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celebration
of learning
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Augustana

Augustana College

STUDENT HONORS RECOGNITION BREAKFAST
WALLEMBERG HALL, DENKMANN

8:15-9:30

POSTER PRESENTATIONS W/ BREAKFAST ITEMS, The Gerber Center, Gävle Room:
Anthropology, Business Admin., Communication Studies, Education, Geology, Health, Museum Studies, Psychology, Theatre, International & Off-Campus Photo Contest Winners; Photo Bureau

Session	Room A:	Room B:	Room C:	Room D: Outside	Room E:	Room F:	Room G:	Room H:	Room I:	Room J:	Room K:	Room L:
SESSION-I 10:30-11:30	FEATURED: Swedish Ambassador & Students	Student Research, Health, Environmental Policy	FACULTY PRESENTATIONS: Anth. Hist. Classics, Econ	Biology, Environmental, Biochemistry	Mock Archaeological Excavation (Outside near the clock; rain site: Hanson, 1st Floor Atrium)	Philosophy	Communication Studies, Civic Engagement	World Languages, Literature & Cultures (WLLO)	Performance Studies (1-hour session)	CREATIVE WRITING 11:45-1:15 (Gazebo; rain site; Library; 2nd Floor)	SENIOR ART SHOW GALLERY TALKS: (1) 10:30-11:45 (2) Noon-1:15	Augustana Teaching Museum, Centennial
SESSION-II 11:45-12:45	FEATURED: Faculty & Student Collaboration	Texas Medical Center Internships	FACULTY PRESENTATIONS: Art Hist, Pbil, English, CSD	Biochemistry, Chemistry	Women of Color at Augustana 10-3:30	Mathematics, Applied Math	Communication Studies, English	Women's & Gender Studies (WGS)	Music Composition & Performance			
SESSION-III 1-2	FEATURED: Alumni Speaker	Texas Medical Center Internships	FACULTY PRESENTATIONS: Biology, Phys, Chemistry		Peer-To-Peer Tutoring: Learning Math: Extended Session	Africa and Public Health, Religion	WGST: WILLC	Presentations with Clinton, Iowa SWLL	Education, Art & Responsibility			
SESSION-IV 2:15-3:15	FEATURED: Faculty Panel	Texas Medical Center Internships	MUSEUM PROJECT: Hanson 1st Floor Atrium 2:15-2:30		Religion	Art History, Classics, History			Improv in Real Life			
3:15-4:30	POSTER PRESENTATIONS w/ HORS D'OEUVRES, The Gerber Center, Gävle Room: Biochemistry, Botany, Chemistry, Environmental Studies, Neuroscience, Psychology											
5:30-7	Augustana Invitational Robotics Challenge											

HEALTH COMM PROJECT, THE GERBER CENTER, 4TH FLOOR HALLWAY
MULTIMEDIA INSTALLATION: "DISCOMFORT ZONE",
THE GERBER CENTER, OASIS GAME ROOM (4TH FLOOR)

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CELEBRATION OF LEARNING 2016 OVERVIEW

POSTER SESSION I

9:30–9:45 a.m. | Gävle Room, The Gerber Center

CONCURRENT PRESENTATIONS, SESSION I

10:30–11:30 a.m. | Olin Center, Hanson Hall of Science, Old Main, Larson Hall (Bergendoff), Augustana Teaching Museum of Art

FEATURED PRESENTATION-I

10:30 a.m. | Olin Auditorium

Swedish Ambassador to the U.S. Björn Lyrvall and panel of Augustana students

Discussion of Swedish/U.S. Relationships and International Education

CONCURRENT PRESENTATIONS, SESSION II

11:45 a.m.–12:45 p.m. | Olin Center, Hanson Hall of Science, The Gerber Center, Old Main, Larson Hall (Bergendoff), Augustana Teaching Museum of Art

FEATURED PRESENTATION-II

11:45 a.m. | Olin Auditorium

Dr. Frederick Jaeschke, Sara Lyon, Victoria Karnes

Players to Creators: The Process of Commissioning a Musical Composition

CONCURRENT PRESENTATIONS, SESSION III

1–2 p.m. | Olin Center, Hanson Hall of Science, The Gerber Center, Old Main, Larson Hall (Bergendoff), Augustana Teaching Museum of Art

FEATURED PRESENTATION-III

1 p.m. | Olin Auditorium

Dr. Michael Gapen '91

An Unexpected Journey: From small-town Midwest to Washington's halls of power and Wall Street

CONCURRENT PRESENTATIONS, SESSION-IV

2:15–3:15 p.m. | Olin Center, Hanson Hall of Science, Old Main, Larson Hall (Bergendoff)

FEATURED PRESENTATION-IV

2:15 p.m. Olin Auditorium

Dr. Jessica Nodulman, Dr. Jane Simonsen, Dr. Jennifer Pople, Dr. Wendy Hilton-Morrow

Scholarship as Feminist Engagement

SENIOR ART SHOW GALLERY TALKS

10:30 a.m.–1:55 p.m. | Augustana Teaching Museum of Art (Centennial Hall)

Senior Art Show Gallery Talks (Group 1)

10:30 a.m.–11:45 a.m. | Augustana Teaching Museum of Art (Centennial Hall)

Senior Art Show Gallery Talks (Group 2)

Noon–1:55 p.m. | Augustana Teaching Museum of Art (Centennial Hall)

POSTER SESSION II

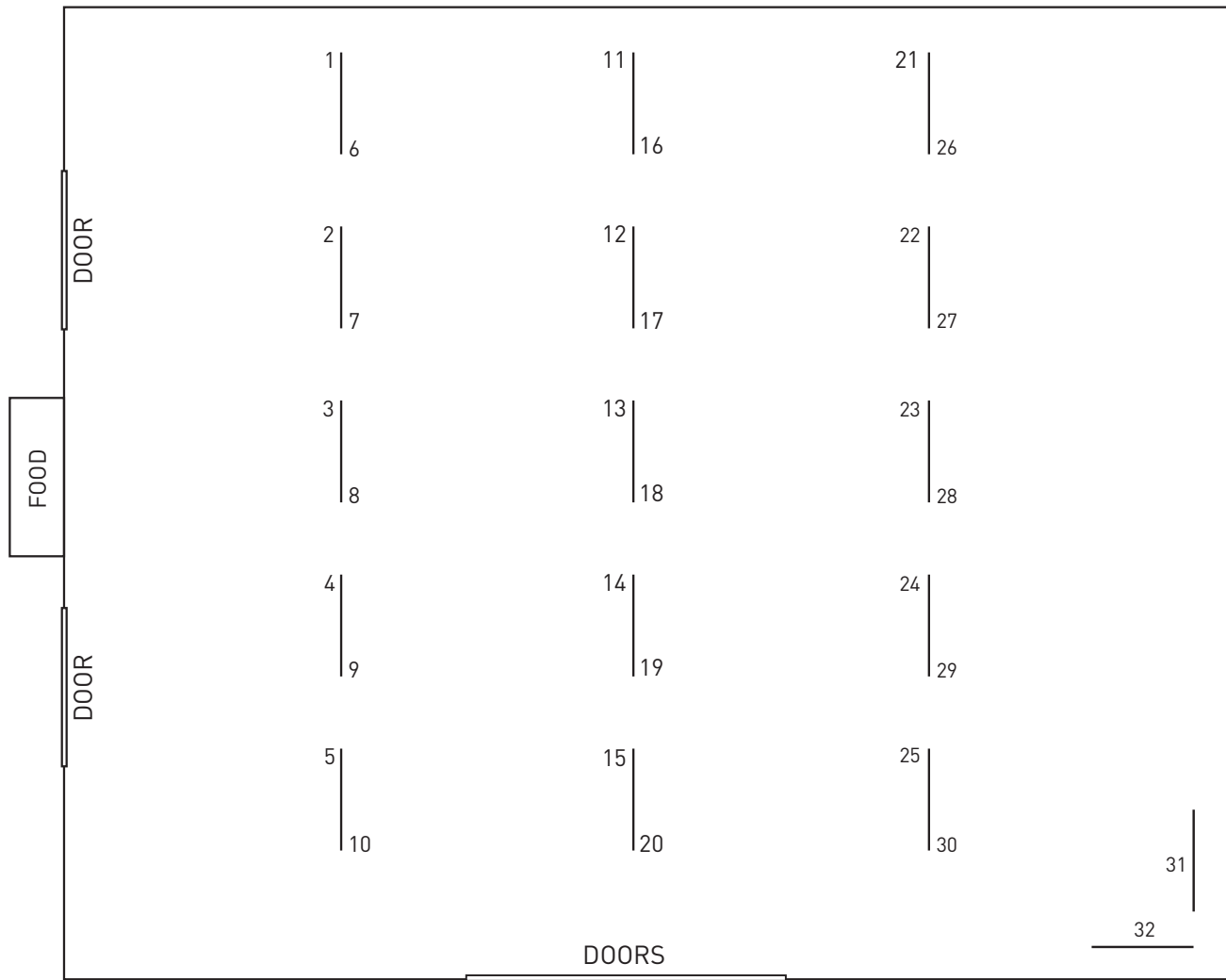
3:15–4:30 p.m. | Gävle Room, The Gerber Center (4th floor)

SPECIAL PROJECTS

9:30 a.m.–4:30 p.m. | The Gerber Center (4th floor), Founders Hall (1st floor)

POSTER SESSION 1 | 9:30-10:45 a.m.

Poster Presentation Layout | The Gerber Center, Gävle Room



- 1 Katherine Aquadro, Haylee O'Donnell
- 2 Jadyn Derr
- 3 Emily Stanevicius, Stephanie Drago, Gage Meyers, Shawna Ables, Sarah Funke, Trang Ho
- 4 Alex Mahaffey
- 5 Alexandra Jones, Chelsey Peterson, Casey Janko
- 6 Katherine Aquadro, Allison Dzik, Courtney English, Madeline Kerr, Kylee Villarreal, Eric DeMattia
- 7 Rebecca Knapper
- 8 Haley West
- 9 Kendra Rakers, Dr. Daniel Cortis
- 10 Caleb Ivey
- 11 Katherine Knauff
- 12 Kristian Clayton
- 13 Nellie Bubb
- 14 Joshua Symbal
- 15 Frances Compere, Dr. Scott Gehler
- 16 Mackenzie Steen; Dr. Michelle Fingeret, University of Texas MD Anderson Cancer Center; Dr. Lisa Trahan, University of Texas MD Anderson Cancer Center

- 17 Laura Ames
- 18 Bennett Hartmann; Dr. Isabelle Bedrosian, University of Texas MD Anderson Cancer Center; Dr. Constance Albarracin, University of Texas MD Anderson Cancer Center
- 19 Nathan Gray
- 20 Katrina Ponder
- 21 Danny Fulton
- 22 Laura Behymer
- 23 Lucas J Ratzer
- 24 Emma Stough
- 25 Amanda Moore
- 26 Lauren Becker
- 27 Marlisa Barrett
- 28 Tawanda Mberikwazvo
- 31-32 Karina Huerta, Cindy Morales, Marlen Gomez, Aaron Volk, Samantha Noble, Alexis Hoelper, Alyssa Nelson, Chelsea Mentado, Ashton Hutcheson, Chelsie Dean, Haley West, Alexiss Santoni, Linnea Ritchie, Nora Bosslet, Meghan Grahs, Jon Elsey

POSTER SESSION 1

GÄVLE ROOM, THE GERBER CENTER

9:30-10:45 A.M.

Breakfast foods and beverages will be served during the morning poster session.

Katherine Aquadro, Haylee O'Donnell

Project advisors: Dr. H. Randall Hengst and Dr. Michael Egan, education

Place Value Understanding in Kindergarten

Poster Session (P1) #1: Gävle Room, The Gerber Center

In conjunction with the partnership between Longfellow Liberal Arts School and Augustana College, we have been working with kindergarten students in the area of math. Through working with students during winter and spring term we determined that a common error or misunderstanding among kindergarteners is transposing numerals, especially numerals in the teens, meaning that the number 15 is instead written as 51. Through research we are hoping to determine if this error is due to a misunderstanding of place value or due to another factor. In addition to research we have been developing activities to help students develop an understanding of place value. It is our hope that through hands-on research and existing literature, we will be able to answer our research question: Does place value understanding reduce transposing numeral mistakes in double digit numbers?

Jadyn Derr

Project advisors: Doug Tschopp, EDGE Center; Dr. Ellen Hay, communication studies

Technology and the iGeneration

Poster Session (P1) #2: Gävle Room, The Gerber Center

Who is the iGeneration? How do they interact with technology? What are potential consequences or benefits of technology in a child's social development? What skills are the iGeneration learning from technology? This 10-month qualitative study seeks to give the smallest snapshot of who this generation is, based off of interviews with parents.

Emily Stanevicius, Stephanie Drago, Gage Meyers, Shawna Ables, Sarah Funke, Trang Ho

Project advisors: Dr. Mari Nagase, Japanese; Dr. Ann Ericson, business administration

Globalization and Its Effects on a Japanese Company: A Case Study on Hitachi Construction Machinery (HCM)

Poster Session (P1) #3: Gävle Room, The Gerber Center

Japan's mature market combined with its decreasing population has left little room for domestic market expansion. Because of this, many Japanese companies have been required to explore overseas markets in order to maintain and expand their sales revenue. While numerous Japanese companies have struggled to adapt to globalization, Hitachi Ltd., a Japanese multinational conglomerate, has become a forerunner in its organizational transformation. A recent example is its move from the traditional, seniority and lifelong employment system to a merit-based salary system, which aims to attract talented, high-level workers overseas. Hitachi Construction Machinery (HCM), one of Hitachi's eleven businesses, is an excellent case study of how Japanese companies are changing in response to globalization. Three research groups investigated this on-going, momentous transformation of a representative of Japan Inc., HCM, through first-hand experiences and semi-structured interviews with company representatives throughout Japan. The research included

in-depth investigations of how globalization has affected HCM's language, cultural and unification training processes; human resource management; and reaction to global environmental issues through their product lines.

Alex Mahaffey

Project advisors: Dr. Christopher Strunk and Dr. Matt Fockler, geography

Halfway Home: A Historical Geography of Swedish Immigration and Settlement in Moline, IL, 1870-1930

Poster Session (P1) #4: Gävle Room, The Gerber Center

Between the late 19th and early 20th centuries, over a million Swedes emigrated from their homeland to the United States. Many Swedish immigrants settled in Midwestern cities and towns and created unique ethnic enclaves where both Swedish and American language, culture, and identity resided together. My research focused on the Swedish community in Moline, Illinois, between the years 1870 and 1930. Using a variety of archival data, literature and GIS analysis methods, I looked for relationships between the spatial density of Swedish residence and activity, the demographic makeup of this community, and perceptions of this community within the literature and history of Moline. My analysis concluded that the "peak" years of the Swedish community of Moline, both culturally and economically, were associated with highly dense concentrations of Swedish residence and economic activity. Furthermore, Swedish residential and socioeconomic activity diffused from its original core during the 1920s and 30s in downtown Moline, correlating with the halt of new immigration from Sweden and the eventual disappearance of the distinctive Swedish identity of Moline. These findings suggest that the relative spatial concentration of the Swedish Moline community was central to its emergence and eventual disappearance.

Alexandra Jones, Chelsey Peterson, Casey Janko

Project advisor: Dr. Kathy Jakielski, communication sciences and disorders

Designing and Assessing an Ethical Global Service Learning Experience

Poster Session (P1) #5: Gävle Room, The Gerber Center

We discuss a service-learning experience in a developing country that we designed to be ethical not only for the people we served, but also for the students who served. We assessed the students' intercultural sensitivities and skills before, during, and after their participation in the service-learning experience, and present our findings.

Katherine Aquadro, Allison Dzik, Courtney English, Madeline Kerr, Kylee Villarreal, Eric DeMattia

Project advisor: Dr. Deborah Bracke, education

The Expanded Core Curriculum for Students with Sensory Impairments

Poster Session (P1) #6: Gävle Room, The Gerber Center

Over spring break, six students spent a week at the Florida School for the Deaf and Blind. In this highly interactive session, teacher candidates will present ways that we can leverage Common Core standards for students with disabilities. Insights regarding an expanded core curriculum will be coupled with demonstration, simulation and discussion of how methods used to teach students with disabilities align with standards-based reform.

