utilitarian, few could conceive of native prairie as having intrinsic value. Upon reflection, this is asking a lot. An ecological epiphany of this scope cannot occur overnight. An understanding of the land and natural processes that affect it can only be obtained with time, experience, and serious deliberation. The complexity and intrinsic value of ecosystems cannot be completely clarified and understood with a single, short-term activity like this. It takes time for people to understand how nature works.

**Science 2139** “I Can Read Your Mind, and You’re Thinking I Love Mathematics!” by Chad Kolecka, South Dakota State University

“Mathematics can be found everywhere, even in magic. The card trick begins by having audience members cut a deck of cards as many times as they like, then having several audience members choose a card from the top of the deck. The magician then reads the mind of each audience member and tells them which card they are holding. This amazing trick depends on DeBruijn sequences, named after the Dutch mathematician Nicolaas Govert De Bruijn. The mathematics of graph theory and binary arithmetic can turn anyone into a mathemagician! The work we will show was generated by students in a Spring Topics course, The Mathematics of Magic taught at South Dakota State University and is based on the book *Magical Mathematics, the Ideas that Animate Great Magic Tricks* by Persi Diaconis and Ron Graham.”

11:50 a.m. -12:10 p.m. Presentation Sessions #7

**Science 1109** “The Amazon: What is Nature's Call?” by Lucas Holmes, North Dakota State University

“Deforestation in Brazil, particularly the Amazon Basin, has been very costly to its environment and the potential benefits it may hold. However, questions such as how costly and whether or not in the end the costs outweigh the benefits still leave room for discussion. The purpose of this presentation therefore will be to explore just how much the soil, climate, and plant life are being affected by the demand for economic development in this area.”

**Science 1104** “What Do You Believe? Essay Assignment Prompts Student Reflection” by Timothy Nichols, Jeremy LaRocque, Allyson Lucht, Jordan Nichols, Samantha Nielson, Joe Schartz, South Dakota State University

“Honors College first year students at South Dakota State University write This I Believe... essays as part of their course requirements for Orientation and Freshman Seminar classes. The assignment, which has become among the course’s most popular activities, challenges students to reflect on their personal beliefs and values that guide and inform their college experiences. This session will include a brief description of "This I Believe..." and its role in the course(s) and broader Honors experience at SDSU. Students will share excerpts from their essays and discuss their perspectives on the assignment.”

**Science 2139** “What's Buzzin' in the Menomonie Community Garden?” by Alexandra Ott and Clair Quade, University of Wisconsin-Stout.

“The goal of our project was to introduce plants that attract pollinators and parasitoids to help pollination and control pests in the Menomonie Community Garden (MCG). To design our garden we spoke to the MCG garden steward to learn about pest problems and what produce grew in the
MCG. In addition we collected soil samples, examined the conditions of where our pollinator garden was going to grow, and did research on beneficial insects and plants for the MCG. Our finished garden site design included a cluster formation of pollinator and parasitoid plants to attract a wide variety of insects to our garden, water stations for insects, and bee homes. From this experience we learned that it is important to consider seasons of growth and harvest because many of our plants did not grow until the end of summer, after many of the crops began growth in the spring. The experience was innovative and an interesting way to work with the community. The pollinator garden will benefit the potatoes, squash, cucumbers, beans, tomatoes, and other plants in the MCG by attracting bees, flies, moths, honey bees, birds, predatory flies and wasps, and birds, to the garden. Future sections of the Plants and People course will help the community by planting according to our garden design.”

12:15-12:35 p.m.  Presentation Sessions #8

Science 1109 “Tossed in the Deep End: Honors Student Staff Creating and Implementing Programs for Honors Students” by Sophie Amado, Annie Christenson, Onalee Yousey, University of Iowa

“The Honors Student Staff play an integral role in developing community within the Honors Program at the University of Iowa. Student Staff manage the Honors Student Center as well as develop and implement various academically focused activities that encourage interaction between staff/faculty and students. These activities allow students to learn new information in an informal setting, in addition to creating connections to other students and staff/faculty. The Honors Student Staff gain a variety of desirable skills that are needed for higher education and the workforce. These skills align with the National Association of Colleges and Employers (NACE) Job Outlook, such as: verbal communication skills; ability to work in a team; decision making and problem solving skills; the ability to plan, organize and prioritize work; and many others. Honors Student Staff members will present information on the type of training and guidance they receive, the duties they have, specific skills they have learned and are using, and describe some examples of the variety of activities that have engaged Honors students. The three student presenters and their supervisor will lead an interactive, brainstorming session with the audience to develop similar potential activities for Honors students.”

Science 1104 “Honors-Led Common Read Explores Awareness, Transitions, Resiliency, Community” by Timothy Nichols, Jacob Ailts, Jeremiah Atkinson, Hanna Larsen, Samantha Nielson, Jordan Nichols, South Dakota State University

“The Honors College at SDSU coordinates the campus-wide common reading program. This year’s text was Sherman Alexie’s The Absolutely True Diary of a Part-Time Indian. Honors freshmen read the book, participated in classroom lectures and discussions, in addition to listening to a series of speakers including the book’s author, Sherman Alexie, and a series of tribal scholars, physicians, educators, and activists. Students also engaged in a service project, making tie blankets, and conducting a Christmas toy drive for the Cheyenne River Youth Project in Eagle Butte, SD. Central themes integrated through the activities were awareness, transitions, resiliency and community. Program coordination, execution and assessment will be discussed. Students will share perspectives as Common Read committee members, teaching assistants and student participants including lessons learned and insights gained from the Absolutely True Diary.”

Science 2139 “Charcoal Perspective” by Allison Rucinski, University of Wisconsin-Stout

“I present three pieces of artwork that I created in my Honors Drawing 1 class. My first piece is a mixed media work of art using charcoal, water, and gouache that is 22x30. I created this piece with the stylistic ideas of artist Jim Dine in mind when he was creating works in the genre of drawing items from everyday life. The piece of Dines work that inspired me was his drawing of a wrench, turning an ordinary object into an extraordinary piece of work. My second drawing is a charcoal of a country road fading off into the distance with a grassy embankment on both sides of
the road with a string of telephone poles and wire along the left-hand side. My third drawing is of a pair of pinecones attached to a twig with a cast shadow spilling across the bottom of the page. This 13x20 charcoal drawing is on a grey toned paper, and it’s really interesting to see how the tone of the paper affects the overall drawing and to compare it to the other drawings.”

12:35-1:45 p.m.  Lunch:  **Greenview Dining Room** (Tickets behind nametag; service ends at 1:30 p.m.)

2:00-2:20 p.m.  **Presentation Sessions #9**

**Somers Heritage Room 1** “Being Honor-Able: The Role of Ethics in the Honors Student Experience” by Timothy Nichols, Jacob Ailts, Elizabeth Bosworth, Terra Klima, Allyson Lucht, Jordan Nichols, South Dakota State University

“What does it mean to be an Honors student? Is it just about getting checks in a box to fulfill your requirements? Is it only about having good grades, getting a competitive advantage, or earning your medallion? Students and faculty at SDSU have grappled with these questions in and outside of class for many years. Ethics have become a foundational part of Honors Orientation and Freshman Seminar courses, and ethical perspectives are included in many other Honors experiences at SDSU. In the fall of 2012, students and faculty worked to draft and formally adopt an Honors College Student Ethic at SDSU, which, now, all current Honors students must sign on to as part of their continuing enrollment in Honors. This session will engage participants in a discussion of how ethical approaches are integrated in the Honors College student experience at SDSU, providing specific classroom examples. The new Honors College Student Ethic will be shared; the process of its creation and adoption and student reaction to it also will be discussed. Participants will be challenged in a series of ethical dilemmas commonly experienced by college students and engage in a conversation about ‘what the honorable’ thing to do might be in each situation.”

**Somers Heritage Room 2** “Modern Agriculture: Profitability vs. Sustainability” by Mindy Sommer and Ben Stout, South Dakota State University

“Students utilize the Honors Independent Study project to investigate the agricultural production system in the Upper Midwestern region of the United States. Two Independent Studies that investigate separate sectors of the agricultural system are combined to give a more comprehensive picture of our current ag system; the importance of cost of production in agriculture and the necessity of conserving our ag resources for future generations will be the focus of this discussion. For this presentation, a brief overview of typical Midwestern farming practices will be given, followed by an analysis of farm profitability and economic incentives for farmers, and finally, a discussion about the environmental effects and sustainability of our current system will ensue. This demonstration will attempt to answer why our current system is the way it is, what some of the issues are with this type of system, and what some of the alternative production methods and potential solutions to these problems are. Student interest in this presentation was originally developed in a previous Honors course entitled Honors Colloquium: Ag, Food, and Society. In this course, students performed a wide variety of activities that allowed them to explore the links between the agriculture production system, the food production and distribution systems, and society as a whole. The issues that were discussed in the course encouraged students to develop the independent research topics that form the backbone of this presentation. These issues are important to confront and solve because a sustainable food system is necessary for human survival.”

**Science 1104** “The Danger of Deeper Knowledge” by Ross Kuchta, Southwest Minnesota State University

“Today’s scientific endeavors involve ever-increasing expenditures of money, energy, and time. Furthermore, some may even threaten our very existence, such as the possibility of Earth-swallowing black holes that could be created in high-energy particle accelerators, like the Large
Hadron Collider in Geneva. If the pursuit of deeper understanding of the physical world comes with such costs and dangers, is scientific inquiry worth it? Is there a point where we simply cannot discover anything further without prohibitive costs and threats to humanity? I argue that the pursuit of knowledge is reason enough to perform these kinds of experiments, although we always must turn a cautious eye to their safety. If experiments were to stop, so too would science and technology.”

**Science 3311 “The Decision Behind the Bombs of August”** by Kathryn Marquis Hirsch, The College of St. Scholastica

“When President Truman authorized the use of not one but two atomic bombs against well-populated civilian population centers in Japan in August of 1945 it was with the declared intention of securing a complete and final end to the war which had raged across the planet for years. The moral questions were drawn in stark relief, settled with the pragmatic (albeit morbid) calculation that a certain number of dead now would prevent a greater number of deaths later. However, there is a great deal of evidence that other issues factored into the moral equation, such as race, money, pride, and impatience. Although it is fascinating and worthwhile to examine the full implications of their use- for mental and physical health, for the environment, for the severe increase in militarization, and so on, I intend to focus on the ample contemporaneous evidence of the moral implications that were known to these men at the time and how they reconciled their decision to target civilians. This will include the valuation of lives (one American or British soldier is worth how many Japanese children?), a government’s duty to prioritize the well-being of its own people over other fellow humans, and a single state’s authority to inflict immense damage on the rest of the world. In 1947, United States Secretary of War Henry L. Stimson wrote of the moral quandaries discussed by President Roosevelt, military leaders, and the developers of atomic weapons, and how he later explained the magnitude of the questions faced to President Truman. According to his account, all involved were aware not only of the present threats to humanity posed by the new bombs but the long-term as well: modern civilization might be destroyed and they would be morally responsible. A secondary debate relates to the details of deployment once the decision to do so had been taken. Initially it was agreed that the bomb should be used without prior warning. Eventually, minds changed and Stimson made the recommendation that a warning be issued with several specific elements. These included a disavowal of genocidal intent, as well as the varied and overwhelming character of the force we are about to bring to bear and the inevitability and completeness of the destruction. Stimson meant for such a warning to serve dual purposes, promising destruction if Japan resisted and offering hope upon surrender. The Potsdam Declaration that was subsequently issued was vague and hyperbolic, never enunciating any significant difference between the destruction that was referred to in this latest ultimatum and threats made before or previous attacks such as the aerial bombing of Tokyo. Demonstration bombings or explicit warnings of an atomic attack were ruled out, so the Japanese regime didn’t know what it faced. The lack of information and the swiftness of the second attack indicate an eagerness to show military might that belies statements of strictly pure motives. I intend to address the internal debate amongst those in positions to influence and take the decision to use the bombs, how reluctant they were (or were not) to resort to such force.”

2:25-2:45 p.m. **Presentation Sessions #10**

**Somers Heritage Room 1** "Creating Effective Mentorship: Building an Honors Community and Upperclassman Leadership Through an Honors Orientation Teaching Assistant Experience” by Terra Klima, Elizabeth Bosworth, South Dakota State University

“Honors Orientation at SDSU aids Honors freshmen in navigating their Honors experience as well as encouraging discussion on what it means to be honorable and themes from the campus wide Common Read. For the past three years, upperclassmen teaching assistants have been an
integral part of creating community and cohesion in this large, dynamic class. Here we expound on ways we have strengthened the teaching assistant experience through organization, communication, Honors community and leadership. At the foundation of our experience was structuring TA interactions which supported communication between TAs and faculty (TA Orientation and weekly meetings), and students (Common Read Events, grading papers, and in-class discussions). We also sought to create an environment which makes underclassmen feel welcome and included as the future of our College. To do this we focused on building relationship within our group, with Honors faculty and our students. Classroom discussions, group service-projects, one-on-one meetings with our students, Common Read events, and attending the Student-Faculty Potluck were all ways we saw our community grow and relationships form. Through this experience, we developed as leaders capable of not only leading others through our organizational and communication skills, but we also learned how to encourage leadership and openness in others. Moving forward, we seek to create an experience full of growth and learning for Honors Orientation students, TAs, Honors faculty and our wider Honors community.”

Somers Heritage Room 2 “Good for Goodness Sake: The Origins of Human Altruistic Behavior” by Lyntausha Kuehl, South Dakota State University

“Altruistic behavior is in a way a trademark of the human species”, as we are the ones who have defined it, studied it, and actively encouraged it beyond simply exhibiting it. We consciously extol the virtues and self-sacrificing behavior of those who give of themselves for the sakes of others. Society celebrates the boy who offers his own hard-earned savings to pay for the food for a small baby. It commemorates the soldier who dives onto a grenade to save the lives of his comrades. We make heroes out of those who put their lives, money, or well-being on the line for another in nearly any situation. Yet are these acts of true altruism? Are human beings the only creatures capable of carrying out such acts? Whether or not this is the case, where does this behavior actually come from? Could the behavior actually have evolved? This work explores literature from a variety of disciplines to delve into this question, and seeks to show that evolutionary mechanisms explain almost every form of human altruism.”

Science 1104 “Volunteer Tourism: Traveling with a Deeper Intent” by Sean McCann, Southwest Minnesota State University

“The volunteer tourism industry has seen a substantial increase in the last ten years. Whether through religious, educational, or other organizations, many tourists have decided to offer aid to their host communities in any way they are able. Although the benefits and motives of volunteer tourism have been questioned in many academic circles, its impact on the host community and volunteer tourists themselves is widely regarded as positive. In this paper, I will examine the benefits and drawbacks of volunteer tourism through real-life examples. This paper will also argue that the benefits of personal growth that such tourism offers come through transformative learning, rather than through the act of volunteering itself or the physical labor it may entail.”