Rebecca Knapper

Project advisor: Lisa Huntsha, Swenson Center

The Jenny Lind Chapel Museum Preservation Project

Poster Session (P1) #7: Gävle Room, The Gerber Center

The Jenny Lind Chapel Museum Preservation Project, created by Augustana College student Rebecca Knapper with the help of Lisa Huntsha, librarian and archivist at the Swenson Swedish Immigration Research Center, is a project to preserve and update the exhibits at the Jenny Lind Chapel museum, located in Andover, Illinois, which has been without a curator for approximately 50 years. The Jenny Lind Chapel, which houses a museum on its lower floor, is the first church of the Evangelical Lutheran Augustana Synod of North America (which later became the E.L.C.A.). Historically, this site tells the story of pioneering Swedish immigrants of the mid-1800s through photographs, documents, textiles, artifacts and paintings, which earned it a place on the National Register of Historic Places. The purpose of the project is to implement procedures for the museum to provide the protection and sustainability of the museum and the historic materials it houses. The six steps of the project include:

- Securing grant funding
- Measuring the pre-project impact of the museum
- Conducting a needs assessment of the museum
- Rehousing museum materials, conducting preservation tasks, and updating interpretive text
- Conducting a training session for museum volunteers on preservation methods
- Measuring the impact of preservation efforts

The poster discusses how a project of this nature is designed and implemented.

Haley West

Project advisors: Dr. Rupa Gordon, psychology; Dr. Ana Borderia Garcia, Spanish

Effect of Proficiency Level on the Neural Responses of Students Learning Spanish as a Second Language

Poster Session (P1) #8: Gävle Room, The Gerber Center

This study examines the effect of Second Language proficiency on the hemispheres of the brain. This will tell us if and how the brain processes a second language differently. Comparisons explore English versus Spanish listening tasks, and right versus left hemisphere activation in students with varying proficiencies in the Spanish program at Augustana. This is one of the first experiments to use the new in-house electroencephalography (EEG) technology in the Augustana neuroscience program.

Kendra Rakers, Dr. Danielw Cortis

Project advisor: Dr. Dan Cortis, psychology

The Role of Memory Self-Efficacy and Age on Prospective Memory Performance

Poster Session (P1) #9: Gävle Room, The Gerber Center

Prospective memory (PM) is remembering to perform a task in the future, which may be affected by age and memory self-efficacy. Memory self-efficacy is the confidence one has in one's memory. If a specific brain area involved in prospective memory is targeted through a focal prospective memory task, age differences and memory self-efficacy scores will predict prospective memory performance. This study measured memory self-efficacy through a 20-item survey and prospective memory performance through a focal memory task. It is expected that the younger group (ages 18-25) will perform better than the older group (ages 70 and older) on the memory task, and that self-efficacy scores will be able to

predict this difference. The overlap of memory self-efficacy and prospective memory performance is novel to the field of cognitive neuroscience, and the results of this study can contribute to the understanding of aging memory.

Caleb Ivey

Project advisor: Dr. Ian Harrington, psychology

Theatre and Its Role in Memory and Empathy

Poster Session (P1) #10: Gävle Room, The Gerber Center

The purpose of this research project is to assess the extent to which theatrical training plays a role in memory and emotional reactivity. Prior research has found that there is a correlation between theatrical training and memory/cognition (e.g., Noice, 2006). These studies show that there are benefits to learning theatre in order to promote healthy cognitive aging. Since past studies focused mainly on age groups such as 60+, the goal of this study is to understand whether there is a distinction between theatrically trained and non-theatrically trained college students. In this study, being theatrically trained is defined as having experience in theatre during high school or college. Since theatre students are often tasked with memorizing dialogue throughout the course of a play, it is hypothesized that they will be able to retain memory of particular words better than non-theatre students, under the circumstance that they are not aware of the need to remember for the secondary memory test. It is also hypothesized that there will be more noticeable physiological responses towards the emotional video in the theatrically trained group in comparison to the non-theatrically trained group. Since actors are tasked with portraying the emotions of a theoretical character, it is believed that they will exhibit larger fluctuations in skin conductance as well as heart rate.

Katherine Knauft

Project advisor: Dr. Ian Harrington, psychology

Why Don't You Just Say What You Mean? An Analysis of the Utility of Metaphor

Poster Session (P1) #11: Gävle Room, The Gerber Center

Metaphors are a type of descriptive figurative language in which the characteristics of a *vehicle* are ascribed to a *subject*. In the example "My marriage is an icebox," "icebox" acts as the vehicle and its characteristic chilliness is used to describe the subject, "my marriage." Use of metaphor, rather than literal language, requires additional context in order to be understood and often leaves more room for misinterpretation. If metaphors continue to be used despite the risk of miscommunication, they must achieve something that literal language does not. Two primary explanations are hypothesized for why metaphors are used rather than their literal counterparts. Citron and Goldberg (2014) found that metaphorical statements were considered more emotional than literal statements, and a study by Glucksberg, Gildea, and Bookin (1982) found that participants remembered the literal and metaphorical statements better than the scrambled metaphors or false statements, showing some memory advantage for metaphors even when asked to focus on literal statements. I hypothesize that when the emotional intensity of statements is controlled, metaphors will be better remembered than literal statements. Participants will complete a demographic survey and the Vividness of Visual Imagery Questionnaire, to control for any effects of mental imagery on the statements. Then participants will be shown a series of primed literal and metaphorical phrases that have been controlled for emotional intensity according to the results of a pilot study. The prime gives context to the statements to ensure that the metaphors are understood. The participants will also be asked to rate the emotional intensity of each phrase, to ensure consistency. After reading and rating the statements, the participants

will be given a recognition-based memory task, where they will be presented with a keyword from one of the statements and a word that did not occur in the statements and will be asked to indicate which word came from the previous statements. Reaction times will be recorded. This experiment is ongoing.

Kristian Clayton

Project advisor: Dr. Ian Harrington, psychology

The Use of Profanity to Quell Pain

Poster Session (P1) #12: Gävle Room, The Gerber Center

Swearing is a common occurrence in most societies (Van Lancker & Cummings, 1999) and studies have shown that it can be hypoalgesic (Stephens, Atkins & Kingston, 2009). The hypoalgesic effect of swearing, which can vary from one person to the next, is thought to arise from the induction of an emotional response (most commonly fear, anger and/or anxiety) in an individual (Stephens & Umland, 2011). Pain moderation can come from the emotions that an individual is feeling during the experience of pain, including fear and anxiety (Rhudy & Meagher, 2000). Pain catastrophizing, or someone's level of worry towards pain, can also affect an individual's perception of pain (Ginzburg et al., 2015). Pain catastrophizing is dependent on someone's overblown orientation towards pain involving hypersomatic sensations caused by continually focusing on the painful situation, thinking about how painful/unpleasant a situation will be, and an overall feeling of helplessness during the painful situation or leading up to it. On the basis of an individual's pain catastrophizing, an individual can be identified as high-catastrophizing or low-catastrophizing (Ginzburg et al., 2015). In general, high-catastrophizers react much more towards pain as they are the ones focusing more on the painful situation, while low-catastrophizers react much less towards pain, for they are not focusing on the painful situation as much. Pain catastrophizing and the perception of pain have also been linked to habituation, or the lessening of a response to stimulus after being exposed or exposing oneself multiple times to a stimulus. In the current study, I have taken measures to reduce the effects of habituation and pain-catastrophizing by limiting my participants to one round of a "painful" stimulus instead of multiple rounds. However, because habituation impacts both physiological and emotional responses, it is theorized that an individual's use of profanity can be affected by habituation (Stephens & Umland, 2011). As mentioned before, profanity elicits an emotional response from an individual usually revolving around fear, anger and/or anxiety. If someone uses profanity much more often on a daily basis than someone who doesn't, then they are eliciting emotional responses over and over again (Stephens & Umland, 2011). With these factors in mind, in the present study I will explore the ability of profanity to quell an individual's feeling of pain. I will also explore the possibility of an individual's catastrophizing level, fear of pain, and profanity usage to mitigate the usefulness of profanity while in a painful situation. I will be recording their own subjective rating of pain and physiological arousal through skin conductance and heart rate. I expect that, in general, profanity will help quell an individual's feeling of pain. This will be reflected by the participant's subjective response as well as their physiological responses. I also theorize that high-catastrophizing individuals will perceive greater pain than those who are low catastrophizers; those with a greater fear of pain will expect to have a higher hypoalgesic effect; and those who use profanity more often in a day will have a habituated response towards the effectiveness of cursing. Not only do I expect those responses, I also believe that if my hypothesis follows through, I will be able to formulate a rough equation encompassing all of these factors allowing myself to give a rough estimate on someone's rating of pain before they actually receive a painful stimulus. Pain will be

induced through an electroshocking device, specifically the human-to-human interface by Backyard Brains, which involves a TENS electrostimulation device. Data collection is currently being done and is on-going.

Nellie Bubb

Project advisor: Dr. Rupa Gordon, psychology

Buffering Emotional Stress Together

Poster Session (P1) #13: Gävle Room, The Gerber Center

Child development can be affected by early life stress, caregiver intervention and adversity, all of which have the potential to influence both psychological and physical functioning of the child. Through a consortium study occurring at six different institutions around the country, the Buffering Toxic Stress Study aims to evaluate how caregivers, prevalence of support structures, and stress levels affect the well-being of a child. During my summer internship at the Child Development Lab at Denver University, the study investigated the role of the Hypothalamic-Pituitary-Adrenal Axis on development of increased sensitivity to stress, poor immune functioning, fat deposits, and changes in thoughts and behaviors. Through a multi-year cohort study design, this study examined both caregiver and child characteristics' and behaviors through different biological, social and psychological measurements.

Joshua Symal

Project advisor: Dr. Daniel Cortis, psychology

Body Image in Division-Three Male Athletes: An Assessment of the Effects of Weight Pressure and Body Ideals on Body Image

Poster Session (P1) #14: Gävle Room, The Gerber Center

Body image is how people think, feel and behave with regard to their own physical attributes (Muth and Cash, 1997). The ideal male body has gone from being very average during the 20th century to being almost unattainable in the 21st century. The turn of the century shows an ideal defined by hypermesomorphism, or an extremely muscular/sturdy body build. This pressure can be seen in studies that show that anywhere from 28% to 68% of "normal weight" adolescent boys and young men feel that they are underweight and want to gain muscle (McCreary and Sasse, 2000). The pressure to gain weight or muscle is defined by Galli and Reel as weight pressure in their 2009 study. This study explored the impacts that perceived body image and weight pressure have on male athletes. Twenty male athletes participated in this within subjects study. Each participant completed two sorting tasks (one of silhouettes and one of actual images) as well as the weight pressure in sport scale. The sorting tasks included individual pictures of the participants in order to observe the way that they view their own body, both when they are aware they are viewing their own body and when they are unaware that they are viewing their own body. My first hypothesis is that an individual will rank his body image higher when he does not know that it is his own. My second hypothesis is that individuals that score higher on the weight pressure scale will be more critical when judging their own bodies. Participants viewed their bodies as more desirable in the actual image condition than in the silhouette condition, $t(20) = 2.042$, $p = 0.055$, $M = 0.900$, $SD = 1.97$. The difference in the participants ratings were highly correlated, however not at a significant level, $r = -0.381$, $p = 0.097$. Contrary to my prediction, participants viewed their body as more desirable when they were aware of their body than when they did not. This may be in part due to a low number of participants, $n = 20$, as well as inconsistent photo alterations. This research provides insight for coaches and other athletic personnel at division-three colleges regarding the treatment of male athletes.

Frances Compere, Dr. Scott Gehler

Project advisor: Dr. Scott Gehler, biology

Semaphorin3A Increases Focal Adhesion Formation to Shift the Relationship Between Cell Migration and Substratum Concentration Through a ROCK-dependent Mechanism

Poster Session (P1) #15: Gävle Room, The Gerber Center

Cell migration is essential for many life processes, including wound healing, embryonic development and cancer metastasis. Cells move across a surface by interacting and forming adhesions with the molecules in their environment, specifically the extra-cellular matrix. Past studies have shown that there is an optimal level of cell-substratum adhesive strength that allows for the most cell migration and spreading (DiMilla et al., 1993; Gaudet et al., 2003). The mechanism by which this works is not well understood, however. Semaphorin 3A (Sema3A) has been shown to increase the expression of integrin receptors, which help mediate the formation of the adhesions between a cell and its substrate in breast cancer cells, but also inhibit the motility of these cells (Pan et al. 2009). We propose that Sema3A changes cell adhesion dynamics to cause the change in breast cancer cell migration on different concentrations of various ECM. First, MDA-MB-231 breast epithelial cell migration and spreading were measured on various concentrations of collagen type 1, fibronectin and laminin 1. The results demonstrate that Sema3A inhibits cell migration and spreading on high concentrations of collagen but enhances cell migration and spreading at lower collagen concentrations. In addition, analysis of cell morphology demonstrates that Sema3A-treated cells were more elongated on all concentrations of collagen. Sema3A had less robust effects on cell migration, spreading and morphology when cultured on fibronectin and laminin. Second, inhibition of Rho-associated protein kinase (ROCK) blocks the Sema3A-mediated effects on cell migration and spreading when cultured on all concentrations of collagen. Third, Sema3A increases focal adhesion formation on all concentrations of collagen and fibronectin, but not laminin. However, inhibition of ROCK blocks Sema3A-enhanced focal adhesion formation on collagen. These results suggest that Sema3A shifts the optimal level of cell-matrix adhesions to a non-optimal ECM concentration—in particular collagen, to yield maximal cell migration and spreading that is mediated through a ROCK-dependent mechanism.

Mackenzie Steen; Dr. Michelle Fingeret, University of Texas MD Anderson Cancer Center; Dr. Lisa Trahan, University of Texas MD Anderson Cancer Center

Project advisor: Stephanie Fuhr, biology

Patients' Experiences of Communication Surrounding Surgical Treatment for Cancers of the Mid-Face

Poster Session (P1) #16: Gävle Room, The Gerber Center

Treatment of head and neck cancer often requires the use of appearance altering surgery. The effects of these surgeries are especially pronounced for patients with a cancer in the highly visible mid-facial region. The goal of this project was to gain a greater understanding of the experience of patients with a cancer of the mid-face region who are being treated with surgery at a large cancer treatment center in the Southern United States. Twenty semi-structured interview transcripts with patients with a cancer of the mid-facial region were read and analyzed using an inductive, open-coding approach. From the codes produced, three central themes of the patient experience were identified: the communication of information to the patient by the health care team, cognitive processing of the information by the patient, and the context of the emotional experience of the patient. Each of these themes contributed to form the development of patients' perceptions of their surgical outcomes. These results aid in our understanding of the experience of patients being surgically treated for a mid-facial cancer.

Laura Ames

Project advisor: Dr. Jeffrey Strasser, geology

Environmental Geochemistry Of Sediments And Soils In Rock Island County: Heavy Metals In The Dirt

Poster Session (P1) #17: Gävle Room, The Gerber Center

This study investigates soil samples from three sites in Rock Island County, Illinois, for anthropogenic heavy metals Pb, Zn, Cr, As, Ni and Cu. Samples were collected from contrasting sites: Hodge Park ravine (urban Rock Island, IL), an older residential site (urban Moline, Ill.), and Augustana's Collinson Ecological Preserve (rural Milan, Ill.). The Collinson Ecological Preserve serves as a control site, as there is no evidence of anthropological disturbances, although the introduction of airborne metals cannot be ruled out. The Hodge Park ravine is hypothesized to be contaminated by heavy metals that have been washed in from nearby streets and urban sources. The residential site is also hypothesized to be contaminated, particularly by Pb since the painted wood frame house was constructed in the early 1900s. The latter two sites have soil samples collected from two depths ranging from 15 and 85 centimeters. Soil samples were milled and were analyzed using a Rigaku Supermini X-Ray Fluorescence Spectrometer (XRF). The results from this analysis will help us understand the extent of anthropogenic heavy metal contamination in Rock Island County, processes by which metals are introduced to the system, and potential human health risks.

Bennett Hartmann; Dr. Isabelle Bedrosian, University of Texas MD Anderson Cancer Center; Dr. Constance Albarracin, University of Texas MD Anderson Cancer Center

Project advisor: Dr. Heidi Storl, philosophy

Evaluation of Ki-67 Expression in Benign and Malignant Breast Cancer Tissues

Poster Session (P1) #18: Gävle Room, The Gerber Center

Background: The current model for breast cancer risk assessment is the Gail Risk Model. This model uses key clinical history factors to determine a woman's risk for developing breast cancer in the next five years. This model does not include any direct factors in the assessment, such as levels of Ki-67. Ki-67 is a nuclear protein that is present during all active phases of cell proliferation. The objective of this study is to determine if Ki-67 expression is related to the Gail Risk score. **Design:** 150 patients without cancer and 150 patients with cancer were prospectively recruited. Tissue was collected from residual surgical specimens. Immunohistochemical staining was used for Ki-67. Levels of Ki-67 expression were quantitated by digital image analysis using ImageJ software. **Results:** Ki-67 expression was 10% higher in cancer cases than in the control cases. The levels of Ki-67 expression in benign breast tissues do not correlate with Gail Risk score. **Conclusion:** Since Ki-67 is not related to the current Gail Risk Model, adding it to the model may improve breast cancer risk prediction.