Science 3311 “First Existence, Then Dignity Through Fulfillment of Objective Purpose” by David Walsh, The College of St. Scholastica

“The dignity of anything is based on its existence; thus, dignity is totally and irrefutably universal without question, as long as the subject exists. The subject exists because it has a specific purpose – telos – in the world and without this purpose, it wouldn’t exist. Purpose is denoted from objective physical constituents and can be objectively defined. It is through the fulfillment of this objective purpose that dignity of the subject is achieved. It is the abuse, rather than fulfillment, of a subject’s objective purpose that brings evil and denies dignity of that existent. The movement from a thing’s physical existence to the fulfillment of its objective purpose is the grounds on which dignity forms. This formulation of how dignity comes to being applies to all things physical. Humans, as physical beings then, through the fulfillment of their
purpose based on the truths of their physical, constituents attain dignity. This thesis will be explored using philosophical ideas such as the philosophy of existence and existential realism, teleology from Aristotle and Jacques Maritain specifically.”

2:50-3:10 p.m.  Presentation Sessions #11

Somers Heritage Room 1  “Dancing Women and Dancing Social Issues” by Lauren Bach, Minnesota State University, Mankato

“In a collaborative panel of four student papers, we hope to disseminate our research on women’s social issues and the dancing body. Throughout history, women from different cultures faced similar challenges such as prejudice and social inequality. These women’s social issues manifested themselves in many forms; one of the ways was through dance. The dancing body is the physical manifestation of the human body during the act and production of movement. We approached the dancing body as a social and cultural construct as revealed through this expressive form. As part of the Honors course, World Dance in Cultural Perspective, we addressed global issues that affected women as expressed in their dancing. Each of us conducted and presented research on this topic. By analyzing past research studies, we aspired to learn how dance can reveal women’s social issues in various countries. We hypothesized that social issues experienced by women would be reflected in the dancing body and show significant impact on women’s lives. Our research findings indicated that women’s social issues were represented through dances in distinct cultural regions throughout the world. The Brazilian carimbo dance helped women gain control and hope over their social standings, but it also objectified women. Female Argentinean tango dancers were given the opportunity to challenge women’s roles and express their sexuality, and the female Irish step-dancers were similarly able to display the feminine body and gain cultural status. In ballets early history, social issues were also evident in the French court as ideals of femininity were conceived, regulated and displayed under the dominance of men. Overall, we concluded that the dancing body can embody women’s social issues across cultures. In the future, we suggest further research on the universal practice of dance and the effects of these dances on other social conflicts.”

Somers Heritage Room 2  “Enhance Your Creative and Professional Life through Honors Communication Courses” by Barbara Kleinjan and Kyla Larsen, South Dakota State University

“As numerous research studies indicate, the personnel attributes most valued by prospective employers are analytical thinking and communication talents. Giving presentations in front of others and cultivating the ability to have conversations with those across generations is essential in today’s extremely competitive job market. To address those issues, the Honors Speech 101 and Honors Public Speaking 215 curricula expand the traditional extemporaneous requirements of the Fundamentals of Speech course by incorporating professional public speaking and presentation styles with various peer review methodologies, including pro-con debates, values speeches, and oral interpretation performances. The Honors 101 curriculum concludes with student teams creating, writing and performing original Reader’s Theater productions for the Honors community and university at large. While the framework of the class builds a supportive and comfortable classroom community, the students are able to explore and experiment with artistic forms of presentation styles that are not encountered in the traditional speech sections. In the sequential course of Honors Public Speaking, the students expand their delivery and researching skills to include the use of visual aids (music, video, power points and social media) and to prepare specialized speaking presentations comparable to the expectations of future professional and competitive performance situations. Additionally, the class conducts intensive employment mock interviews and concludes the course with propositional group research presentations designed to address pressing community or societal concerns. During the conference presentation, the professor will share specifics of the various speaking units, while students who attended both classes will share their observations of the curriculum and discuss how the class presentation projects
helped to enhance their speaking skills as they sought and obtained various collegiate leadership roles.”

Science 1104 “Today’s Readers: Drowning in a Sea of Books” by Kristina Honken, Southwest Minnesota State University

“Have you ever wondered why so many people seem to stray from the activity of reading? It is no surprise that most young people would rather play video games or watch television than read books. Reading has become a chore or homework for too many people and they have formed negative attitudes towards reading. In an age where our smart phones and computers can read to us, is it really necessary to possess and practice this skill ourselves? Learning to read is a challenge for almost forty percent of children and the older a child is, the more difficult this task becomes. After third grade, their chances of reading at grade level and ever reading well significantly decrease. In this paper I will discuss ways to change attitudes towards reading and help rescue younger generations from drowning in the sea of books around them.”


“In his book Why I am Not a Christian Bertrand Russell argues for a new society that is based entirely on scientific reasoning, and an abolition of all ‘superstitious’ belief, including absolute truth. First Russell suggests that in order for people to achieve full mental capacity they must rid themselves of religion, as religion makes people blindly follow things that they don’t understand. After people have freed themselves of their oppressive beliefs Russell instructs that they must make a new society and live the “Good Life”. Russell defines the good life as “To live a good life in the fullest sense a man must have a good education, friends, love, children (if he desires them), a sufficient income to keep him from want and grave anxiety, good health, and work which is not uninteresting” (p.75). This life may at first sound pleasant to the beholder but after further investigation to have only these things is to live the life described in Aldous Huxley’s Brave New World. The similarities between Russell’s “Good Life” and Huxley’s Brave New World are many. First Russell calls for sexual education given to children as soon as they are old enough. In Huxley’s Brave New World we see children at about ten years old avidly learning all they can about sex in their “erotic play.” Second Russell decries suffering as the worst thing that could happen to a man. In Brave New World the people never suffer thanks to soma; “A gram is better than a dam” is a phrase constantly repeated that teaches against the evils of suffering. Finally the overarching theme of both the “Good Life” and Brave New World is that everyone is happy. Russell explains, “The good life, as I conceive it, is a happy life…. I mean that if you are happy you will be good” (p.10). It is often pointed out that everyone in Brave New World is happy, and yet no one suggests their lives are good. Some skeptics may maintain that achieving Russell’s good life would look nothing like Brave New World and that Huxley takes Russell’s teaching too literally. They would apply limits on Russell’s philosophy and use it only as far as they were comfortable with it, however they would be missing one key point to Russell’s philosophy that there are no limits. Since Russell proudly totes relativism as a main support for the good life, it is obvious for him there is no course of action too extreme as long as it creates happiness that then creates the good life. That being said, nothing in Brave New World can be too far from Russell’s good life because everything in Brave New World is based on science. Russell has put all of his faith in science, and hopes that it will solve all of humanity’s problems. He even goes so far as to suggest using science to mold what humans want in order to ensure their happiness. That is exactly what hypnopaedia does in Brave New World.”
Presentation Sessions #12

Somers Heritage Room 1 “Mentor Skill Development as Academic Practice” by Robyn Sellers, Minnesota State University, Mankato

“Honors Program staff around the nation are challenged with effectively integrating students into the program, retaining those students, and guiding them through program requirements. In order to facilitate these goals, many programs offer some form of co-curricular peer mentoring. These mentor programs offer both mentors and mentees opportunities to develop leadership and networking skills in a co-curricular setting. But if a main focus of many Honors Programs is guiding students through developing such skills, why not offer students formal opportunities to develop these skills for credit? This presentation will explore one possible avenue for developing peer mentors in a for-credit course called “Developing Your Mentor Philosophy.” It will explain the reasons for the course conception and explore course competencies. In particular, this course offers an experiential pedagogical approach, embracing the educational philosophies of John Dewey and David A. Kolb, to guide students in the development of their leadership and mentoring skills through academic exercises. This presentation will also discuss the development and implementation of the course designed for Honors students at Minnesota State University, Mankato. It will discuss the goals of the 1-credit “Developing Your Mentor Philosophy” course which include guiding students, discovery of favorable mentor qualities of others and within themselves, developing and applying mentor techniques, and reflecting on mentor experiences. It will reveal the outcomes and challenges of the course, and offer future recommendations for anyone wishing to pursue such a route.”