Nathan Gray

Project advisor: Dr. Heidi Storl, philosophy

Texas Medical Center: Biomedical Illustrations

Poster Session (P1) #19: Gävle Room, The Gerber Center

The poster presents biomedical illustrations for a cardiothoracic surgeon.

Katrina Ponder

Project advisors: Dr. Michael Wolf and Dr. Jeffrey Strasser, geology

Environmental Geochemistry of Soils from a Former Industrial Site on Sylan Island, Moline, IL

Poster Session (P1) #20: Gävle Room, The Gerber Center

As cities repurpose their land, it is common to turn former industrial sites into public space, although the extent of environmental hazards may remain unknown. Sylan Island, located in the Mississippi River in Moline, Illinois, is the site of an abandoned steel mill which has since been transformed into a public park, with trails for hiking and mountain biking. Although access to the park is limited, due to closure of the original bridge, a new bridge is scheduled for construction in the near future, and the city anticipates increased use by the public. Many industrial relicts remain on the island, including steel rails and building foundations. This study analyzes soil samples obtained from several different locations on the island in order to assess possible health risks to humans, particularly from heavy metals associated with the industrial activities. A similar study in Almalyk, Uzbekistan, revealed widespread contamination of soils, particularly of Cu, Zn and Pb, with soil contaminant concentrations decreasing farther away from the suspected source (Kodirov and Shukurov, 2009). Fifteen soil samples were taken around three sampling sites in close proximity to the abandoned railway, the mill's entrance, and the current park entrance. Analyses are under way, but it is hypothesized that soils closer to the plant entrance will show significant heavy metal contamination, possibly exceeding safe limits established by the EPA. The accumulation of heavy metals in surface soils leads to the contamination of surface water, which may then get into groundwater, as well (Chen et al., 1997). Plants that are grown in polluted soil may then be eaten by animals. As Sylan Island is a 38-acre island covered almost entirely by vegetation, highly polluted soils could have an impact detrimental to the ecological health of the island.

Danny Fulton

Project advisor: Dr. Michael Wolf, geology

Geochemical Characteristics of the Castle Rock Conglomerate with Implications for Provenance

Poster Session (P1) #21: Gävle Room, The Gerber Center

The late Eocene Castle Rock Conglomerate (CRC) is one of the youngest preserved sedimentary rocks found in the Denver Basin. It is a thick, heterogeneous, arkosic conglomerate with large blocks of granite, quartzite and Wall Mountain Tuff found in it (Evanoff, 2007). The latest Eocene age is based on its stratigraphic position as well as the existence of blue-grayish quartzite clasts and sourced from Coal Creek Canyon, roughly 75 km to the Northwest. This study attempts to determine the provenance of other clasts in the CRC, sampled in Castle Wood State Park, by analyzing the geochemistry of different clasts and comparing them to suspected bedrock sources elsewhere in the Colorado Rockies, in an effort to develop a clearer understanding of the timing of post-Laramide erosional processes. Samples were collected from several locations within Castle Wood Canyon, and two suspected bedrock sources were sampled at Coal Creek Canyon and Staunton State. Geochemical analyses of bulk rock samples were performed by XRF analyses in order to identify potential bedrock sources. Provenance of CRC hypothesized to be transported from the Northwest of Castlewood Canyon.

Laura Behymer

Project advisor: Dr. Michael Wolf, geology

The Heat Treatment and Irradiation of Yellow Tourmaline

Poster Session (P1) #22: Gävle Room, The Gerber Center

The heat treatment of tourmaline has been widely studied, as the exposure to high temperatures results in an improvement in the clarity, color and value of the mineral (Rossman 2007, Ertl 2007, Nassau 1975). Many attribute the color of yellow tourmaline to manganese 2+ dispersed throughout the crystal matrix. When this manganese is exposed to high temperatures, oxidation occurs and the Mn 2+ is converted into Mn 3+. This change in valence is generally also associated with a color change from yellow to a deep red. In order to assess potential improvements in the yellow tourmaline from a new East African deposit, heat treatments were performed at a range of temperatures. The tourmaline was also irradiated by being placed in the presence of natural uranium-bearing minerals for several months to test whether the gamma radiation from the uranium would induce the oxidation of the Mn, by displacing an electron. The composition of the tourmaline was measured using an X-ray fluorescent spectrometer (XRF). The color change was characterized using a VIS/NIR GL Gem spectrometer. Results from these heat treatments have yielded similar outcomes to others' previous experiments, with greater color change coming from higher temperatures for extended periods of time. Little to no color change was recorded in the radiation experiments. Only small amounts of manganese, roughly .001%, were found in the XRF analysis of the stones, in contrast to the Mn-rich tourmaline in others' experiments which contained 3-8 wt.% MnO. The XRF was calibrated and programmed to specifically measure Mn, and counting took place for 300 seconds at the peak, and for 30 seconds each on two backgrounds. Ten points were included on the calibration curve with standards varying from 0-4300 ppm Mn. The low amounts of Mn that were found could imply that much less than 3 wt.% MnO is needed to color these tourmaline gemstones, or that another element is the cause of the coloration.

Lucas J Ratzer

Project advisor: Dr. William R. Hammer, geology

Postcranial Remains of a Sauropodomorph Dinosaur From the Lower Jurassic of Antarctica

Poster Session (P1) #23: Gävle Room, The Gerber Center

The first dinosaur fossils found on the Antarctic mainland were discovered during the 1990-1991 austral summer on Mt. Kirkpatrick in the southern region of the Trans-Antarctic Mountains. These remains of *Cyrolophosaurus ellioti* were found in the early Jurassic Hanson Formation. At this same site, a femur, tarsals and metatarsals of a long-necked, plant-eating dinosaur, subsequently named *Glacialisaurus hammeri*, were also discovered. *Glacialisaurus* is a basal member of the Sauropodomorpha, a group that includes such famous titans as *Apatosaurus* and *Diplodocus*. In the 2010-2011 season, new material from basal sauropodomorphs was found: a scapula and part of an ischium were collected from the original quarry that produced *Cyrolophosaurus* and *Glacialisaurus*. Additional material representing two different new basal sauropodomorphs was collected from other sites on Mt. Kirkpatrick. By comparing the traits of the scapula and ischium to those of other basal sauropodomorphs, as well as to those of more derived sauropodomorphs, this project set out to identify the genus that the material from the original quarry belonged to. Based on the morphology, the size and the location of the specimens, it was deduced that the material indeed belonged to a basal sauropodomorph, most likely *Glacialisaurus*.

Emma Stough

Project advisors: Rebecca Zitzow and Quan Vi, communication and marketing

Photo Bureau

Poster Session (P1) #24: Gävle Room, The Gerber Center

The pictures are all representations of Augustana students, faculty and events that were taken this year and last year as part of my job at the Augustana Photo Bureau.

Amanda Moore

Project advisors: Rebecca Zitzow and Quan Vi, communication and marketing

Photo Bureau

Poster Session (P1) #25: Gävle Room, The Gerber Center

I am a sophomore at Augustana College, majoring in computer science with a minor in Spanish. This is my second year working for the Augustana Photo Bureau. I get to see some really beautiful things when I'm out on assignments. These are some of the things I've captured this school year.

Lauren Becker

Project advisors: Rebecca Zitzow and Quan Vi, communication and marketing

Photo Bureau Work

Poster Session (P1) #26: Gävle Room, The Gerber Center

These pieces of photography display what I do as a photographer for the Augustana Photo Bureau, in creating campus beauty or events come to life in the viewer's observation.

Marlisa Barrett

Project advisors: Rebecca Zitzow and Quan Vi, communication and marketing

Photo Bureau Portfolio

Poster Session (P1) #27: Gävle Room, The Gerber Center

This is a collection of photos taken for Augustana Photo Bureau throughout the school year.

Tawanda Mberikwazvo

Project advisors: Rebecca Zitzow and Quan Vi, communication and marketing

Photo Bureau

Poster Session (P1) #28: Gävle Room, The Gerber Center

These photos are from the work I produce for the Office of Communication and Marketing. The photos we take in the Photo Bureau are used in print pieces and on the website.

Karina Huerta, Cindy Morales, Marlen Gomez, Aaron Volk, Samantha Noble, Alexis Hoelper, Alyssa Nelson, Chelsea Mentado, Ashton Hutcheson, Chelsie Dean, Haley West, Alexiss Santoni, Linnea Ritchie, Nora Bosslet, Meghan Grahs, Jon Elsey

Project advisor: Dr. Araceli Masterson-Algar, Spanish

La Frontera Norte: Thinking the Border from the Borderlands

Poster Session (P1) #31, 32: Gävle Room, The Gerber Center

Art installation, including four visual projects and two posters, addressing ways in which we should reunite the U.S.-Mexico borderlands.

Allen Bertsche**Augie Abroad Photo Contest Ceremony**

Poster Session (P1): Fireplace outside Gävle Room, The Gerber Center

Each year Augustana celebrates its culture of study away through the Augie Abroad Photo Contest. Students are invited to submit photos taken as part of Augustana study away programs from the past year in four categories: architecture and design, culture and celebration, nature, and images of Augustana students. During Celebration of Learning, the winning photos are revealed and placed on display in The Gerber Center and Thomas Tredway Library. This year we will showcase an outstanding selection of photos from places and programs as diverse as Spain, Cambodia, Italy, Norway and Nicaragua.

SENIOR ART SHOW GALLERY TALKS: AUGUSTANA TEACHING MUSEUM OF ART

GROUP 1: 10:30-11:45 A.M.**Holly Scholl**

Project advisor: Kelvin Mason, art

Twenty-Four Hours

SESSION I-AS-1: Augustana Teaching Museum of Art Gallery (10:30-11:45 a.m.)

Twenty-four hours. These hours are the graph paper we plan our lives according to. This small window of time is a rut humanity tends to get stuck in. Up close, a successful day is defined by checklists and word counts, leaving little room to credit hours spent on personal growth that cannot be understood under the scrutiny of a microscope. Although these hours chart our lives, there is much more that we count in a day. The moments. The constant rhythm of crescendos and diminuendos made up of our experiences. Stopwatches, countdowns and clocks don't record the parts that make up a life. When we take one second of one hour to be appreciative, the intricate details of life become illuminated as a whole.

Ryen Merhar

Project advisor: Kelvin Mason, art

Emotions

SESSION I-AS-2: Augustana Teaching Museum of Art Gallery (10:30-11:45 a.m.)

Art allows emotion to be expressed visually, and in this case, physically as well. The tapestries in front of you represent specific emotions attached to personal experiences. Although all experiences are unique to each individual, the emotions that are attached to our personal experiences are universal. Each tapestry is labeled with the emotion and experience behind it. Although you cannot necessarily relate to the specific experiences, the emotions expressed in these pieces can evoke feelings and memories that are personal to you. While working on the pieces presented today, new emotions and realizations surfaced. Through art, I am able to constantly learn more about myself and the meaning behind feelings endured each day. It is encouraged to touch the tapestries, as I believe the texture of each piece correlates to the emotion it conveys.

Jacob Soukup

Project advisors: Kelvin Mason and Peter Xiao, art

The Excitement of Life

SESSION I-AS-3: Augustana Teaching Museum of Art Gallery
(10:30–11:45 a.m.)

These recent paintings explore the presence of excitement, energy and adrenaline rush one can capture in a moment. Oil paints have a quality that can make a painting come to life. This lifelike quality is exactly what I strive to capture in a way that allows the viewers to put themselves inside the painting. The inspiration for these paintings came from my own experiences of adventure and risk-taking. The use of foreshortening and distortion helps give the figures a sense of energy and create movement throughout the composition. By portraying the various situations through a warped lens, I believe that it draws the viewer in to question what is going on in the painting. As a result from viewing my paintings, I hope to inspire the viewer to feel the urge to go out and try something new and exciting. If they are not the type of people to partake in activities like these, then I wish to have them feel a sense of anxiety or unease. This sensation is desired because as a result the viewers are fully interested and engaged with the work to a point that it triggers their emotions. I feel that if you are touched on that level, then my work has truly come to life.

Lauren Becker

Project Advisor: Kelvin Mason, art

The Voiceless

SESSION I-AS-4: Augustana Teaching Museum of Art Gallery
(10:30–11:45 a.m.)

The works of art display four pieces that incorporate photography and digital illustration. This exhibition is meant to capture the attention of the dangerous and painful effects of wildlife poaching. However, this exhibit twists how we may see poaching by displaying human beings as part of the torturous pain just a few of the animals may have to go through. Some of these pieces may be difficult to look at, but realistically this happens to many animals for the sake of self-interest, and therefore it is something that must be revealed in order to make a change. The only request from the artist is to take in the emotions of the pieces, as well as possible appalling reactions. Now think about family, friends or anyone close as the people featured are to the artist and imagine them in the same excruciating condition. Would you take action then?

Katherine Knauff

Project advisor: Kelvin Mason, art

Acquaintance

SESSION I-AS-5: Augustana Teaching Museum of Art Gallery
(10:30–11:45 a.m.)

Classmates, cashiers, acquaintances and strangers. Every day we interact with dozens of people living unique, complex lives entirely separate from our own. Some lives are so intertwined with ours that we feel as if we know everything about them. Some people we meet briefly, never to see again. However, most people we see, whether in class or at work, or in passing, we see in pieces. These details are only fragments of the people they are, robbed of the context that is necessary to make them meaningful. This piece serves as a reflection of human interaction and a reminder that we only get a glimpse into the lives of most people we interact with.

GROUP 2: NOON–1:55 P.M.

Timothy Clifford

Project advisor: Kelvin Mason, art

The Seeker

SESSION II-AS-1: Augustana Teaching Museum of Art Gallery
(Noon–1:15 p.m.)

The works of art display three digital illustrations that show a visual development to a story that can be used for either game, film, animation or comic book industries. The idea of this work is to give enough background and detail through imagery about the characters and landscapes that would exist within this world. The work displayed shows a full character turnaround with a front, back and side view and two full sceneries depicting where the characters exist. These backgrounds show the viewer's perspective from both towns and displays how the world looks around them. All of this helps show both animators and 3-D modelers exactly how the character and the world will be visualized within the story. These initial ideas will help save both time and money by quickly and efficiently portraying different preliminary designs before the finalization of fully rendering them.

Nathan Gray

Project advisors: Peter Xiao, art; Karen Petersen, director of employer relations

The Town

SESSION II-AS-2: Augustana Teaching Museum of Art Gallery
(Noon–1:15 p.m.)

Nathan Gray

"The Town"

Rock Island can be viewed from two perspectives; to some it's where you attend college and to others it's home. Being molded as a Rock Island Rock comes with a certain attitude and a sense of pride that is pretty rare. Your friends *are* your family, and no matter where life takes most people, they will never like Moline. Although all of Rock Island isn't pretty, every inch of it is considered "The Town" for a reason. All of these places are well-known to townies for one reason or another. Whether it's a hole-in-the-wall bar, a rundown park or an oddly large rock outside a school, they are all pieces to a place townies call home.

Tyler James

Project advisor: Kelvin Mason, art

Fears Within Dreams

SESSION II-AS-3: Augustana Teaching Museum of Art Gallery
(Noon–1:15 p.m.)

The intent of my senior project was to explore and bring awareness to the influence negative emotions can have on dreams. I created objects in a variety of scenes demonstrating types of fears that we can have, and the resulting effects. I also show that dreams, just like stories, can be interpreted differently, depending on the viewer. To add a story-like element to my project, I created a ball as the "main character" in each scene, which is shown dealing with the fears. Some fears are associated with family, death, separation, loneliness and restriction. To help the viewers interpret what they see, I included minimal narration. The narration incorporated titles that show up between each of the scenes to introduce them to the main idea. Fear is something that we have to deal with throughout our entire lives. However, just because fear has a stigma attached to it does not mean that it is entirely bad. Fear, just like love or hatred, is a powerful emotion that can drive us to accomplish great

things. I associate fear with dreams because fear is not something that most people enjoy talking about. Instead, we may experience fear subconsciously, in our dreams or nightmares.

Bailey Kerschietter

Project advisor: Kelvin Mason, art

It Goes On

SESSION II-AS-4: Augustana Teaching Museum of Art Gallery

(Noon–1:15 p.m.)