Somers Heritage 2 “Transformation of Honors Students through Service” by Terra Klima, Jacob Ailts, Sam Nielson, South Dakota State University

“South Dakota State University’s Honors Program has worked hard to expand the opportunities for students to give back and serve in the community of Brookings. Honors students learn vital skills needed after college through exposure to many different service projects in a variety of situations present in the community. The Honors College Student Organization has learned how to respect and lend a hand to those in need, the elderly, and each other. SDSU’s Honors students also have become an aware and motivated group committed to working in the community and improving the lives of others. Serving the Brookings community has impacted the Honors students here at SDSU, and other schools should encourage their students to learn through service activities as well.”

Science 1104 “Convenience or Carelessness” by Paige Geving, Southwest Minnesota State University

“Fast food companies seem to be focused on expanding their empire, and not as much on the health impact the food brings. Menus are adapted for specific countries, the buildings are structured accordingly, and people’s lifestyles seem to be changing with it. In the eyes of consumers, fast food industries seem to be doing everything right. However, there have been many well-known documentaries about the fast food industry, such as; Supersize Me, Fast Food Nation, and Fast Food Baby that say otherwise. The films clearly lay out the problems and health issues that come about from eating too much fast food. The trend of eating healthy begins, but soon after the attraction of cheap, convenient food pulls people back into their bad habits. This paper will look at what the industry is doing to make their food more appealing and how the food is really affecting people’s lives.”

Science 3311 “Being Human: The Blessing and the Curse of Reason and Free Will” by Lucas Holmes, North Dakota State University

“An anthropologist will tell you that a human being (Homo sapiens) is a species of animal. However, he will also tell you that humans are unique due to the fact that, unlike the rest of the
animals of this world, we have a brain that instead of just following a command as a dog would, ponders the command and decides whether it should be followed. In short, we are able to reason. We also have free will that allows us to choose whether or not to follow a command, even if we first reason out that it is a good command to follow. It is the latter that both leads us to victory as well as to defeat. This presentation will touch on some of the aspects of our society that are a direct result of this freedom and why the quest to discover the truth will be perplexing... but not impossible!"

3:45-5:00 p.m.  **Poster Session: Science Student Lounge, Rooms 3117 and 3119**

“Discovering UW-Stout History: The Inspirational Mural and the Mystery Woman Within” by Kori Klaustermeier, University of Wisconsin-Stout  “Cal Peters was an artist employed by the Stout Institute (now known as UW-Stout). Like many artists of his time, Peters was paid with the funds from the Works Progress Administration. Very little is known about the works of Cal Peters, but research of other artists from the 1930s shows that it was common for artwork to include portraits of real people. In 1935 he began work on a mural, still displayed today, on the walls of Harvey Hall on the UW-Stout campus. Upon investigating the creation of this mural, I discovered a resemblance between the woman painted as the centerpiece and Miss Mabel Leedom. At the time, Miss Leedom was a chemistry professor at the Stout Institute and was very influential to her students. This influence was demonstrated through the dedication in the 1935 Stout Institute Tower yearbook. It is astonishing to recognize the determination of this woman and the motivation she provided for her students, but have little to no concrete information regarding her legacy. I explore who Miss Mabel Leedom was, why we know so little about her, and whether she was the inspiration for the mural Cal Peters created.”

“Brazil, Its Biofuels, and Its Impact on the World’s Energy Sector” by Richard Hoverman, University of Wisconsin-Stout  “The demand for a cleaner energy alternative to fossil fuels has been a major issue for developed countries around the world for many years now. One of the most successful energy alternatives to date has been biofuel, more specifically sugarcane ethanol. Brazil, the world’s largest producer of sugarcane ethanol, is an industry leader in biofuel technology. The country is also considered by many to be the world’s first sustainable economy based on biofuels and arguably the only one due to its unique circumstances and government policies. A multitude of major companies, such as British Petroleum, have been investing heavily in developing and improving Brazil’s biofuel industry. This research aims to investigate the characteristics of Brazil’s sugarcane ethanol industry that make it so successful. I will also explore the industry’s potential for growth in the future, opposition, and impact on the world’s energy sector now and in the future.”

“An Exploration of Place through Economics” by Matt Roskowski, University of Wisconsin-Stout  “The Place-as-Text approach to active learning has a firm tradition in Honors, from City-as-Text to Partners in the Park to Sleeping Bag Seminars and Honors Semesters. This poster presents the results of a project extending this approach to economics and using prices as a vehicle for understanding community. Students from an Honors Economics course explored their city to think about how the community is defined and reflected by prices and how these prices express (or don’t express) the values of those in the community. Community stores, restaurants, and entertainment venues were explored as were public spaces, parks, and even online groups within the community. The prices of goods, services, and resources in each of these venues were considered in the context of historical economic philosophers from Smith to Marx to explore theories of value. Students observed paradoxes in things that were free which were sometimes worthless and sometimes priceless, things that required a great degree
of labor but were inexpensive and vice versa, and conflicts in public goods when those who paid to provide and maintain them were not those who used and valued them. In all, the project provided a fascinating lens to think about values and community.”

“Comparing and Contrasting Parasitic Culprits of Malaria” by Kaia Erickson, South Dakota State University
“Bartonellosis; piroplasmida of phylum Apicomplexa that cause a malaria-like disease, babesiosis; and plasmodium, a genus of Apicomplexan parasites that is the most common cause of malaria will be described. The importance of knowing more about malaria will be discussed, as well as diseases that may be confused with malaria.”

“Display Case for the Human Brain and Spinal Cord” by Nicholas Werner, University of Wisconsin-Stout
“I researched and created a display case that will house a human brain and spinal cord on the UW-Stout campus. The need for this project arose when these two organs were successfully removed from a human cadaver in one piece during a course on the topic. This project was treated like a real engineering situation where I was meeting the needs of a client. It was accomplished by creating and evaluating various methods and designs before ultimately selecting one with confirmation of my client. I give a broad overview of the process and steps taken to reach the final product.”

‘Connections Between Cultures: How Murals Convey Messages in Tanzania and the Upper Midwest” by Esuvat Mollel, University of Wisconsin-Stout
“Murals convey messages. The Harvey Hall mural painted by Cal Peters is a portrayal of higher education through classic artistic style. In Tanzania the murals promote education through eye catching colors and seemly cartoonish figures. This project compares the educational murals painted in Tanzania to the UW-Stout Learning, Skill and Honor mural painted by Cal Peters in terms of how they both use art to convey a message to society. The differences between the murals are abundant, from the artistic style to the artistic language. However, it is in the comparison that we uncover connections between Cal Peters and artists decades into the future and over seven thousand miles away.”