These landscape paintings represent the “past,” “present” and “future.” Although all three paintings appear to be futuristic, they still tell a story of moving from one time period into another. The theme of this show was inspired by a Robert Frost quote: “In three words I can sum up everything I’ve learned about life: it goes on.” Each landscape consists of trees because they are known to represent life and growing. Over time, because of the human footprint on the planet, we caused trees and other like-organisms to die. So humans decided to create structures to resemble trees but had to find a way to also disperse air through the structure (hence the mushroom-like trees where air is made, filtered and dispersed through the bottom of each mushroom-like cap). The idea of the trees/like-organisms dying and being rebuilt throughout time can also represent hardship that we all go through during life (dying trees) and the process of building ourselves back up again, adding new qualities to ourselves (new mushroom-like trees). The reasoning behind this choice of theme was because it can speak to a large audience, and it can represent the ongoing process of life: how it drags you down and brings you back up again (it goes on).

Sydney Crumbleholme

Project advisor: Kelvin Mason, art

Untitled Installation – Senior Art Exhibition

SESSION II-AS-5: Augustana Teaching Museum of Art Gallery

(Noon–1:15 p.m.)

This table-presentation reflects my personal experience with rape and assault. Rather than approaching the content in a traditionally radical way, my project invites the audience to view the disturbing subject matter from a quieter angle. I chose to emphasize what was most traumatic about my experience—the emotion inflicted by the disheartening things that were said to me when I opened up about my situation. Each spiraled plate of text represents categories such as “Things he said to me,” “Things he said about me,” “Things they said to me,” “Things they said about me,” “Things I said about myself,” and finally a plate without words—signifying the silence I had for so long. I selected the medium of ceramics because it highlights the idea that “What you say is set in stone.” Even if words are taken back, they still leave an impression. The woven placemats allude to women’s ripped undergarments, the knives symbolize that everyone is capable to stabbing someone in the back or in the heart—even yourself, and the wine glasses represent communion—how Christ’s blood washes away our sins, no matter how bad. A significant portion of my project is a handmade journal, which includes vignettes of physical details. This journal is 490 pages long, because the Bible says to forgive someone 70 times seven times a day. I invite those who view my project to participate in writing in the remaining pages of the journal. My desire is to offer a safe and anonymous way to share private experiences that are often left unsaid due to fear of negative response. My goals for this project were to recognize the many voices around me, and to give one to myself in the process. My hope in sharing my experience is that it inspires others to use their voices in a powerful way. **NOTE:** The project contains material about sexual assault that may be triggering to some viewers.

ORAL PRESENTATIONS & PERFORMANCES

10:30 a.m.–3:15 p.m.

A–Hanson 102

B–Hanson 304

C–Hanson 305

**D–Quad Clock (rain site: Hanson Hall,
1st floor atrium and 1st floor foyer)**

E–Old Main 021

F–Old Main 028

G–Old Main 132

H–Olin Center 305

I–The Gerber Center, Gävle Rooms

J–Bergendoff Hall of Fine Arts, Larson Hall

K–Gazebo (rain site: Library, 2nd floor)

Note: There are multiple concurrent presentations during each one-hour time block. It is expected that presenters sharing a given time and room will divide the available time evenly (e.g., four presenters each have 15 minutes total for delivering their presentation and answering questions). Presenters appear in the order expected during the hour. Those attending a session will be expected to attend for the full hour rather than entering/exiting between presenters. This will minimize disruption and time between presenters. Moderators for each session will be tasked with keeping speakers on time and, if necessary, interrupting a presentation if running long to allow time for all presenters.

SESSION I-A (HANSON HALL 102) 10:30–11:30 A.M.

FEATURED PRESENTATION I (OLIN AUDITORIUM) 10:30–11:30 A.M.



Björn Lyrvall, Swedish Ambassador to the U.S., and a panel of Augustana students
Discussion of Swedish/U.S. Relationships and International Education

Ambassador Björn Lyrvall, Swedish Ambassador to the U.S., will present with a panel of Augustana students: Erik Anderberg, Elin Eken, Niklas Gullstrom, Savindri Jayawardana and Brett Mignin. The

presentation will begin with Ambassador Lyrvall’s remarks on the Sweden-United States relationship, followed by a conversation with students from Sweden, Sri Lanka and the United States on how foreign travel and study have shaped their views on the United States and its relationship with other nations.

McKenna Burns, Dan Herrera

Project advisors: Dr. Timothy Muir and Dr. Tierney Brosius, biology

The Truth About Undergraduate Scientific Research

SESSION I-A-1: HANSON HALL 102 (10:30–10:45 a.m.)

Undergraduate research is vital for STEM students pursuing graduate school or research-related careers. Students with little to no research experience often find it difficult to break into research opportunities. Current Augustana students will share their experiences and advice on beginning your undergraduate research career. Topics range from contacting potential research advisors and funding to daily mishaps and learning curves. There will be time for questions following the short presentation. Representatives from CORE, as well as students with research background in biology, environmental studies, geology, geography and chemistry will be present.

Sara Tomasello

Project advisor: Stephanie Fuhr, biology

Developing a Smart DBS: Deciphering Brain Networks for Adaptable Stimulation

SESSION I-A-2: Hanson Hall 102 (10:45–11 a.m.)

This presentation showcases research performed at the Colorado Neurological Institute focused on patients diagnosed with Parkinson's disease (PD) patients. Individuals with PD have various motor deficits that do not respond solely to medication and therapy. The goal of this project was to create an Adaptive Deep Brain Stimulation (DBS), which can predict the action the patient will perform and adjust the stimulation accordingly. Currently, DBS systems are set at a comfortable voltage for the patient in the operating room, and that is the voltage it constantly uses. This set voltage may help eliminate the tremor, which is commonly present in PD patients, but it may not have the most positive effect on their speech intelligibility. With an adaptive device, the voltage would change based on the predicted action of the patient, and it would hopefully result in a more positive outcome for whatever the action the patient is trying to perform (walking, writing, speaking, etc). The components of this project included preparing EEG recordings/testing and audio, and tongue and verbal fluency analyses. The EEG recordings/testing were about a two-hour session, which consisted of having the patient perform tasks such as: left/right button press, reaching, verbal fluency and tongue extension all while stimulation was off, except for during resting points. All in all, from the spectrograms that were created from the analyses of the EEG recordings/testing, it was evident that behaviors could be detected from the EEG waves (speech, motor, etc). If these behaviors can continue to be accurately detected from a person's EEG waves, then an adaptive device should be on its way soon, which would benefit PD patients tremendously.

Alyssa Nelson

Project advisor: Stephanie Fuhr, biology; Dr. Aoshuang Chen and Dr. Guoxing Zheng, University of Illinois College of Medicine at Rockford, Ill.

Resistance of B-1 cells to dexamethasone depends upon the GR β /AKT axis

SESSION I-A-3: Hanson Hall 102 (11–11:15 a.m.)

Autoimmune disease by definition is a condition where autoantibodies are produced against the body's self-antigen, and these autoantibodies destroy the body tissue. Vaccination against autoimmune disease has long been an attractive idea. Since the goal of treating these autoimmune diseases is to dampen the immune response, conventional immunization—where an “immunogenic adjuvant” and antigenic peptide is injected—will augment the immune response rather than suppress it. Instead, to reduce the immune response and evoke a tolerogenic response to the self-Ag, “suppressed immunization” is used, where a glucocorticoid immunosuppressant, Dexamethasone (DEX), is injected along with an antigen (Ag), and a tolerogenic response follows. This lab showed during *in vivo* treatments of DEX, B-1 cells, which have been found to play a tolerogenic role are up-regulated and protected along with an activation of Ag-reactive IL-10+ (anti-inflammatory), while simultaneously increasing apoptosis in B-2 cells that are responsible for the pathogenic response previously shown. We now wish to understand the reason for B-1 cell protection against DEX-induced apoptosis. Results for a high level of GR β in B-1 cells that functions to activate the PI3K-Akt signaling pathway, which is involved in cell growth and survival, creates a hypothesis for a defective GR β in B-2 cells. To further examine this theory *in vitro*, isolated peritoneal cells

were treated with DEX alone, an Akt mechanistic inhibitor, and a combination of the two to test if this pathway renders an explanation for the specificity of cell death caused by DEX. Our results show the involvement of the PI3K-Akt pathway by a decrease in the viability of B1 cells, in coordination with a combination treatment involving DEX and the Akt inhibitor, displays its importance in cell survival. These results verify how an effective GR β works to promote and induce the PI3K-Akt pathway to protect B-1 cells from DEX, while a defective GR β in B-2 leads to apoptosis, indicating the Akt pathway plays a role in protecting B-1 cells from Dex-induced apoptosis.

Aubrey Waddick

Project advisor: Dr. David Dehnel, political science

Changing Environments and Evolving Policy: A Comparative Analysis of International Environmental Operations in China and the U.S.

SESSION I-A-4: Hanson Hall 102 (11:15–11:30 a.m.)

Since 1978 China has experienced unparalleled growth, in both economy and pollution. Air pollution has become a particularly visible issue, attracting immense international attention. The 2013 airpocalypse prompted the PRC to mitigate its pollution through stronger policies, greater enforcement and agency reorganization. International non-governmental organizations (INGOs) saw these developments as a window of opportunity to partner with and enhance the government's effectiveness. However, China's unique political environment and vague regulations present INGOs with unfamiliar challenges. To be successful, groups operating in the PRC have revamped their past techniques and practices to fit into a Chinese context. Given China's closed political structure, it's natural to assume these patterns differ significantly from a representative democracy like the U.S. But, just how divergent are these strategies of interaction, and how does an INGO's impression of a government influence its behavior and efficacy? Through a series of interviews spanning two continents and eight organizations, the inventive and somewhat paradoxical nature of INGO organization, strategy and political worldview emerge.

SESSION I-B (HANSON HALL 304) 10:30–11:30 A.M.

Dr. Adam Kaul, sociology, anthropology and social welfare

A Cosmopolitan 'Sense of Place': Busking, Tourism, and Performance on the Streets of Galway, Ireland

SESSION I-B-1: Hanson Hall 304 (10:30–10:45 a.m.)

This paper examines the performative practice called “busking” in the context of the city of Galway on Ireland's west coast, one of the nation's premiere tourist sites. As prominent as busking is in many tourist destinations, it has rarely been studied. Street performance is an inherently liminal, risky and sometimes maligned practice in which musicians and artists use their bodies to create staged spaces out of cacophonous and chaotic streetscapes. On one hand, the interactive, sonic and visual experience of busking can add a great deal to the ‘tourism product’ of a major destination like Galway. On the other hand, busking can cause tension between performers, business owners and city officials. As a result, regulatory schemes are being implemented in many locales. Furthermore, an interesting irony has developed in Galway's busking scene: residents, city officials and artists increasingly link the practice of street performance to a localized “sense of place” there, but the practitioners themselves are highly international, cosmopolitan and mobile.

Dr. Kirsten Day, Classics

Aeneas in the Old West: Virgil's Hero in Western Film

SESSION I-B-2: Hanson Hall 304 (10:45–11 a.m.)

In recent years, scholars of classical receptions have demonstrated important generic parallels between Homeric epic and Western film. Largely neglected, however, have been equally significant connections with Roman epic. This paper works to remedy this omission, using classic Golden Age Westerns like *Red River* (1948), *High Noon* (1952), *Shane* (1953), *The Searchers* (1956) and *The Man Who Shot Liberty Valance* (1962) to show that along with Achilles and Odysseus, Aeneas too demonstrates clear parallels with the heroes of the Old West, an analogy that reinforces the important thematic and ideological affinities between Western film and ancient epic more broadly.

Dr. Brian Leech, history

Fastest Limit in the West: The American West's Fight against the National Maximum Speed Law

SESSION I-B-3: Hanson Hall 304 (11–11:15 a.m.)

One response to the 1973 oil crisis was the Emergency Highway Energy Conservation Act, which imposed a national maximum speed limit of 55 mph. The 1974 law meant to force Americans to drive cars at speeds deemed more fuel-efficient. Many in the U.S. eventually derided the law, but it received particularly venomous reactions in western states, including Nevada and Montana, which until 1973 had no posted speed limits on rural highways. This presentation will examine how the law challenged westerners' idea of themselves as rugged individualists in wide open spaces. Protests against the law helped to fuel a Sagebrush rebellion by westerners angry at federal overreach. Such concerns continue to this day, particularly in anger about public lands.

Dr. Joanna Short, economics

The Effect of the 1918 Influenza Pandemic on Demand for Life Insurance Among U.S. Working-Class Families

SESSION I-B-4: Hanson Hall 304 (11:15–11:30 a.m.)

This paper examines the effect of a sharp rise in mortality, the 1918 influenza epidemic, on demand for life insurance in the U.S. The BLS Cost of Living Surveys of 1918–19 provides a unique opportunity to examine the effect of the pandemic—some households were surveyed before, and others during or shortly after the worst of the influenza outbreak. Controlling for various household, city and regional-level variables, I find little evidence that the city mortality rate affected the purchase of ordinary or fraternal life insurance policies. The purchase of industrial policies, though, was affected by the disease environment. The effect of the number of life insurance agents and fraternal organizations in a city on life insurance demand also appears to rise in the post-flu period. This may indicate that sellers became more persuasive after the epidemic.

SESSION I-C (HANSON HALL 305) 10:30–11:30 A.M.

Linnea Ritchie, Charlie Bentley, Dr. Kimberly Murphy

Project advisor: Dr. Kimberly Murphy, biology

Genes encoding hypothetical proteins in Myxococcus xanthus: Exploring their role in motility and fruiting body development

SESSION I-C-1: Hanson Hall 305 (10:30–10:45 a.m.)

Myxococcus xanthus is a Gram-negative bacterium typically found in soil. When *M. xanthus* is under stressful starvation conditions, a complex developmental program is initiated that allows large groups

of cells to begin building multicellular fruiting bodies. The *M. xanthus* (strain DK1622) genome has been sequenced, and several genes encode hypothetical proteins. The role of these “hypotheticals” in *M. xanthus* motility and fruiting body development has yet to be investigated. Therefore, we disrupted a subset of these genes within the wild-type DK1622 genome. Resulting mutants were assayed for motility on nutrient rich media using swarm expansion assays. Each mutant was also assayed for fruiting body development using starvation media. Very few of the mutants tested have displayed a defect in motility or fruiting body development. Our results combined with others are helping the *M. xanthus* scientific community better understand the function of each gene in this organism.

Brandon Wills

Project advisors: Dr. Andrzej Joachimiak, Argonne National Laboratory; Cathy Hatzos-Skintges, Argonne National Laboratory

Purification, optimization, and growth of New Delhi metallo- β -lactamase-1 protein crystals mixed with NZ218 inhibitor

SESSION I-C-2: Hanson Hall 305 (10:45–11 a.m.)

New Delhi metallo- β -lactamase-1 is a problematic gene found in certain strains of bacteria that cause them to become antibiotic-resistant to nearly all known antibiotics. While some antibiotics are available to treat patients with a bacterial infection, most are toxic or do not have 100% success rates. With that being said, it is imperative that we search for a molecule that is successfully able to inhibit the effects of this gene every time. Such a discovery would help tremendously with new antibiotic drug development and also prevent further damage by these dangerous bacteria. In this presentation, I will describe the purification process for proteins expressed by the NDM-1 gene that we crystallized by dissolving them in our desired inhibitor, NZ218. Once the crystals were sizable enough for analysis, we cryo-protected the crystals and observed their protein structures using X-ray crystallography. In particular, we examined the structures closely for the presence of the NZ218 inhibitor in the active site.

Lizeth Tamayo

Project advisor: Dr. Pamela Trotter, chemistry

yIGDH1/3 in Yarrowia lipolytica

SESSION I-C-3: Hanson Hall 305 (11–11:15 a.m.)

This study focuses on the *yIGDH1/3* gene of *Yarrowia lipolytica*. *Yarrowia lipolytica* is a non-conventional species of yeast that has the potential to serve as a useful alternative to *Saccharomyces cerevisiae*—also known as “baker’s yeast.” Although *Y. lipolytica* has the potential to be a good model organism, not much is known about its metabolism. The importance of Glutamate dehydrogenase (GDH) is seen through its function. GDH is an enzyme that has the ability to catalyze the biosynthesis and degradation of glutamate, an important amino acid. After previous research showed that the *yIGDH1/3* gene of *Yarrowia lipolytica* encodes for homologous proteins within *S. cerevisiae*, *scGdh1p* and *scGdh3p*, obtaining a strain of *Y. lipolytica* in which the *GDH1/3* gene is disrupted would provide valuable information about the yeast’s metabolism. The properties of this yeast that make it an unconventional yeast as well as a good model organism for researchers to use to aid in the understanding of metabolic pathways that could ultimately one day help us know more about metabolic diseases such as diabetes and obesity. For this study, the targeted gene disruption of *GDH1/3* in *Y. lipolytica* was performed through the insertion of a *yURA3* and *yILEU2* marker.

Luther Grulke

Project advisor: Dr. Patrick Crawford, chemistry

Expression and Characterization of β -lactamase Produced by *Meiothermus ruber*

SESSION I-C-4: Hanson Hall 305 (11:15–11:30 a.m.)

Infectious bacterial diseases are responsible for many deaths worldwide because clinical antibiotics are often hindered by drug-resistant strains of bacteria. Our research intends to study the structure and function of a β -lactamase, a family of enzymes that contribute significantly to antibiotic resistance in bacteria, produced by *Meiothermus ruber*. We have successfully inserted the β -lactamase encoding gene from *M. ruber* into an *E. coli* expression vector, pET26b, transformed the resulting vector into *E. coli* cells, and successfully overexpressed the β -lactamase enzyme. Currently, we are working on the purification of the β -lactamase so that we can use kinetic and mutagenesis studies to forge a deeper understanding of the structure and function of the enzyme.

SESSION I-D (OUTSIDE HANSON HALL NEAR CLOCK/ HANSON FIRST FLOOR ATRIUM) 10:30 A.M.–12:45 P.M.

Alicia Odewale, Abigail Rogers, Alissa Jungjohann, Brittany Good, David Chapman, Bibi Donis, Emma Morris, Markesha Harden, Avery Pearl, Emily Wilder

Project advisor: Alicia Odewale, sociology, anthropology and social welfare

ANTH 330–Mock Archaeological Excavation

SESSION I-D: Near clock outside Hanson Hall

[rain site: Hanson Hall, 1st floor atrium]

This mock excavation will be led by students from the ANTH 330: Archaeology and History of the African Diaspora, under the direction of the course instructor Dr. Alicia Odewale. Students will experience the recreation of a historic archaeological excavation with artifacts that could all be found on an African Diaspora site. The site will be organized to allow the students to experience the different stations involved in a real archaeological excavation, including digging, sifting, site documentation and public outreach stations to experience all of the moving parts and level of teamwork required in conducting an archaeological excavation. This excavation experience serves as part of the class participation grade for these students and part of their final course grade. We encourage everyone to stop by and ask the students questions and witness the uncovering of history through the lens of archaeology.

SESSION I-E (OLD MAIN 21) 10 A.M.–3:30 P.M.

Mecca Joseph

Project advisors: Dr. Jane Simonsen, history; Dr. Araceli Masterson, Spanish

Women of Color at Augustana: A Multimedia Art Installation

This multimedia art installation is aimed at creatively reflecting what it is like to be a woman and a person of color at Augustana. The unique experience of being a woman of color can at times be lost in discourses of resources for women and people of color. This work ultimately hopes to express the humanity and specific lived experience of being a woman and of color.

SESSION I-F (OLD MAIN 028) 10:30–11:30 A.M.

Ethan Koch

Project advisor: Dr. Tim Bloser, philosophy

Finding a Well-Lived Life in Sustainability

SESSION I-F-1: Old Main 28 (10:30–10:50 a.m.)

I want to explain what makes for a well-lived life and how such a life might be achieved. A well-lived life is a life that is both worthy for a person to live when considered overall and also worthy for a person to live considering each and every moment of a person's life separately. To discover what makes such a life worthy and well-lived, I have looked at Eastern philosophy, environmental literature, Western philosophy and bits of positive psychology.

Sarah English

Project advisor: Dr. Heidi Storl, philosophy

Natural Kind Concepts

SESSION I-F-2: Old Main 28 (10:50–11:10 a.m.)

This presentation will focus on the nature of natural kind concepts.

Zoe Johnson

Project advisor: Dr. Tim Bloser, philosophy

What is the Social Good

SESSION I-F-3: Old Main 28 (11:10–11:30 a.m.)

I will give a presentation about my philosophical thinking on the possibility of the social good.

SESSION I-G (OLD MAIN 132) 10:30–11:30 A.M.

Mike Tortorelli, Grant Slater, Colin Hepner

Project advisor: Dr. Sharon Varallo, communication studies

Clinton Iowa's Smoke Detector Outreach Project

SESSION I-G-1: Old Main 132 (10:30–10:45 a.m.)

In the 1800s, Clinton, Iowa, had a bustling logging industry. In 2016, the City of Clinton still retains vestiges of that industry in homes made of wood. The Clinton Fire Department offered us the opportunity to help with a fire prevention communication plan. In this presentation, we offer an overview of our social action research Senior Inquiry project that allowed us to apply communication perspectives and skills to a project in the Clinton community.

Thanh Le

Project advisor: Dr. Sharon Varallo, communication studies

Stigma: Mental Illness Doesn't Discriminate, Why Do We?

SESSION I-G-2: Old Main 132 (10:45–11 a.m.)

Mental disorder is among the most serious health problems in the U.S., with 18.5% of adults, or 1 in 5 people, experiencing mental illnesses in a given year, among which 4.2%, or 1 in 25, have serious conditions. Individuals with mental health issues have to deal with not only the illnesses but also the misunderstanding and discrimination from society, which double the problem and add tremendous hardship to their conditions. Stigma against mental illnesses has a damaging impact and leads to detrimental consequences, which require our attention and action for an effective, real change. This session will provide an overview of the mental health scene and stigma in the U.S. now, and discuss the presenter's senior project working with the local chapter of National

Alliance on Mental Illness, NAMI Greater Mississippi Valley, which focuses on the mission to inform and educate the public on mental health issues, while offering advocacy and support for individuals with mental health conditions and their caregivers.

Maliek Combs

Project advisor: Dr. Sharon Varallo, communication studies

Communication Activism: The Arc's Mission in Action

SESSION I-G-3: Old Main 132 (11–11:15 a.m.)

I have been working for the Arc of the Quad Cities Area, whose mission is to work in partnership with the community to support individuals with developmental and other disabilities, through a variety of support services. I have used my communication skills to further develop the organization's mission and have worked diligently with my supervisor, Sarah Wright, to help develop a marketing and communication campaign at the Arc.

Dr. Carolyn Yaschur, Stephanie DePasquale Soebbing, Ryan Silvola, Sam Dunklau, Ben Payne, Nate Wendt, Katie Canning, Jordan Franks, Kayla Wilson, Madison Rodgers, Alex Cintado, Sebastian Pagliarello

Project advisor: Dr. Carolyn Yaschur, communication studies; Stephanie DePasquale Soebbing, communication studies

Covering the issues: Rock Island's Food Desert, Teen Homelessness, and Guns in the Quad Cities

SESSION I-G-4: Old Main 132 (11:15–11:30 a.m.)

Using their multimedia skills, this year's MJMC 225: Converged Student Media Practicum classes reported on issues affecting the Quad Cities. These collaborations resulted in websites providing comprehensive coverage of the food desert in Rock Island, teen homelessness, and guns in the Quad Cities.

SESSION I-H (OLIN CENTER 305) 10:30–11:30 A.M.

Lizeth Tamayo

Project advisor: Dr. Chadia Chambers-Samadi, French

Reappraisal of the American Savior Complex Through Haitian Poverty Porn in Dany Laferrière's Work

SESSION I-H-1: Olin Center 305 (10:30–10:45 a.m.)

According to Phil Brooker, poverty porn is defined as a type of support that can be written, photographed or filmed that exploits the condition of poverty to generate sympathy to increase benefits for a certain cause. Although the reasoning behind poverty porn can be well intentioned, it can't be said that there are no negative repercussions. With the many negative images of Haiti throughout the world it is often difficult to see the incredible richness that Haiti has, not through monetary means but by their culture. Dany Laferrière, a Haitian native, uses his writings to help those who do not know Haiti as he does, to better understand different aspects of Haitian culture in order to show Haiti as more than just another impoverished country. In this presentation I will debunk poverty porn through the book *Tout Bouge Autour de Moi (The World Moves Around Me)* by Dany Laferrière which was written right after the Haitian earthquake on January 12, 2010.

Harald Olsson

Project advisor: Dr. Chadia Chambers-Samadi, French

Challenging Nostalgia: Dany Laferrière's staged returns to the homeland (French Senior Inquiry Panel)

SESSION I-H-2: Olin Center 305 (10:45–11 a.m.)

Twenty years of living in Montréal after being exiled from his native home of Haiti, Dany Laferrière writes about his experiences in America shaped by inequality. Although writing in and about America, Haiti doesn't escape him and recurring recollections of the homeland are embodied in characters and environments throughout his writing. It seemed as if a return to Haiti would be impossible but after the fall of the regimes of Francois Duvalier and his son, Laferrière made a visit to his native land. Twenty years after leaving the "impossible" return became possible and another tone appears in his books, now written in Haiti. The land is no longer just a nostalgic memory but experienced reality but is it the same as he remembered?

Kelsi Rogers

Project advisor: Dr. Chadia Chambers-Samadi, French

La Jungle Urbaine: Food, Sex, and Dany Laferrière's Appetite for Equality

SESSION I-H-3: Olin Center 305 (11–11:15 a.m.)

There is a strong connection between food and sex in two of Dany Laferrière's novels, *Comment Faire L'Amour avec un Negre sans se fatiguer* and *Vers Le Sud*. This connection is made even more interesting when given a biological context with which to examine it. The center in the brain that controls sexual desire is actually the same that regulates appetite. By looking at Laferrière's connections between food and sex, the reader can see that Laferrière has reduced all characters to their biological instincts. In his writing, Dany Laferrière uses the exaggeration of the hyper-sexualized black man to comment on societal inequality. Through examination of his texts, one can see the portrayal of animalistic qualities of the black man, due to Laferrière's constant connection between an appetite for sex and an appetite for food. In fact, all characters, even white, are presented with links between sexual activity and eating. No matter the race, survival depends on sex and food consumption.

Brady Welvaert

Project advisor: Dr. Chadia Chambers-Samadi, French

The Literary Movement of Dany Laferrière; Francophone Literary History and the Future of French Literature

SESSION I-H-4: Olin Center 305 (11:15–11:30 a.m.)

Haitian-Canadian-American author Dany Laferrière breaks the bonds of literary terms of categorization. In North America, French-language literature has a history of isolation and suppression, but the literature from Dany Laferrière pushes past boundaries placed by those who seek to categorize him. Laferrière, who identifies as "American" and wants to be seen as nothing else, seeks to embody an American identity in context of all of North America. But is there a sense of unity throughout North America despite borders, whether they are of countries or linguistic? Additionally, his election to the French Academy merits some questions worth addressing, considering a history of disinterest and even condescending attitudes toward the Haitian community.

SESSION I-J (BERGENDOFF HALL OF FINE ARTS, LARSON HALL) 10:30–11:30 A.M.

Dr. Paul Lewellan, Devyn Absher, Laura Bergren, Kara Brummel, Marie Brzezinski, Maricarmen De La Rosa, Peter Doughty, Somer Druszkowski, Shannon Flynn, Jordan Furiosi, Andrea Grubaugh, Jordan Johnson, Gabrielle Muir, Martha Murray, Joshua Narvaez, Allison O'Hern, Nadia Panasky, Sierra Scanlan, Marckus Simmons, Helena Smiley, Margaret Stadtwald, Salomon Navarro

Project advisor: Dr. Paul Lewellan, communication studies

Immigrants and Refugees: Stories of Conflict, Division, Restoration, and Renewal

Session I-J-1: Bergendoff Hall, Larson Hall (10:30–11:30 a.m.)

The news is filled with stories of ethnic and religious conflict. Sometimes unrest is the result of skin color, sexual orientation or political beliefs. Millions of people have been displaced around the world. This presentation by the Spring 2016 Performance Studies class tells some of their stories. The performance's goal is to connect historical and contemporary immigrant experiences to our broader society, our campus community, this audience and these performers. The primary texts for performance and interpretation will be memoirs, blogs, political rhetoric, interviews, news reporting and current events. Additionally some stories may draw on historical information, music, costumes, and artifacts of other races, marginalized classes, ethnic or religious groups, and/or nationalities.

SESSION II-A (HANSON HALL 102) 11:45 A.M.–12:45 P.M.

FEATURED FACULTY/STUDENT COLLABORATION II (OLIN AUDITORIUM) 11:45 A.M.–12:45 P.M.



Dr. Frederick Jaeschke, Sara Lyon, Victoria Karnes

Project advisor: Dr. Frederick Jaeschke, music

Players to Creators: The Process of Commissioning a Musical Composition

Dr. Frederick Jaeschke is coordinator of Augustana's music education program and conductor of the Augustana Concert Band.

This session will examine the process of commissioning a music composition from inception to performance. *Nordavind* is an original music composition composed for the Concert Band that will be premiered May 14. The discussion will include the inspiration for *Nordavind*, the selection of a composer, and student involvement in the composing process, including selection of a theme, selection of a title, development of melodies, etc. The students worked with composer Carl Strommen over Skype. The audience will earn firsthand about the composition and the process with a possible live Skype with the composer. An audio recording of *Nordavind* will be presented. The full live performance premieres at the Combined Band Concert on May 14.

Katelin Durham, Rong Zheng

Project advisor: Dr. J. Austin Williamson, psychology

Binge Eating Disorder Awareness Campaign

SESSION II-A-1: Hanson Hall 102 (11:45 a.m.–noon)

Binge eating disorder is the most common eating disorder among U.S. adults, and college students have an increased risk of developing this disorder. The experience of transitioning to college can be stressful and induce anxiety, which are risk factors for binge

eating disorder. During winter term 2015-2016, we conducted a binge eating disorder awareness campaign on the Augustana College campus for our honors capstone project. The goal of this project was to learn more about binge eating disorder and to promote the awareness of it among Augustana students. We placed special emphasis on understanding the role that gender identity has on acquiring and coping with binge eating disorder. This discussion will evaluate the effectiveness of our campaign efforts.

Hadley Karrick

Project advisor: Dr. Heidi Storl, philosophy

Making Life Better for Children with Cancer: The Children's Art Project

SESSION II-A-2: Hanson Hall 102 (Noon–12:15 p.m.)

A diagnosis of cancer impacts every aspect of a person's life. When that diagnosis occurs during childhood, many developmental and social milestones are delayed. The Children's Art Project, a non-profit organization affiliated with M.D. Anderson Cancer Center in the Texas Medical Center, aims to make life better for children with cancer. Their mission is realized by turning patients' artwork into merchandise in order to fund programs. These programs help reinstate a sense of normalcy for the children and their families during treatment. This presentation discusses the marketing of merchandise in order to provide programming using the Elaboration Likelihood Model as a theoretical base.

Kendra Rakers; Alexandra Acevedo-Rodriguez, Baylor College of Medicine; Dr. Shailaja Mani, Baylor College of Medicine

Project advisor: Dr. Heidi Storl, philosophy

Dose Response Curve For Estrogen Receptor- β Agonist R-Diarylpropionitrile in the Mouse Model

SESSION II-A-3: Hanson Hall 102 (12:15–12:30 p.m.)

Women are twice as likely to suffer from anxiety-related disorders as men. This increase in anxiety can be attributed to the increase in estrogen and the interaction of estrogen with two different estrogen receptors. The two estrogen receptors ($ER\alpha$ and $ER\beta$) are steroid receptors that act as transcription factors. Estrogen binding to $ER\beta$ is necessary for anxiety-related behaviors in which estrogen-regulated transcripts modulate anxiety-related behaviors and stress response in the hypothalamic-pituitary-adrenal (HPA) axis. The HPA is a negative feedback loop activated in stressful situations in which release of hormones from the hypothalamus causes the anterior pituitary to release adrenocorticotropic hormone which acts on the adrenal gland to release cortisol (in humans) and corticosterone (in mice). Cortisol participates in the negative feedback loop to inhibit the hormonal release from the hypothalamus and pituitary gland. The present experiment contributes to the exploration of $ER\beta$'s effect on stress response and the sex differences in the HPA axis by providing a dose response curve for the estrogen receptor- β agonist, R-Diarylpropionitrile (R-DPN), in mice. R-DPN selectively binds to $ER\beta$ and decreases anxiety-related behaviors. The optimal dosage of R-DPN in mice is not widely agreed upon, but the hypothesis of this study is that a dosage of 1.0mg/kg will be the optimal dose at which anxiety-related behaviors will be decreased in mice. Mice (N=126) were organized into 20 groups (2 sex X 5 dosage X 2 conditions) based on sex, dosage to be received, and stress vs. non-stress conditions. The projected data is expected to produce concluding results that 1.0 mg/kg is the optimal dosage to produce the largest decrease in corticosterone levels, and therefore the largest decrease in anxiety-related behaviors. With this understanding, the lab can use this dosage for future experiments that utilize R-DPN to investigate the mechanisms of $ER\beta$ in the mouse model.