“Climate Change's Effect on Agriculture Management” by Brianna Wegner, South Dakota State University
“Climate is a very important variable in picking an agricultural management system. Climate is specific to a location and governs when and how things should be and are done. With the striking evidence that the climate is changing and shifting, it is important that agricultural practices also change and shift. The intent of this investigation is to uncover correlations between the change in climate and a change in agronomic practices and management. This study will be done by comparing various agronomic data like planting dates, emergence dates, and harvesting dates with climate data like soil temperature, precipitation, growing degree days accumulated, and air temperature. These data will be compiled for the state of South Dakota pertaining to the three main crops of the area; corn (Zea mays), soybeans (Glycine max), and wheat (Triticum aestivum). Analysis of these data sets will be conducted using linear regression and the results analyzed to see if management practices like planting and harvesting dates have changed in a linear fashion over the past twenty years.”

“Characterization of Bovine Neutrophils Exposed to Bovine Viral Diarrhea Virus” by Kate Kondratuk, South Dakota State University
“Bovine Viral Diarrhea Virus is an RNA virus that exists as different cytopathic or non-cytopathic strains. BVDV infects animals in two ways: acutely or persistently. Acute infection occurs in cattle of any age. Persistent infection occurs when non-cytopathic strains of BVDV infect the fetus in utero between the first and fourth month of gestation. Persistently infected
(PI) cattle are very dangerous to the health of cattle herds as PI animals shed billions of virus particles every day. PI animals often develop fatal Mucosal Disease when the non-cytopathic strain mutates into a cytopathic virus strain. For these reasons, BVDV has become a major problem in the cattle industry. A large body of research has been conducted to assess the role of BVDV on the innate immune system of BVDV infected animals focused on monocytes or macrophages. Of these studies, very few have focused on the effect BVDV infection has on neutrophils. The goal of this project is to determine by which mechanism BVDV suppresses neutrophil function. Cytospins of control neutrophils and neutrophils exposed to the TGAC strain of BVDV after 1 hour in culture revealed that neutrophils exposed to BVDV are much smaller than control cells. The cytospins also revealed nuclear pyknosis and chromatin condensation in neutrophils exposed to TGAC. These results suggest that neutrophils may be triggered to undergo apoptosis by the TGAC strain of BVDV. Future assays will be conducted to verify that neutrophils exposed to the TGAC strain of BVDV undergo apoptosis.”

“Southern Minnesota Initiative Foundation: Parent Aware Statistical Analysis” by Kristen Paulsen, Minnesota State University, Mankato

“Preschool programs in Minnesota currently do not have a required curriculum guaranteeing kindergarten readiness. Parent Aware is a pilot program that has been introduced into the state. It will create a rating system that will inform parents about which preschools will prepare their children to be kindergarten ready. Because this program is new, many preschool programs are not aware or ready to make the change to a Parent Aware approved curriculum. For our project, we joined with the Southern Minnesota Initiative Foundation (SMIF), which has the resources to provide support, information, and grant money to these preschool programs. We developed a survey for local programs to better understand their familiarity with Parent Aware, and what resources they need to make necessary changes. The online survey was sent to over 100 preschool programs throughout Southern Minnesota. There were 39 respondents, four of whom indicated that they were currently rated by Parent Aware and 20 of whom were working towards being rated. Overall, concern was expressed regarding the value of a Parent Aware rating. A majority of respondents indicated that student learning would not be improved after being rated by Parent Aware. The results of our research will be disseminated to SMIF. We will recommend that they provide informational workshops and grant opportunities for preschools that are interested in the Parent Aware program, and create additional programs to inform the public about Parent Aware. These findings will help Minnesota preschool programs provide a higher-quality education to children before kindergarten, laying a solid foundation for academic success in grade school and beyond.”

“Preparing Teacher Candidates for Culturally Responsive Teaching in the Elementary Classroom” by Erika Koenig, Minnesota State University, Mankato

“This is a qualitative and quantitative study investigating the procedure of preparing undergraduate teacher candidates for culturally responsive teaching in the elementary classroom. The hypothesis for this study is that intentional experiences and collaborative discussion activities will increase students’ knowledge of implementation of culturally responsive teaching. Culturally responsive teachers not only know their students well, but also use what they know about their students to give them access to learning (Lucas and Villegas, 2002). This project is significant because classrooms in the United States are rapidly growing in diversity. According to Lucas and Villegas, teachers must move beyond the superficial notion of diversity that is prevalent in classrooms today and gain a fresh vision of teaching and learning in a diverse setting to intentionally guide their curriculum. Undergraduate students will participate in a four-week field experience in a Midwestern school district working with kindergarten through second grade students. Teacher candidates will complete a survey administered by researchers after the field experience, which will be analyzed for cultural competence in the classroom. Students will also be asked to take the Intercultural
Developmental Inventory developed by Milton and Bennett. The population is thirty-two undergraduate students in the first phase of professional education. Ages range from nineteen to thirty-five. Researchers predict that students will demonstrate a higher understanding of culturally responsive teaching due to surveys given, intentional instruction on campus and through the field experience placement.”

“Small Business Succession Planning in Southern Minnesota” by Alexander Mozey, Minnesota State University, Mankato

“The purpose of this research project was to look at succession planning in businesses in southern Minnesota. Through the Southern Minnesota Initiative Foundation (SMIF), businesses have received funds to help develop succession plans. We followed up with businesses that have received funds from SMIF to see if a) They have made any changes in their business practices in regards to succession planning, and b) How the funds were used and how they helped. We utilized Survey Monkey to collect our information. The survey was designed to determine the presence of defined goals regarding succession planning, the successes and challenges encountered when succession planning, and the possibility of generational transition for the family businesses. Twenty-one business owners responded to the survey, and the results show that there is a general agreement about a lack of succession planning in their companies. At the same time, the majority of owners emphasized that succession planning is very important for their businesses. SMIF had also provided the businesses information regarding several specific topics related to succession planning, and businesses as a whole found this information helpful in moving forward with their plans. We will use this data to better understand the successes and challenges of local businesses when engaging in succession planning, and we hope to find that the funds provided by SMIF have helped businesses in their overall succession planning. We will also develop and present a general framework for businesses to use in succession planning.”

“The Effects of Art Therapy” by Grace Gordon and Kaitlin Kellog, Clarke University

“This presentation explores the nature of art and the various possibilities of the purposes of art. We are particularly interested in the philosophical argument that suggests that art is a form of expression that articulates emotions and feelings. This idea of art expression is common and is often translated into art therapy, where a client is able to express their inner mind by creating art. We would like to find out how art therapy affects patients within the hospital setting and within social work. Furthermore, we are exploring the power of art and the therapeutic benefits of appreciating art to further understand how art functions, concerning its expressiveness. Art as therapy and the possibility of its healing power in various professions provides an interesting argument that the purpose of art must be its expressive nature.”

“The Power of One: Lessons from a Petite Honors Program” by Lauren Rice, Tiffany Wilson, and Jason Allen, Des Moines Area Community College

“We rolled out the Honors Program at Des Moines Area Community College with 63 students. Only one of those students attended the Newton Campus. While he didn’t get an Honors lounge, like they did on other campuses, he did get the complete attention of two full-time honors faculty. No one knew how this would work. In the end, though, we were surprised and encouraged by the power of one. Of course this type of arrangement can’t always be replicated, but the lessons we learned in our freshmen semester are valuable for other programs.

- Dynamic and evolving programs are essential for success.
- Structure is important, but it must be tailored to students’ individual needs.
- A relaxed atmosphere and an open-door policy fosters mentor/mentee relationships.
Supportive programs empower students to take leadership roles in class, on campus, and in the community.