Rosa De La Torre

Project advisors: Dr. Heidi Storl, philosophy; Stephanie Fuhr, biology

Gestational Diabetes to Beckwith-Wiedemann Syndrome: How the maternal environment can epigenetically alter fetal development

SESSION II-A-4: Hanson Hall 102 (12:30–12:45 p.m.)

Dr. Kjersti Marie Aagaard's research lab at Baylor College of Medicine is primarily focused on microbiome interactions related to preterm birth and how the *in utero* environment can lead to epigenetic changes in fetal programming and development. During my participation in her lab this summer, I worked alongside Dr. Diana Alex Racusin on a clinical research study focused on finding an alternative "sugar" source to screen for gestational diabetes mellitus (GDM). Gestational diabetes is a very common pregnancy complication that primarily affects Hispanic and African-American women. Undiagnosed GDM increases the mother's and fetus' risk of developing health complications, such as perinatal morbidity and mortality. One of the most common screening methods used to detect GDM is the 1hr GTT, where women of 24-28wks of gestation drink a 50g glucola beverage and have venous blood drawn within an hour. However, 30% of women cannot tolerate the glucola beverage. As a result, patients who cannot tolerate the beverage are not adequately screened for GDM. In a previous study, Dr. Racusin found that 10 strawberry-flavored Twizzlers have the same sugar load as the glucola beverage used in the 1hr GTT and have been found to effectively detect GDM. I recruited approximately 20 Hispanic and non-Hispanic patients at Ben Taub to participate in our Twizzler study to determine whether Twizzlers are indeed an effective alternative sugar source. Aside from recruiting Hispanic women for a clinical study, I assisted Pablo Gonzalez, Ph.D., in analyzing the effects of an essential nutrient supplementation (ENS) diet on imprinted genes, H19 and IGF2, associated with Beckwith-Wiedemann Syndrome (BWS) in intrauterine growth restricted (IUGR) rats. The gestational environment is crucial in altering the fetus' health during development. However, nutrient restriction and uteroplacental insufficiency are leading causes that lead to IUGR, a condition where the infant is smaller than average and malnourished. At the molecular level, IUGR causes heritable epigenetic modifications via DNA methylation. Previous studies have shown that ENS diet in rats was sufficient to reverse DNA modification caused by IUGR and abrogated adult metabolic syndrome in F2 generation rats. The purpose of our study was to determine whether the ENS diet could reverse the methylation effects in H19 and IGF2 expression caused by IUGR in F2 generation rats and provide a possible treatment for infants born with BWS. We concluded that while IUGR decreases H19 expression by fivefold, the ENS diet was sufficient in restoring H19 expression. Although GDM and BWS are two separate health conditions, there are phenotypic similarities between infants born of mothers with GDM and infants with BWS, leading to misdiagnosis. BWS is caused by dysregulation of imprinted genes—H19 and IGF2—causing a biallelic expression of IGF2. Since the ENS diet restored H19 expression in IUGR rats, the question is not only whether this diet can be used to reverse epigenetic modifications in infants with BWS and restore H19 expression, but whether it can also be used to reverse epigenetic changes in diabetic and obese patients.

SESSION II-B (HANSON HALL 304)

11:45 a.m.–12:45 p.m.

Dr. Margaret Morse, art history

The Absent Body as Divine Reflection in Parmigianino's Self-Portrait in a Convex Mirror

SESSION II-B-1: Hanson Hall 304 (11:45 a.m.–noon)

Through the use of the mirror, self-portraits make present the absent body of the artist. Perhaps more than any other portrait of its time, Parmigianino's *Self-Portrait in a Convex Mirror* (1524) emphatically announces the artist's likeness as a mirrored reflection—a truthful image of the body that appears without human intervention, yet forever trapped in the medium of paint. In this presentation, I argue that the *tondo* serves as a purposeful paradox that hinges on the absent body of the artist to make a claim about the power of his art, and as such he furnished his self-portrait with particularly spiritual dimensions. Through the conceit of the mirrored reflection, *Self-Portrait in a Convex Mirror* is simultaneously an *achieropoieton*, or an image not made by human hands, in the tradition of pictures of the Holy Face and other miraculous images, and an emphatically authorial and performative work of art. In this way, the self-portrait exists in a constant state of flux, collapsing modern categories of subject and object—as well as artist and beholder, embodiment and disembodiment, cause and effect, passive and active, absence and presence—to make a statement about the spiritual authority of both the artist and his art at an early yet critical stage in Parmigianino's career. I will explore *Self-Portrait in a Convex Mirror* in the context of the philosophical and spiritual movements, particularly the hermetic philosophies of the Christian Kabbalah, circulating in the Northern Italian courts where the artist worked in the early 1520s and that informed this work as well as the creation of another work he made in 1524—his *Portrait of Galeazzo Sanvitale*. By replicating the effects of the convex speculum exactly in paint in the Vienna *tondo*, Parmigianino asserted his reflected face as the image of God, and his absent and performative self as a divinely inspired artist who not only created the image, but is the image itself.

Dr. Tim Bloser, philosophy

Sabbatical Presentation

SESSION II-B-2: Hanson Hall 304 (Noon–12:15 p.m.)

This presentation will be a discussion of research conducted while on sabbatical.

Dr. Laura Greene, English

Old Dogs, New Tricks (or, how I learned to stop worrying and love being a novice)

SESSION II-B-3: Hanson Hall 304 (12:15–12:30 p.m.)

For my sabbatical project in the winter of 2014-2015, I developed a Special Topics course for the Women's and Gender Studies program on Gender and the Law. As a scholar of English literature and feminist theory, I had the training to address the gender component of the course, but I'm an utter novice when it comes to legal studies: I never took so much as a single political science course in college. So I spent my sabbatical teaching myself everything I could about constitutional law and federal anti-discrimination statutes. The focus of the presentation, however, is not what I learned about the law, fascinating though that was. Instead, this presentation traces what this experience helped me rediscover about learning as a novice. Drawing on the insights of educational theorists Robert Leamson, Daniel Willingham and Ellen Langer, I reflect on the grueling pleasures of learning, and then trying to teach, a subject

so unfamiliar to me. More important, I describe what the experience taught me about the rewards, but primarily the pitfalls, of teaching from the vantage point of expertise.

Dr. Ann Perreau, communication sciences and disorders;
Dr. Yu-Hsiang Wu, communication sciences and disorders,
University of Iowa; Bailey Tatge; Diana Irwin; Dr. Daniel Cortis,
psychology

Pre-Tenure Sabbatical Presentation

Listening effort in adults with normal hearing and cochlear implants

SESSION II-B-4: Hanson Hall 304 (12:30–12:45 p.m.)

Several studies have examined listening effort in individuals with hearing loss to determine the extent of their impairment. Regarding cochlear implants (CIs), results have found that listening effort is improved using bilateral CIs compared to unilateral CIs. However, few studies have investigated listening effort and outcomes related to the Hybrid short electrode CI. Here, we compared listening effort across three CI groups, and to a normal hearing control group. All 42 participants were adults. The impact of listener traits such as age, age at the onset of hearing loss, duration of CI use, and working memory capacity also were examined relative to listening effort. The participants completed a dual-task paradigm with a primary task identifying sentences in noise and a secondary task measuring reaction time on a Stroop test. Performance was assessed at different signal-to-noise ratios (SNR), ranging in 2-dB steps from 0 to +10 dB, which was individually selected using the SNR-50, or SNR required to correctly repeat 50% of the sentences. Participants completed questionnaires on listening effort and self-assessed hearing ability, and a reading span test. Results on the dual-task experiment were compared using repeated measures analysis of variance (ANOVA) across the different SNR conditions, controlling for baseline performance on the Stroop test across groups. Questionnaire results were compared using one-way ANOVAs, and correlations between listener traits and the objective and subjective measures were compared using Pearson correlation coefficients.

SESSION II-C (HANSON 305) 11:45 a.m.–12:45 p.m.

Paige Pierson

Project advisor: Dr. Pamela Trotter, chemistry

The Identification and Potential Functional Characterization of YHM2 in *Yarrowia Lipolytica*

SESSION II-C-1: Hanson Hall 305 (11:45 a.m.–Noon)

The YHM2 gene of *Yarrowia lipolytica* encodes a putative homolog protein of the *S. cerevisiae* Yhm2p (a member of the mitochondrial carrier family), which is known to bidirectionally transport crucial citric acid cycle intermediates across its mitochondrial membrane. Through the transport of these intermediates, molecules of NADPH are generated, which are believed to be vital for cellular antioxidant function. Obtaining a strain of *Y. lipolytica* with such a disruption would be valuable in determining the importance of the antioxidant function provided by Yhm2p in this species. In this project, targeted gene disruption of yYHM2 in *Yarrowia* was performed. Gene disruption was accomplished through homologous recombination via the insertion of a URA3 marker. As expected, the phenotype of the mutant exhibited perceivable growth defects in the presence of H₂O₂, supporting the hypothesis that yYhm2p is also important to cell vitality in *Y. lipolytica*, as it is in *S. cerevisiae*. Further use of this disruption mutant will also allow for proper functional analysis of the homologous protein between species.

SESSION II-F (OLD MAIN 028) 11:45 A.M.–12:45 P.M.

Andrea McNally

Project advisor: Dr. Andrew Sward, mathematics

Using ODEs to Model Drug Concentrations Within the Field of Pharmacokinetics

SESSION II-F-1: Old Main 28 (11:45 a.m.–noon)

Within the field of pharmacokinetics, there are a variety of ways to use ordinary differential equations to model the flow of drugs in and out of the body. This talk explores how the administration of multiple injections can be modeled through the application of the Laplace transform and Dirac delta function. By generating these functions, we are able to determine the amount of a drug in the bloodstream at any given time, thus giving us a better understanding of clinical pharmacokinetics and drug administration.

Luke Robinson

Project advisor: Dr. Tom Bengtson, mathematics

Life Tables and Life Expectancy

SESSION II-F-2: Old Main 28 (Noon–12:15 p.m.)

Life tables are made by actuaries, such as those working for the Social Security Administration, to compute life expectancy. This presentation will describe various methodologies for creating life tables, how they are used to predict life expectancy, and what other extrapolations say about future life expectancy.

Kyle Zeberlein, Myles Wallin

Project advisors: Dr. Tom Bengtson, mathematics; Dr. Andrew Sward, mathematics

Modeling Fantasy Football Quarterbacks

SESSION II-F-3: Old Main 28 (12:15–12:30 p.m.)

Fantasy football is a way to score NFL players based off of their statistics in particular categories. We have created formulas for modeling every quarterback's fantasy football points per game in the 2015–2016 season. Our model is partitioned into four sub-models depending on the length of the quarterback's career in the NFL. We have developed a weighted model based on previous years' performance of the quarterback, of the defense, and of the quarterback against the defense using data from the NFL. We compare our projections for the season against Yahoo's projections for the season.

Laura Beitler, Joshua Zgrabik

Project advisor: Dr. Tom Bengtson, mathematics

Exploring the Asymptotic Expansion of $\pi^2/6$

SESSION II-F-4: Old Main 28 (12:30–12:45 p.m.)

This talk will show how to use the high precision capabilities of the mathematical software Sage to find coefficients of the asymptotic expansion of the series $1 + 1/4 + 1/9 + 1/16 + \dots$

SESSION II-G (OLD MAIN 132) 11:45 A.M.–12:45 P.M.

Kayla Bushey

Project advisor: Dr. Ellen Hay, communication studies

The Privilege of Being Black

SESSION II-G-1: Old Main 132 (11:45 a.m.–noon)

Racial tension continues to be an issue in our society, resulting in brutality, misunderstanding and protest. From Ferguson to Baltimore, racial tension pushes through even to Augustana College's campus, resulting in an inability to resolve issues. These differences are directly linked to privilege, causing segmented groups. Consequently, numerous studies have been conducted to examine White Privilege but fail to address another large segment of the population. Here, I examine the understudied topic of Black Privilege.

Shylee Garrett

Project advisor: Dr. Ellen Hay, communication studies

The Digital Battleground: The Political Pulpit to Political Profile

SESSION II-G-2: Old Main 132 (Noon–12:15 p.m.)

Social media has infiltrated our daily lives, and with an upcoming election, the messages disseminated are becoming increasingly important for the public electorate. By examining Twitter accounts of 2016 Republican presidential candidates through a content analysis, I was able to decipher patterns, preferences and post effectiveness. As my Senior Inquiry research continues, I will be able to use my model to decipher the best practices for political use of Twitter for future elections and political candidates.

Karina De La Rosa

Project advisor: Dr. Sharon Varallo, communication studies

Palomares Social Justice Center

SESSION II-G-3: Old Main 132 (12:15–12:30 p.m.)

I will speak about my experience in Palomares Social Justice Center, and what I have learned during my two terms working on my Senior Inquiry.

Margaret Stadtwald

Project advisor: Dr. David Crowe, English

Gandalf and Guardini: A Fresh Look at the Theology of J.R.R. Tolkien's The Lord of the Rings

SESSION II-G-4: Old Main 132 (12:30–12:45 p.m.)

My Honors Capstone looks at the various critical responses to the theology of J.R.R. Tolkien's *The Lord of the Rings*, with a focus on Augustinian theology. It then posits that the modern/postmodern theology of Romano Guardini better encompasses the work's theological depths and worth as a piece of literature.

SESSION II-H (OLIN 305) 11:45 A.M.–12:45 P.M.

Analysia Gomez

Project advisor: Dr. Jane Simonsen, history

Bringing Science and Social Justice Together

SESSION II-H-1: Olin Center 305 (11:45 a.m.–noon)

Have you ever wondered what science and social justice have to do with each other? Come find out how and why social justice belongs within science and how we can strive to make the Augustana science department more intersectional.

Ruth Jessee

Project advisor: Dr. Jane Simonsen, history

Ma-ka-tai-me-she-kia-kiak: Appropriate That!

SESSION II-H-2: Olin Center 305 (Noon–12:15 p.m.)

Have you ever wondered what effect misappropriation of names has on people's perceptions of a certain racialized group? This study focuses on the representation of Black Hawk as it pertains to impressions of Native Americans as a whole. It centers on masculinity as displayed via a "warrior archetype," and how this stereotype can be detrimental to Indigenous people living today. Come explore the use of Black Hawk's name and imagery around the Quad Cities through an ethnohistoric lens.

Carolyn Muller

Project advisor: Dr. Jane Simonsen, history

Trauma-Informed Interventions to Mitigate Hate Speech and Protect Free Speech

SESSION II-H-4: Olin Center 305 (12:30–12:45 p.m.)

Institutions of higher learning have long struggled with the issue of free speech and how to regulate it on campus for students and faculty alike. This struggle has been intensified by pressures from feminists and others to protect marginalized students from the traumatic effects of hate speech, ranging from outright slurs to the more insidious microaggressions. This paper will look at a trauma-informed approach to reconcile the conflicts between protecting free speech rights and protecting students who are the targets of hate speech on their college campuses.

SESSION II-I (THE GERBER CENTER, GÄVLE ROOM) 11:45 A.M.–2 P.M.

SUSTAINABLE WORKING LANDSCAPES INITIATIVE (SWLI): CLINTON, IOWA, PROJECT

The Gerber Center, Gävle Room

Nicolette Silwa, Abby Thomson, Elena Leith, Atticus Garrison, Maxwell Bestvina, James Panozzo

Project advisor: Dr. Brian Leech, history

Clinton Corn Strike Documentaries

During the winter term, students in History 369: Oral History built upon work in Dr. Calder's Senior Inquiry class about a major regional and international event: the 1979-1980 strike at the Clinton Corn Company plant. Our interviews with community members of Clinton, Iowa, explored the strike's violence, communist allegations and familial tensions, as well as the resulting loss of union power. We then completed short documentaries for the Clinton Public Library about the strike and the often dangerous process of making corn syrup at the plant.

Corbin Delgado, Tanner Osing

Project advisor: Dr. Dave Dehnel, political science

Alternative Stormwater Management and Policies

Clinton is working to comply with the Clean Water Act with respect to treatment of sewage. During rainstorms, excess water infiltrates and overwhelms the treatment system ("stormwater inflow"). The result is untreated sewage flowing into the Mississippi River. Our class focused on one cause of the inflow: residents whose basement sump pumps discharge into their sewer pipes. We researched how other cities have approached the problem in an effort to define options for Clinton.

**SUSTAINABLE WORKING LANDSCAPES INITIATIVE (SWLI):
CLINTON, IOWA, PROJECT continued**

The Gerber Center, Gävle Room

Jeremy Koranda

Project advisors: Dr. Paul Croll, sociology; Dr. Marsha Smith, sociology; Tara Cullison, Upper Mississippi Center

Fear of Crime

This will be a presentation on a survey-based project to improve the quality of life in Clinton, Iowa.