An attitude of exploration challenges faculty as much as the students.

A successful honors program creates a cascade of student engagement and retention, both in and out of the honors program.”

"Our Own Ecological Model" by Jacob Ailts, South Dakota State University

"To augment our learning in Lifespan Human Development, Honors students with varying career goals read articles that enriched our understanding of how environmental variables interact with biological processes to affect the path of an individual's development. The ecological model, originally proposed by Brofenbrenner, provided a means of conceptualizing these dynamic interactions. This model of concentric circles has as its core the individual with innate traits of sex, health, and genetic endowment. Surrounding the individual is the "microsystem" that includes peers, schools, faith, community, family, and supportive services. The "mesosystem" connects the microsystem with the "exosystem" that represents an individual's cultural context. Finally, a "chronosystem" represents the time in history that an individual lives. The Honors students sought images that illustrated its utility in explaining development. Using contemporary time as the "chronosystem" and thinking about the individual as a "developing brain during the first year of life", images brought life to how a future person is molded by the environment into which he or she arrives. Using images to enliven the ecological model has enhanced our awareness of personal responsibility for how a future is formed. This experience has shown us how "small ripples in the world pond" impact lives near to us and those emerging thousands of miles away from our personal context."

"Fetal Alcohol Syndrome in Scientific Models" by Brittany Hiten, Northern State University

"Research on Fetal Alcohol Syndrome (FAS) has confirmed that it was one of the leading causes of mental retardation in the western world and has been known to cause many developmental problems; however few studies examine the effects that varying percents of alcohol have on developing embryos from different species. To test this concept, this study examined three species as different scientific models, African clawed frog (Xenopus laevis), zebrafish (Danio rerio) and domestic chicken (Gallus gallus domesticus), to test whether they could be used to measure the effects of varying percents of alcohol. The author bred African clawed frogs and zebrafish, and obtained fertilized chicken eggs, then subjected them to varying percents of alcohol. The zebrafish and African clawed frogs were subjected to alcohol from 0-100%, and the chickens were subjected to 0-5%. Tests confirmed that the African clawed frog embryos could not be model organisms for FAS whereas the zebrafish and chickens were successful. Depending on the vertebrate species, the critical percent of alcohol which has been shown to cause abnormalities ranges from 3-5%. These percents could help establish specific recommendations associated with alcohol and development should a woman chose to drink while pregnant.”

“The Relationship Between the Incidence of Upper Respiratory Tract Infection and Fluctuations of Salivary Immunoglobulin A Throughout the Division II Swim Season” by Brooke Larson, Northern State University

“Although it has been debated, research has found when salivary immunoglobulin A (sIgA) levels are low, susceptibility to upper respiratory tract infection (URTI) in athletes increases. These findings can help predict the times in training when athletes are most susceptible to infection. The hypothesis herein is that the sIgA levels of athletes as well as the incidence of URTI will be higher at the peak of the season. Saliva samples were collected from fourteen members of the collegiate swim team at the start, middle, end, and off-season of the NCAA Division II competition period. In order to account for the regular fluctuations that occur in sIgA in humans during a given day, saliva samples were taken at different periods of the
training season but at the same time of day. Participants self-reported any occasions of illness, including influenza, viruses, and colds, to the researcher. An ELISSA, which uses antigens to find antibodies, was used to analyze the samples. It was observed that at the lowest IgA levels, at the peak of the season, positively correlated to the incidence of sickness. The limitations of this study include the relatively small sample size and relying on self-reported illnesses.”

“Identifying Bacterial Species from a Fresh-Water Aquarium Using 16S rRNA Sequencing” by Michael Lindley, Scott Community College

“My honors independent project was an attempt to identify four bacterial species isolated from a fresh-water aquarium using 16S rRNA sequencing. Water samples were taken from a biological filtration unit and the gravel substrate. Bacterial cells were cultured on solid media and streaked for isolation until four pure cultures were obtained. A gram stain was conducted on each strain to determine its shape, arrangement and gram status. A gram-positive streptobacillus and a gram-negative bacillus was isolated from the gravel substrate, and a gram-negative bacillus and a gram-negative coccus was isolated from the bio-filtration unit. Genomic DNA was extracted from each strain (as well as E. coli as a control), and a region of the 16S rRNA gene was amplified using PCR. The PCR products will then be sequenced and the resulting sequence used to hopefully determine species identity.

“Reflections on my Trip” by David Monnens, South Dakota State University

“During the fall semester of 2012 I decided to take myself out of my comfort zone. I lived the first 20 years of my life in a sheltered, picturesque, Midwestern town and I decided that I would spend some time experiencing a completely different lifestyle. I chose to study abroad in Lima, Peru where I uprooted myself from the quiet atmosphere of South Dakota and transplanted myself into the hustle and bustle of a third-world city. Such a disruption in the course of my life changed who I am as a person and how I view the world and as a result I would like to share that at the Honors Conference. My project is about my trip to Peru, outlining the beauty of some of the places I visited, comparing and contrasting our culture to the small sample size I experienced of the Latin American culture, and entertaining any questions about the process of studying abroad. Within my poster I will include pictures of the places I saw from one of the New Seven Wonders of the World, Machu Picchu, to one of the most mysterious islands in the world, Easter Island, to the beauty of the natural world, the Amazon, the Andes, and the desert. Although I was able to see many exotic sites I would like to speak with other students about the differences of lifestyle. In Lima I became accustomed to the city life where the best modes of transportation are walking and cramping yourself into a small bus with 40 other people. From my presentation I hope that I can help cultivate the sense of adventure in other students and encourage them to take steps outside the comforts of their daily lives.”

“Diving Into the Depths of the Gene Pool” by Samantha Nielson, Kaia Erickson, Samuel Smith, South Dakota State University

“At South Dakota State University, Genetics and Cellular Biology is a combined two-semester, sophomore-level course that challenges students to involve concepts that can be both complex and abstract. Each week, the supplemental Honors section has a one-hour breakout section that emphasizes problem solving through jeopardy-style quizzes and professional school entrance exam practice questions. Additionally, the honors section develops tutorials to help further explain the current material of the course to the rest of the students using Microsoft PowerPoint. Finished PowerPoints are downloaded to a share site to allow for all student access. Both the students and the Honors section benefit from the creation of the tutorials as the students are aided in their studying habits, and the Honors section is able to fully understand the current content of the class while teaching others. Furthermore, practicing the professional exam questions improves problem-solving skills and provides helpful strategies for completing exams.
Come view our poster presentation, where we will demonstrate a tutorial as well as explain how the honors genetics section makes learning about difficult biology topics easier and fun!"


“The Book in the 15th Century is an honors course we have offered at The College of St. Scholastica on three occasions (2005, 2008, 2012). In each iteration of this course, we entered the late medieval/early modern world through book production. Throughout Europe at the start of the 15th century, scribes and artists produced books one at a time following time-tested processes. Hand ruled and handwritten on parchment or rag paper, each book was unique. For a person to own even one book, let alone several, was a mark of wealth and status. Wills of the period—with their lists of bequests—frequently include books alongside other (more recognizable to us) material possessions like houses, silver plate jewelry, and the like. Valued for the texts they contained, books were also valued—in some households even more valued—as commodities and works of art in their own right. By the end of the 15th century, however, book production had changed dramatically, driving down book prices. What a generation or two previous had cost a small fortune for one person was now affordable to many. We can attribute this dramatic shift to one technological change: the advent of moveable type. The printing press allowed craftsmen to produce several copies of a text in considerably less time than it took to handwrite one manuscript book. In each iteration of this course, we explored the phenomenon of the 15th-century book by studying the history of the book and by practicing aspects of book production from manuscript to printed text. We modeled the classroom itself, in part, on a medieval scriptorium and an early modern print shop. Much of the learning in this course was experiential as we worked with Chaucer’s Nuns Priest’s Tale (2005), Chaucer’s Miller’s Tale and Reeve’s Tale (2008), and The Aberdeen Bestiary (2012) to produce a single manuscript book and a limited-run printed book. Each student participant will also display her printed book as well as her pages in the manuscript book.”

4:30-5:30 p.m.  UMHC Executive Meeting:  Science 1109
6:00-7:15 p.m.  Dinner:  Benedictine Commons
7:30-9:00 p.m.  Guest Speaker:  Science Auditorium, Room 2122, Dr. John Pastor
9:00-11:00 p.m.  Student Fun Event:  Somers Penthouse

Saturday, April 20
7:30-8:30 a.m.  Continental Breakfast:  Somers Main Lounge
8:30-8:50 a.m.  Presentation Sessions #13

Science 1104 “Deep Ecology: Four Perspectives on Sustainability” by Allie Roe, Abbey Kilburg, Carie Kuehn, Megan Scott, Mount Mercy University

“Our freshmen Honors students spent the year focused on environmental sustainability while learning about it through four different avenues. Students in the freshman Honors writing course used a Mercy’s sponsored video seminar called Awakening the Dreamer to document the extent of the damage being inflicted on natural resources and the people who depend on them, deconstruct the thought models that lead to environmental degradation, and propose creative solutions that combine environmental sustainability with social justice. Meanwhile, students in the Mercy freshman portal course focused on the Mercy Critical Concern of universal access to clean drinking water. After learning about water conditions in other parts of the world, the class designed and carried out a service-learning project to provide filters to communities in Burundi whose most vulnerable members do not have access to clean water.”
Students from both of these courses lived together in a combined Honors/Sustainability Living Learning Community and worked together to practice sustainable living both in and out of the classroom. Finally, Honors students acting as campus citizens wrote and received grants to implement two sustainability projects -- one to reduce consumption of electricity in the residence hall, and one to bring our partner in Burundi to campus as a speaker. Students representing each of these four avenues will share what they learned and what benefits accrued by taking this integrated, year-long approach to human impact on the natural environment.

**Science 1109** “Using Philosophy to Bridge the Gap Between Art and Science: Finding Connections in Contrasting Disciplines” by Collin Heer, Clarke University

“Science and art have long been thought to be completely opposite disciplines. However, through the philosophical examination of the fundamental principles of art, areas in which art and science interact begin to emerge. Both subjects and the creative processes that support them show some characteristics of interdependency. Certain disciplines of psychology, such as Gestalt psychology, provide a firm platform for understanding the human attraction to art. For example, the link begins with the evolutionary adaptation of visual perception and the human ability to innately and instantaneously recognize expression in living and nonliving things. For instance, there may be an integral connection between art and the perception of visual forms. Certain shapes, colors, and sounds have the ability to elicit emotional responses from humans. Understanding the science between human perceptions of forms may be important in the process of creating art. The ability to manifest emotional responses from art may be enhanced by understanding the genetics and neurological aspects behind the processes of the brain. Furthermore, the growth and development of humans may play an important role in their perception of forms. Also, reasons behind artistic preference play a significant role in art. Certain art appeals to specific people, but is there a biological reason for this? Brief evaluation of the neurological processes of visual perception and their connection to art will be briefly evaluated. Thus, art will be examined from the disciplines of neuroscience, genetics, human development and other science related fields in a media-driven presentation.”

**Science 1111** “Pine Ridge Immersion Grounds Honors Students in Tribal Culture” by Timothy Nichols, Elizabeth Bosworth, Mackenzie Klinkhammer, Kate Kondratuk, South Dakota State University

“South Dakota is home to nine Native American reservations and approximately ten percent of the state’s population is American Indian. And yet, deep awareness and understanding tribal cultures is not common among Honors College students at SDSU today. This session will describe a week-long cultural immersion program which took a small group of Honors College students to the Pine Ridge Indian Reservation and Black Hills of South Dakota in August, 2012. The program was facilitated by Dr. Craig Howe, a Lakota scholar, and supported by SDSU faculty and administrators. Activities included readings, discussions and a variety of experiential learning approaches which included staying in tipis, visiting important cultural sites, studying Lakota language, history and culture, meeting with tribal educators and business people, and participating in an inipi (sweat lodge) ceremony. Program components, student reactions and assessment data will be discussed, along with program implications for the broader Honors College experience.”

8:55-9:15 a.m.  Presentation Sessions #14

**Science 1104** “The Temple in Antiquity” by Janet Wise, The College of St. Scholastica

“The Temple in Antiquity” examines mid-twentieth century research that began to emerge regarding the universality of myth and religions, and the existence of Temples as the sacred edifices where these myths were conveyed. This presentation addresses the earliest sources of mythology pertaining to the Temple: its origins in language and architecture, psychology and
cosmogony, and the wisdom and knowledge behind the myth. Greek and Roman origins will be covered; Egyptian uranography and temple rituals; Hermetic, Gnostic, and Kabbalistic wisdom, as well as the vestiges of temple worship that continued during Early Christianity, and still continue today. Beyond Freemasonry, the archetype of the Temple is the paradigmatic model for our modern-day cultural centers and economic institutions, especially our universities. Joseph Campbell, author of *The Hero with a Thousand Faces*, believed that we are all "initiates," of temple ritual, traversing the same path in our journey as the heroes of old. Rich with symbolism and religious awe, the Temple continues to be the hearkening place for those who want to feel a deep kinship with the mysteries of the Universe.

**Science 1109** “Developing Educational Models for 3D Visualization in Chemistry” by Seth Cory, Clarke University

“Honors courses consistently steer honors students to deeper waters, and these deeper waters feed curiosity as well as present risks. Overall, however, my honors courses have been quite satisfying. One such risky course that fed my curiosity was Biochemistry I: Biomolecules. I chose to take this as a Contract Honors Course where I was given the opportunity to either complete a research module, product creation module, virtual module, field experience module, or service-learning module. Through the collaboration with my professor Dr. Sunil Malapati, I chose to complete a virtual module. I created four electronic medias that displayed various biomolecules for the use in the nursing chemistry course: General Organic Biochemistry. This was done using Jmol script and pdb files. I benefited from this contract course in several ways. It gave me the opportunity to decode, evaluate, interpret and reinforce, spatially manipulate, and encode visual representations of biomolecules at multiple levels. My professor and his students also benefited from this project. Students were able to use the models I created to develop their learning regarding the spatial qualities of biomolecules. The project also gave my professor additional teaching tools for his students. This presentation will include how modeling benefited me, other students, and my professor as well as how the modeling was actually done.”