LaDonna Miller, Jeremy Koranda

Project advisor: Dr. Marsha Smith, sociology

Recreation Use in Clinton, Iowa

Students in Communication Studies 380 and Sociology 419/420 developed a questionnaire and administered approximately 2,000 surveys through email and paper. This project specifically looks at recreation usage by age, race, gender and income of residents of Clinton, Iowa. This research is one of the components of the SWLI and the Upper Mississippi Center.

Melisa Ribikawskis

Project advisor: Dr. Jennifer Burnham, geography

Mapping City Data

The City of Clinton, Iowa, has a GIS system, but no staff position dedicated to utilize the system in order to provide useful data for decision-making purposes. Students in Geography 272: Cartography were asked to generate maps from incident/crime and nuisance report datasets. The students used cartographic methods to illustrate the spatial patterns of the data within the city's limits. The maps will be useful for basic spatial analysis by decision makers.

Katherine Ziegler, Daniel Murray

Project advisor: Dr. John Delaney, accounting

City of Clinton Recreation Department Revenue and Expense Analysis

The City of Clinton operates the recreation department activities out of the city's general fund. The students were asked to evaluate the accounting process for allocation of costs from the city budget to the recreation department and to evaluate potential areas for cost savings and additional revenue streams. The revenue portion of the review required interaction with parks and recreation directors from other cities in Iowa. The team provided several good recommendations that were well received by the Clinton representatives.

Dan Herrera

Project advisor: Dr. Michael Reisner, environmental studies, director of the Upper Mississippi Center

Urban Forest Management Plan

This project involved students from Environmental Studies 380: Capstone Special Topics and Geography 308: Land Resource Management in helping the city respond to the urgent threat to the urban forest canopy posed by the ongoing emerald ash borer (EAB) invasion. Students assessed the resilience of city-owned (park and right-of-way) and privately owned yard trees to current and anticipated future stresses and disturbances, using inventory completed by Davey Resource Group. Students: (1) assessed the vulnerability of city-owned trees to EAB invasion,

(2) assessed the adaptive capacity of neighborhoods to respond to EAB invasion and enhance resilience, and (3) identified potential management goals and objectives and made tentative management recommendations.

Laura Morris

Project advisor: Dr. Reuben Heine, geography

Stormwater Inflow Study

The City of Clinton, Iowa, is suffering from a high amount of combined sewer overflows as a result of homeowners cross connecting their sump pumps to the sanitary line in the city. The Clinton administration is trying to reduce the amount of overflows by educating the residents on the problem. The Clinton, Iowa Stormwater Inflow Survey was created by Dr. Reuben Heine's Water Resource Management course to aid Clinton in better understanding and assessing the educational prowess of homeowners on the stormwater and combined sewer overflow problems.

**SESSION II-J (BERGENDOFF HALL OF FINE ARTS,
LARSON HALL) 11:45 A.M.–12:45 P.M.**

Maria Catalano

Project advisor: Dr. Ruth Ann Johnson, psychology

The Oppressors Singing as the Oppressed: An Examination of Racial Tensions and Cultural Appropriation in the Choral Realm

SESSION II-J-1: Bergendoff Hall, Larson Hall (11:45 a.m.–Noon)

In this presentation, I will explore well researched responses to the question, "Is it culturally appropriate for White choirs to sing Black spiritual music?" This has been a commonly mentioned but seldom-explored topic in my time singing with the Augustana Choir, and it is incredibly relevant now, as racial tensions have increased and discussion about cultural appropriation is more and more common.

John Whitson

Project advisor: Dr. Jacob Bancks, music

Composing with Integrity and the High School Choir in Mind

SESSION II-J-2: Bergendoff Hall, Larson Hall (Noon–12:20 p.m.)

The choral composition *Three Whitman Nocturnes* originates from a desire to connect my music education and music composition majors. The question, "How does one compose with the high school accompanist, conductor and choral singer in mind?" led to the analyses of commonly performed works by high school choirs. Next, balancing my analytical findings with the goal of maintaining the integrity of Walt Whitman's poetry served as the main consideration while generating musical material. Finally, the resulting composition poses the questions, "What is *Three Whitman Nocturnes*—a piece for high school choirs or an attempt at musically illustrating Whitman's poetry?" and "How does the answer to this question affect the composer?" A recording of *Three Whitman Nocturnes* from my senior composition recital will be played.

Dr. Randall Hall, music

Of Earth and Starry Sky: The Orphic Gold Tablets

SESSION II-J-3: Bergendoff Hall, Larson Hall (12:20–12:45 p.m.)

Of Earth and Starry Sky is a collection of pieces for solo saxophone by composer Étienne Rolin and my own original electronic music. They are presented as a single multi-movement work based on the Orphic Gold Tablets, small pieces of gold foil inscribed with Greek texts

found in ancient graves. In addition to being a concert experience, the project is designed to blur the boundaries between art and traditional scholarship.

SESSION II-K (LARSON HALL, BERGENDOFF HALL OF FINE ARTS) 11:45 A.M.–1:15 P.M.

Jamie Hochmuth, Alyssa Dutil, Rebecca Knapper, Kayleigh Lane, Renée Millette, Margaret Murphy, Daniel O'Leary

Project advisors: Rebecca Wee and Dr. Kelly Daniels, English

The Way it Sounds: Creative Writers Read

SESSION II-K: Quad Gazebo (rain site: 2nd floor, Tredway Library) (11:45 a.m.–1:15 p.m.)

Senior creative writing students will read from their final collections of work.

SESSION III-A (HANSON HALL 102) 1–2 P.M.

FEATURED ALUMNI SPEAKER III (OLIN AUDITORIUM) 1–2 P.M.



Dr. Michael Gapen '91, Managing Director and Head of U.S. Economics Research, Barclays

An Unexpected Journey: From small-town Midwest to Washington's halls of power and Wall Street

Based in New York, Dr. Michael Gapen is responsible for Barclays' outlook for the U.S. economy and, in particular, U.S. monetary policy and the impact of financial markets on the economy. The past decade has seen enormous upheaval in the global economic and financial system, rekindling longstanding debates on free market policies, globalization, and the role of government in preventing and responding to crises, among others. Stuck in the middle of many of these debates are economists. Dr. Gapen's talk will elaborate on why stabilizing the financial system was initially given priority and why conventional wisdom about budget deficits and inflation nearly overshadowed the need to reduce the ill effects of long-term unemployment. His comments will be based on his own journey from Augustana to a graduate degree in economics at Indiana University, the International Monetary Fund, the Federal Reserve Board of Governors, and, ultimately, to Wall Street as chief U.S. economist for Barclays.

Katelin Durham

Project advisors: Dr. Heidi Storl, philosophy; Dr. Joseph Hyser '99, assistant professor, Baylor College of Medicine

Probiotic *Lactobacillus reuteri* 6475 induces calcium signaling in HeLa G6s cells

SESSION III-A-1: Hanson Hall 102 (1–1:15 p.m.)

Probiotic supplements are commonly used to promote a balanced community of microorganisms within the gastrointestinal system. The molecular mechanisms by which many probiotics influence their host are still largely unknown. The probiotic *Lactobacillus reuteri* 6475 is known to produce the metabolite histamine, which is suspected to bind to histamine receptors on host cells and induce calcium signaling. Because calcium signaling is involved in the regulation of many cellular processes, it is necessary to understand

how probiotics may alter this process within the host. The goal of my research was to identify how histamine produced by *Lr6475* affects the calcium signaling in HeLa G6s cells.

Elizabeth Gehrmann

Project advisors: Dr. Heidi Storl, philosophy; Dr. Christine Beeton, associate professor, Baylor College of Medicine

KCa1.1 Channels: Regulators of Fibroblast-like synoviocytes in Rheumatoid Arthritis

SESSION III-A-2: Hanson Hall 102 (1:15–1:30 p.m.)

Rheumatoid arthritis is a chronic, autoimmune disease in which a majority of drug development focuses on joint inflammation by targeting auto-reactive T-cells. However, these medications cause indefinite immune system suppression, a negative side effect. Therefore, research has been conducted focusing on joint degradation by targeting fibroblast-like synoviocytes (FLS). The *in vitro* results of this study have shown a clearer mechanism of certain drug interactions within FLS. However, many drugs cause severe side effects, so *in vivo* studies were conducted using more specific KCa1.1 channel blockers in rat models.

Natalie Tomerlin

Project advisor: Dr. Heidi Storl, philosophy

Functional Outcomes after Laryngeal Cancer Treatment, A Methodological Report

SESSION III-A-3: Hanson Hall 102 (1:30–1:45 p.m.)

This presentation explores the experiences of a research intern in the Head and Neck Cancer Department at MD Anderson Cancer Center in Houston, Texas. A methodological report of a cross-sectional study assessing functional outcomes after laryngeal cancer treatment is discussed.

Rebecca Brosch

Project advisors: Dr. Heidi Storl, philosophy; Sarah Michel, senior project manager, Baylor Global Innovation Center

Global Health Innovation: Ebola and Beyond

SESSION III-A-4: Hanson Hall 102 (1:45–2 p.m.)

Developing global public health infrastructure is a puzzle that cannot be solved solely by math or science. Instead, a multidisciplinary approach that combines creative thinking with the biological and social sciences is necessary to create lasting and effective change. Baylor College of Medicine's Global Innovation Center has applied this idea while developing low-cost medical technologies for low-resource settings, as seen in their rapidly deployable Emergency Smart Pod. The pod, which was originally created for the Ebola epidemic in West Africa, can be used in emergency situations such as natural disasters or for disease treatment and control. Baylor College of Medicine also hosted their first innovation competition, known as the Global Health Hackathon, in 2015. This 48-hour, intensive event allowed students and professionals from multiple academic fields to collaborate and develop novel ideas for healthcare worldwide. As an intern at Baylor College of Medicine Global Initiatives, I was able to assist in the development of the pod, as well as in planning and implementation of the hackathon.

SESSION III-B (HANSON HALL 304) 1-2 P.M.

Dr. Cecilia Vogel, physics

Quantum Encryption

SESSION III-B-1: Hanson Hall 304 (1-1:15 p.m.)

Quantum encryption is especially safe, because any measurement of the signal made by an eavesdropper will tend to collapse the wavefunction. This collapse will indicate that the signal had been eavesdropped on. New experiments show it is possible to get some information about a system without collapsing its wavefunction. My calculations show that it is still not possible to get this information without leaving a trace.

Dr. Greg Domski, chemistry

Synthesis and Characterization of Novel Mono- and Bimetallic Iridium(III) Complexes

SESSION III-B-2: Hanson Hall 304 (1:15-1:30 p.m.)

We have prepared and characterized several previously unreported iridium(III) complexes supported by pyridine-functionalized N-heterocyclic carbene ligands. These complexes have shown potential as catalysts for organic transformations.

Dr. José Boquin, chemistry

Synthesis of an enzymatic intermediate compound

SESSION III-B-3: Hanson Hall 304 (1:30-1:45 p.m.)

The partial synthesis of an enzymatic intermediate for the conversion of dUMP to dTMP is reported. This intermediate will provide further evidence that supports a proposed flavin dependent enzymatic mechanism.

SESSION III-F (OLD MAIN 28) 1-2 P.M.

Kyle Cluver, Sarah Dantino, Michael Dimock, Robert Holmquist, Jenna Jensen, Long Nguyen, Tyler Padera, Keith Sands, Daniel Walls

Project advisor: Dr. Stacey Rodman, mathematics

What does it mean to learn math?

SESSION III-F-1: Old Main 28 (1-1:30 p.m.)

We have found that learning mathematics is more than just memorizing the steps to solve a problem. It involves exploring math phenomenon, seeking and investigating patterns, and critically evaluating your own thinking and the thinking of others in order to synthesize a logical solution to a problem.

Laura Beitler, Jenn Darby, Virginia Johnson

Project advisors: Virginia Johnson, faculty tutor, Reading/Writing Center; Lucas Street, director of the Reading/Writing Center; Dr. Jacob Romaniello, English Language Learner specialist, Reading/Writing Center

More Than Meets the Eye: Peer to Peer Tutoring Observations in the Reading/Writing Center

SESSION III-F-3: Old Main 28 (1:30-1:45 p.m.)

One of the Reading/Writing Center's recent strategic goals—to "articulate and promote high-impact learning experiences associated with peer tutoring"—includes encouraging our peer tutors to participate in intentional professional development. Reading/Writing Center faculty felt that providing peer tutors with skills and opportunities to assess each other's tutoring sessions encompassed several significant professional competencies: critical

observation, language of evaluation, and authentic and dynamic self-reflection. In our Symposium session, two Reading/Writing Center peer tutors will describe experiences, as observers and observed, with our center's collaborative approach to evaluating peer tutoring sessions. They will explain our observation rubric and findings we have collected in four rounds of observation and reflection.

SESSION III-G (OLD MAIN 132) 1-2 P.M.

Alexander Lobo

Project advisor: Dr. John Pfautz, music

To Africa and Back: An Augie Story

SESSION III-G-1: Old Main 132 (1-1:15 p.m.)

This presentation is about a student's medical and personal experiences while interning at a public hospital in Tanzania.

Madeline Ruzek

Project advisor: Dr. John Pfautz, music

The Pulse of a Healing Continent

SESSION III-G-2: Old Main 132 (1:15-1:45 p.m.)

Is foreign aid hurting or healing nations? This student-made documentary explores medical aid abroad, specifically in Africa. Through a series of interviews with medical professionals who worked in Africa, one can learn what it means to truly help cross-culturally on a different continent. The range of experiences in different countries help us critically examine medical aid and seek a better way to serve those in need through intentional long-term missions.

Kimberly Yeates

Project advisor: Dr. Eric Stewart, religion

The Wonderful Religion of Dungeons and Dragons

SESSION III-G-4: Old Main 132 (1:45-2 p.m.)

This presentation explores religion as a construct of European imperialism that prioritizes certain beliefs over others. It examines the morality of the agreed-upon definition of religion, which can be seen to include both Christianity and the role-playing game of Dungeons and Dragons, but does not include the spiritual beliefs of indigenous people.

SESSION III-H (OLIN CENTER 305) 1-2 p.m.

Ryan Silvola, Eleanor Nolan, Ginny Aumann

Project advisor: Dr. Jane Simonsen, history

Let's talk about sex: Proposing an on-campus sexual health clinic

SESSION III-H-1: Olin Center 305 (1-1:15 p.m.)

"At your age, you're going to have a lot of urges. You're going to want to take off your clothes and touch each other. But if you do touch each other, you will get chlamydia...and die." Though clearly satirical, this *Mean Girls* (2004) quote points to a real gap within student knowledge about sex education and sexual health, even in the college setting. In this session, students in the Women's and Gender Studies Senior Inquiry will discuss their proposal for an intersectional and inclusive sexual health center, which would address the needs of Augustana students.

Taylor Campbell, Nicole McAleese, Alexis Smith, Lindsay Todd

Project advisor: Emilee Goad, LMSW, campus coordinator for SafePath Survivor Resources of Family Resources

Mentors in Violence Prevention: A Bystander Approach

SESSION III-H-2: Olin Center 305 (1:15–1:30 p.m.)

The Mentors in Violence Prevention (MVP) program was created by Jackson Katz in 1993 as a leadership program focused on preventing all forms of men's violence against women. Specifically, MVP uses a bystander approach to prevention and education. This educational philosophy was adapted from Dr. Ron Slaby's Habits of Thought model, which reflects the thoughts of perpetrators, victims and bystanders during conflicts. This is a disarming approach because it does not view men as perpetrators or potential perpetrators, or women as victims/survivors or potential victims. MVP views all participants as potential bystanders who can be empowered to confront abusive incidents involving peers. Through our discussion we want to provide concrete tools for confronting, interrupting and preventing this violence, because we believe the more options a person has available to them, the less likely they are to choose violence or do nothing. A Mentors in Violence Prevention training session will follow the presentation in Olin 302 from 2:15-3:15.

Kendall Smith

Project advisor: Dr. Chadia Chambers-Samadi, French

From Debussy to Duke: A Look at the Role of Music, Race, and Sexuality in the Works of Dany Laferrière

SESSION III-H-3: Olin Center 305 (1:30–1:45 p.m.)

Music is used every day as a way of expression. Dany Laferrière, a Haitian born author, uses music in his works to give the reader an idea of racial stereotypes of the black man and white women. The two books that will be the focus of this paper are *Comment faire l'amour avec un Nègre sans se fatiguer (How to Make Love to a Black Man Without Getting Tired)* and *Vers le Sud (Heading South)*, which use jazz and classical music, respectively. Jazz music, specifically Duke Ellington, is used to show men's and women's sexuality through the lyrics and history of his compositions. On the other hand, Laferrière uses Claude Debussy and his idea of a faun to show the sexual exploitation of Haiti with young men and older women. Laferrière uses music as "*une expérience sonore*" to help the reader understand race and sexuality of his characters.