**Science 1111** "Honors Senior Seminar Explores My Place in the World" by Timothy Nichols, Elizabeth Bosworth, Hanna Distel, Hanna Larsen, Ben Stout, Greg Tanner, South Dakota State University

“Most South Dakota State University’s Honors College students begin their college experience in a shared set of orientation and general education courses, before proceeding to their major-specific departmental Honors requirements and independent study research experiences. Last year, on the bus ride home from UMHC in Dubuque, IA, students requested and began brainstorming content for a new course that would reconnect seniors and thoughtfully prepare them for the next steps in their academic and professional careers. Based on these discussions, a new course was created, Honors 490: Senior Seminar. Built around the theme of 'My Place in the World', students read diverse literature, and engaged in course themes individually, and as a group. Activities included teaching elements of the *Seven Habits of Highly Effective People*, writing mission statements, and 'I am from...' poems, and delivering TED Talks on their own ideas worth sharing. Finally, students shared bucket list items inspired by *The Buried Life*. Student reactions to the course and samples of their work will be shared. The place of the senior seminar in the overall Honors experience will be discussed.”

9:20-9:40 a.m.  **Presentation Sessions #15**

**Science 1104** “Youth Mentoring Program: Guiding New American Students to Success” by Beatrice Hill, University of North Dakota

“The increase of refugees resettling in the Grand Forks area presents unique challenges involving diversity and integration, specifically elevating some of the pressures facing high school student refugees. Not only are these student refugees encountering the same stresses
as a typical student, but are also faced with learning a new language, adjusting to an unfamiliar culture, and discovering their own place within their school and local community. In order to address these challenges, a youth mentorship program was implemented between Red River High School (RRHS) English Language Learner (ELL) students and young adult mentors during the 2012-2013 academic school year. The main goal for the mentorship program was to initiate an intercultural dialogue between the mentor and mentee, through weekly tutoring sessions and attending outside community events. The ELL students would develop a larger sense of confidence; and ultimately, create long-sustaining relationships with other members of the community. Through a qualitative research design, an understanding of the various facets of refugee youth integration, including the experiences and challenges faced by refugee youth, similar mentorship programs being implemented in the United States, and magnet schools, was gained. In addition to this research, interviews and focus groups were conducted with the ELL students, young adult mentors, and RRHS faculty. Through the assessment of this program and corresponding research, recommendations will be made to make this mentorship program sustainable in the Grand Forks community.”

Science 1109 “Coral Bleaching and Recovery with Zooxanthellae” by Jessica M. Sloan, Clarke University
“A wide variety of corals build unique ecosystems which promote biodiversity by providing essential habitats for many species of fish and aquatic life. In recent, history, however coral reefs have been experiencing severe bleaching, a phenomena cause by unusually high sea surface temperatures. Baker et.al. (2008) have observed the devastating effects since the 1980s of elevated sea surface temperatures linked to global warming to be as follows. Bleaching can lead to coral death and decline in reef health. Reef-building corals have a symbiotic relationship with dinoflagellate algae commonly known as zooxanthellae. These single celled organisms perform photosynthesis and provide the majority of the energy their host uses even though corals are capable of filter feeding (Baker et al. 2008). This relationship has its benefits but when water temperatures increase, heat stress disrupts the photosynthetic ability of zooxanthellae causing a production of oxygen radicals. This has great potential for damaging the symbiont as well as the coral. As a result, coral may expel its zooxanthellae. This action turns coral white (hence the term “bleaching” because the zooxanthellae possess the pigments for photosynthesis. For my research proposal I want to test the hypothesis of adaptive bleaching which states that normal bleaching is a way for corals to exchange zooxanthellae. This is seen as an evolutionary process to find the perfect symbiotic combination (Ware et al., 1994). I want to test if partially bleached coral will recover more quickly when surrounded by expelled zooxanthellae than when not exposed to zooxanthellae.”

Science 1111 “Enrichment Techniques and Preferences for Laboratory Kept Fishes” by Ariel Egan, Northern Michigan University
“The study of enrichment for laboratory fishes is important for maintaining the mental and physical health of animals kept in lab settings. Environmental enrichment can decrease fear, aggression, and can also lower stress. It is argued that standard laboratory conditions, consisting of plain, minimally decorated environments, may restrict the natural behavior of animals and may therefore compromise their welfare if the animal is otherwise motivated to carry out particular activities. Enrichment encourages the natural behaviors of these animals by introducing them to a variety of objects and habitat settings, compelling them to interact with their environment. To determine appropriate enrichment settings for laboratory fishes, a behavioral study was conducted. Six species of fish were selected and introduced to various tank settings. Each species had a control tank with no enrichment where they resided when not in the experimental tanks. Five experimental tanks were set up, each with identical filter system and air stone, but with different types of enrichment options. Enrichment preferences tested include substrate, plant coverage, and hiding structures. Once the fish had a day’s time to get used to the experimental tank, they were subjected to 3 days of stimulus exposure. A
PVC pipe was placed into the experimental tank to elicit a startle response, and thus show the enrichment preferences (or lack of) of the observed fish. The results of this study show species specific enrichment preferences for plant type, substrate type, and hiding structure. Thus far, the longnose dace have a strong preference for hiding under dense rock cover. When this material is not available, they attempted to hide behind the filters, in the plants, or under each other. Blacknose dace showed a preference for hiding behind the rocks, as opposed to under them, as well as behind the PVC tubes for hiding, but not inside of them. The brook sticklebacks chose to hide under rock coverage, behind or under the filter, within the floating plants, and showed no preference of substrate. The yellow perch did not use rocks for hiding, but rather tended to select the bottom of the tank regardless of enrichment. They also chose the anchored plant over the floating plant type.

9:45-10:05 a.m.  Presentation Sessions #16

Science 1111 “Characteristics of Trees Infected with Inonotus obliquus” by Melissa Orzechowski, Doctor Alan Rebertus and Alexander Graeff, Northern Michigan University

“Inonotus obliquus, commonly known as chaga, is a black charred looking fungus that grows on birch trees. Inonotus obliquus has long been used in folk medicine, recently its anti-inflammatory, anti-cancer, anti-influenza and anti-HIV properties are being studied. Infection rates have been reported to be extremely low, but no well designed, systematic sampling methods, and no studies on stand and tree characteristics that favor infection have been carried out. Our objective was to document rates of infection for yellow and birch trees and record the stand and tree characteristics that favor trees infected with Inonotus obliquus. We took measurements of all birch trees within in forest hectar belt strips, including diameter at breast height, DBH, overall health of the tree, and species of fungal growth, if present, and further measurements if Inonotus obliquus was present on the birch tree. If the birch tree was infected with Inonotus obliquus, we recorded the height of the infection, the direction of the infection, the height, width and volume of the Inonotus obliquus as well as the species of the three nearest trees and their DBHs and the aspect of the infected birch tree. Out of 349 birch sampled, 4.55% were infected. The site that was predominantly white birch had an infection rate of 4.9% while the site that was predominantly yellow birch has an infection rate of 4.2%. Occurrence of infection was strongly influenced by a number of factors. The DBH was strongly related to the probability of infection; trees with a smaller diameter had a much lower probability of infection while trees with a DBH of 45 centimeters or larger had an infection rate of 25%. The average height of infection was 1.59 meters ranging between .45 meters and 5.6 meters. Possibly the most surprising and interesting characteristics we recorded what the direction difference. No Inonotus obliquus within our plots faced between 0 and 120 degrees, or northward or eastward, and the vast majority of Inonotus obliquus we recorded were between 150 and 180 degrees, or southward. Although many scholars believe Inonotus obliquus to infect trees after they have already died, we found this to be very untrue as we found as many or more infected living trees as we did infected dead trees. Understanding the characteristics of trees infected with Inonotus obliquus will be critical as the medicinal properties of this fungus continue to be studied and unveiled.”

10:30-11:30 a.m.  UMHC Annual Business Meeting:  Science Auditorium, Room 2122

11:30 a.m.-Noon  Closing Remarks:  Science Auditorium, Room 2122