Renée Millette

Project advisor: Dr. Chadia Chambers-Samadi, French

Zombie Hunter or Flesh Eater: Dany Laferrière's Consumption and Being Consumed by North American Stereotypes

SESSION III-H-4: Olin Center 305 (1:45–2 p.m.)

As a Haitian exile, author Dany Laferrière is part of two separate worlds—that of Haiti and of North America, where he currently resides. In his novels, especially in *How to Make Love to a Black Man*, we see Laferrière try to fit into American culture through his many sexploits exclusively with white women. It seems, at first, that he relies heavily on the stereotypes of the primal and sexually aggressive black man and the beautiful, docile white woman; but by digging deeper, it seems that Laferrière is using these stereotypes to break the same stereotypes. Laferrière also mentions zombies in many of his works, but they are unlike the North American idea of a mindless flesh-eater; instead they are a symbol of humans in captivity. This great shift of perception in Western media correlates with the stereotype of the black man who is all-consuming, and Laferrière tries to combat this while exaggerating these stereotypes put onto him.

SESSION III-J (BERGENDOFF HALL OF FINE ARTS, LARSON HALL) 1–2 P.M.

Kelly Johlie

Project advisor: Dr. Sharon Varallo, communication studies

Senior Inquiry project: Keeping the Arts in Schools

SESSION III-J-1: Bergendoff Hall, Larson Hall (1–1:15 p.m.)

My research includes a look into the benefits of arts in school curricula. I focus on the reasons that the arts programs lose funding and are thus cut in so many schools, and why this can be detrimental for students.

Emily Grooms, Olivia Havens, Dan Andon, Nick Miller, Rosa De La Torre, Lizeth Tamayo, Charlie Miller, Megan Forrest, McKee Jackson, Dorothy Mutum, Kelli Ommundson, Chelsea Noble, Maureen Joyce, Caitlin Doherty, Anwina Choknumtumkhit, Monica Fiala, Breanna Schuetz, Migdalia Perez, Selena Gonzalez, Morgan Weeks

Project advisors: Dr. Jayne Rose and Dr. Jessica Schultz, psychology

Education is Responsibility: Reflections from Guatemala

SESSION III-J-2: Bergendoff Hall, Larson Hall (1:15–2 p.m.)

The Guatemala study-abroad class of 2016 would like to have a conversation to share and discuss what we learned through our experiences. We will start with a brief introduction to the country of Guatemala, including the past and present challenges facing its people. Using our experiences, we will then discuss issues such as the role of the United States in Guatemala's corruption and financial poverty, the U.S. savior complex, potential harms of voluntourism, the importance of political participation, and cultural competence. We will close by talking about our responsibilities now that we have been to Guatemala, and share some of the goals we have made for ourselves now that we are back. We hope to challenge our fellow students to step slightly outside their comfort zones while engaging in thought-provoking discussions. Donations will be accepted, but not expected, to support partnerships in Guatemala. Listening and learning is just as appreciated.

SESSION IV-A (HANSON HALL 102) 2:15–3:15 P.M.

FEATURED FACULTY PRESENTATION IV (OLIN AUDITORIUM)

2:15–3:15 P.M.



Faculty Panel: Dr. Wendy Hilton-Morrow, communication studies and associate dean; Dr. Jane Simonsen, history; Dr. Jennifer Popple, theatre; and Dr. Jessica Nodulman, communication studies
Scholarship as Feminist Engagement

This panel features faculty scholarship from a range of disciplines, illustrating how research and writing can serve as a tool for social activism.

“Put me in coach, I’m ready to play”: Sexuality education for adults at Good Vibrations

Dr. Jessica Nodulman

Although sex education is often provided to young people, there is a lack of spaces where adults can go to learn more about sex from experts in a free and welcoming environment. One place that provides an opportunity for adult sex education is adult sexual retail stores. While these stores aim to be commercially successful, they also fulfill a role of educating adults about sex and sexuality. This study explains how “Good Vibrations” (GV), a sex-positive adult sexual retail store company in the United States, disseminates sexuality education for adults. Using qualitative methods including observations, interviews and textual analysis, Dr. Nodulman’s presentation shows how GV serves as a coach to its patrons. The coaching framework promotes shared responsibility through inclusive and accessible education, highlighting communication and focusing on pleasure and positivity. The paper on which this presentation is based provides one of the first evidence-based accounts of how an adult sexual retailer educates its customers and provides a model for sexuality educators for all ages.

Neither ‘Baby Factories’ Nor Squatting ‘Primitives’: Childbirth Manuals and Working Women’s Bodies in the Cold War U.S.

Dr. Jane Simonsen

As white, upwardly mobile women in the United States entered the waged workforce in increasing numbers after World War II, popular publications sought to comprehend women who seemed to transgress long-standing distinctions between laboring bodies and working ones, between productive and reproductive functions. At the same time, popular alternative childbirth manuals helped to construct an understanding of women’s laboring bodies as “at work” and “under control.” These publications reinforced emerging corporate workplace ideals in the face of alternative images of working women’s bodies associated with Soviet culture and non-industrialized nations.

The 17th Century Restoration Actress in Her Social, Political, and Artistic Context

Dr. Jennifer Popple

This book investigates the lives and careers of the Restoration era’s three most famous actresses: Nell Gwyn, Elizabeth Barry and Anne Bracegirdle. It elucidates how these powerful women’s offstage reputations and their greatest performances were agents of political, social and cultural behavior, producers of—as well as products of—social meanings. The actresses provide a lens for the evolution of the English Restoration theatre and the connections between actresses’ lives, performances and shifts in social and cultural behavior.

Sexual Identities and the Media

Dr. Wendy Hilton-Morrow

This recently published textbook encourages students to examine media as a site of negotiation for how people make sense of their own and others’ sexual identities. Taking a critical/cultural approach, it weaves together theory, synthesis of existing research, and original analysis of contemporary media examples in order to explore key areas of debate.

Brandon Motzel

Project Advisor: Dr. Heidi Storl, philosophy

Effect of HDAC-6 Inhibition on a Mouse Model of Traumatic Brain Injury

SESSION IV-A-1: Hanson Hall 102 (2:15–2:30 p.m.)

I worked through the SMART program at Baylor College of Medicine in the areas of axonal transport. The goal of my project was to gather preliminary data about the effects of HDAC-6 inhibitors on traumatic brain injuries (TBIs) in a mouse model. This data will potentially set up a further, more in-depth study to determine if HDAC-6 inhibitors can be used to reduce the symptoms of a TBI safely and effectively. In theory, inhibiting HDAC-6 will decrease swelling, allow alpha-tubulin to remain acetylated, and increase the antioxidant properties of the cell. The combination of these should help to reduce the adverse effects of a TBI.

Rong Zheng

Project advisor: Dr. Heidi Storl, philosophy

Small conductance Ca²⁺-activated K⁺ channel SK3 in serotonin neurons plays a functional role in regulating binge-eating behavior

SESSION IV-A-2: Hanson Hall 102 (2:30–2:45 p.m.)

Abstract: Binge eating affects approximately 5% of American adults. There is growing acknowledgement that disturbance in neurotransmitter systems makes substantial contribution to the pathogenesis of binge eating. It is postulated that binge eating is associated with low serotonin concentration in the brain. Small conductance calcium-activated potassium channels (SK) play a role in regulation of neuron excitability, and SK3 channel, one of the SK channels, has been found highly expressed in serotonin neurons. In this study, tamoxifen inducible Cre-loxP system was used to generate SK3 knockout (KO) mice, which have SK3 gene deleted specifically in brain serotonin neurons. Comparing the binge eating behavior in KO and WT mice, the SK3 knockout mice showed significantly reduced binge eating behavior, suggesting that SK3 in serotonin plays an important role in regulation of binge eating behavior. Hence, SK3 channel may serve as a new target for designing drugs used in binge eating treatment. Depression is highly comorbid with binge eating, and its association with serotonin has been well known. Based on the results of the behavior test in present study, SK3 knockout did not alter the depression level in mice.

Sergio Tekeli

Project advisors: Dr. Heidi Storl, philosophy; Stephanie Fuhr, biology

The role of Grx3 in redox homeostasis and iron regulation**SESSION IV-A-3: Hanson Hall 102 (2:45–3 p.m.)**

The primary objective of this study is on Glutaredoxin 3 (Grx3), which is also known as thioredoxin-like 2 (Txnl2) or PICO. This 37 kDa protein modulates redox reactions and these reactions center around the transfer of electrons. This family of proteins is characterized by the number of cysteine residues in the structure. Past research has shown that Grx3 knockout leads to developmental disorders often in regards to neuro- and cardiovascular systems and has been identified in cancerous cells to be involved in proliferation. In Grx3 knockout, developing mouse embryos have shown to be sizeably smaller and have shown incomplete closure of the neural tube as well as the presence of pericardial effusion. This phenotype is lethal. In addition, Grx3 has been shown to be involved in the biogenesis of iron-sulfur clusters, so Grx3 might be able to modulate the concentration of iron in cells. Knockout cells also show an accumulation of iron. Via the Fenton Reaction, this iron is able to create reactive oxygen species (ROS). This project looked to test the effect of Grx3 on cell proliferation and survival under altered iron conditions. In order to determine cell proliferation and survival, MTT assay was used with Mouse Embryonic Fibroblast (MEF) cells from transgenic mice to selectively knockout Grx3 via the Cre-Lox Recombination system. This tamoxifen, inducible condition allowed comparison between wild type cells and knockout cells. MEF cells were grown to 80% confluence and then plated equally onto four cell culture dishes. They were then treated on two plates with ethanol to create a control, and two plates were treated with tamoxifen to create the knockout. These cells were then treated with varying drugs and drug combinations to alter the iron concentration and ROS environment. Erastin was used to disrupt the cysteine/glutamate antiporter system which is responsible for the eventual creation of glutathione (GSH), a universal antioxidant. Deferoxamine (DFO) was used as an iron chelator while Ferric Ammonium Citrate (FAC) was used to increase the concentration of extracellular iron. N-acetylcysteine (NAC) is a precursor to GSH and is an iron-independent way to treat oxidative stress. The MTT assay revealed that Erastin induced-cell death does involve Grx3. Also, there was evidence that Grx3 functions downstream of the Cysteine/Glutamine antiporter. The treatments DFO and FAC directly affect iron concentration while NAC directly affects ROS levels. Most importantly, the data showed that knockout of Grx3 slightly rescued cells from oxidative stress induced cell death. Future experiments will take advantage of qPCR to determine gene expression levels under the altered conditions. The eventual elucidation of the mechanistic pathway of which Glutaredoxin 3 is a part will help find potential targets for cancer therapies, as well as further understanding of fetal development.

**SESSION IV-D (HANSON HALL 1ST-FLOOR FOYER)
2:15–2:30 P.M.****Victoria Witkowski**

Project advisor: Dr. Claire Kovacs, director of the Augustana Teaching Museum of Art

The Erick O. Schonstedt Inkstand Collection**SESSION IV-D-1: Hanson Hall 1st-floor foyer (2:15–2:30 p.m.)**

This spring, I have an internship with the Augustana Teaching

Museum of Art, where I have been working with the Erick O. Schonstedt Inkstand Collection. This collection was donated to the college over a decade ago and contains over 400 inkstands from various time periods and in many different styles. For the internship, I have been working to reinstall the display of these inkstands in Hanson Hall of Science, creating a new curatorial theme as well as new interpretive materials, which provides more context for these inkstands. In this presentation, I will reflect on this process and talk a bit more about the function of inkstands and their history here at Augustana.

SESSION IV-G (OLD MAIN 132) 2:15–3:15 P.M.**Annamarie Hildner**

Project advisor: Dr. Daniel Morris, religion

The Evolution of the Feminist of Faith**SESSION IV-G-1: Old Main 132 (2:15–2:30 p.m.)**

The goal of my Senior Inquiry was to look at how theological thought throughout history has affected thoughts about the roles of women in society and how the absorption of these interpretations into American culture today is linked with the misogyny and high amounts of victimization of women present within it. This paper looks at how specific aspects of rape culture have been derived from or supported by theological teachings or misinterpretations throughout history. It examines how this leads the link between faith and suffering that the high number of sexual assaults in America have created. Looking at Biblical passages, theologians and even personal testimony of survivors, this work will also reveal some history about how feminism came to be and some of its movements and their solutions to these problems, concluding with a discussion of how feminism and faith must be intertwined in order to rectify the experience of survivors as a whole and with the church. Most importantly, faithful feminists need to exist so as rewrite these misunderstanding in at least an attempt to crumble rape culture's theological foundation.

Christopher Saladin

Project advisor: Dr. Cyrus Zargar, religion

The Historical Roots of Anti-Muslim Discourse in the 2016 Presidential Primary Race**SESSION IV-G-2: Old Main 132 (2:30–2:45 p.m.)**

I will be presenting on my research of the historical routes of the anti-Muslim rhetoric that has dominated the recent presidential primary race. This rhetoric comes from a long-established xenophobia towards the Middle East known as "Orientalism," in which Western nations have defined the region and its people as distinctly different from their way of life. This one-sided dialogue has been present in American culture and politics since the founding of the nation and has repeatedly had major impacts on American politics throughout the 19th and 20th centuries. After calming down for some time, after the events of 9/11 and the increased threat of international terrorism, this discourse towards the Muslim world has been brought back with new-found force. Each of the last four presidential races has seen an increase in anti-Muslim rhetoric, which has in turn been absorbed and accepted by a significant portion of the American electorate. I will explore how this hateful rhetoric has been used by politicians, both in the nation's past and present, to tap into the American public's long established affinity towards the Muslim world.

Omar Rizvi

Project advisor: Dr. Cyrus Zargar, religion

Ramadan and Pregnancy

SESSION IV-G-3: Old Main 132 (2:45–3 p.m.)

Fasting during Ramadan, the ninth month of the Muslim calendar, is one of the five pillars of Islam and is *farḍ* (obligatory) for all Muslims physically and mentally capable of doing so. In the Qur'an, it is made abundantly clear that religion and its acts of worship are not meant to pose undue difficulty or hardship (Qur'an 22:78, 5:6, 2:185). My paper explores the Islamic definitions for "unnecessary difficulty" and "physically capable" specifically in regards to pregnant women. At what point does fasting incur significant, if any, damage to the fetus that it should prevent the mother from participating in Ramadan? When does an act of worship cause "unnecessary difficulty"? By examining verses from the Qur'an and highly regarded hadiths, as well as commentaries from Islamic scholars, I explore the problem of fasting for pregnant and breastfeeding women in the context of Islamic bioethics. The solution to this problem also involves scientific research regarding the physiological effects of fasting on the human body, in terms of both basic human physiology as well as fetal physiology. The true complexity of this question does not lie in absolute "yes or no" answers, but rather in the gray realm of possibility; one must ask, if there is even a possibility of harm, should a mother fast? It is this ambiguity that requires elucidation from both physiological and Islamic bioethical perspectives. Essentially, the solution comes down to a handful of issues such as the definition of harm, the actual harm, and prioritizing *prima facie* obligations.

Jamie Hochmuth

Project advisor: Dr. Jason Mahn, religion

Why Hasn't the Church Stood Up for Women?: An Analysis of the Discussion between Gender Tradition and the Christian Religion

SESSION IV-G-4: Old Main 132 (3–3:15 p.m.)

From before the Reformation through to today, the Church has traditionally placed women at a lower level than men, not allowing them to lead, as well as restricting their rights and roles in society. With constant change in the discussion of gender and its role in society, the Church may need to evaluate its traditions in order to move into the future. This honors capstone presentation will report on gender theory, Church history, and how both are conversing with each other.

SESSION IV-H (OLIN CENTER 305) 2:15–3:15 P.M.

Bethany Hayenga

Project advisor: Dr. Emil Kramer, Classics

The Quest for Happiness: ΕΥΔΑΙΜΩΝ, ΟΛΒΙΟΣ, and ΕΥΤΥΧΗΣ in Herodotus' Histories

SESSION IV-H-1: Olin Center 305 (2:15–2:30 p.m.)

What *is* happiness? Although undoubtedly a valued and sought-after concept, happiness is nevertheless notoriously enigmatic. Ancient Greek ideas of happiness, in addition to being culturally different from our modern understanding of the word, are further complicated by the difficulties of translation. There are at least four ancient Greek words that are roughly translatable to "happiness," each with a slightly different range of meanings. The Archaic period historian Herodotus uses three of these words in his *Histories*, which gives a detailed description of the Greco-Persian Wars. This project seeks to identify, examine and differentiate between the three words for happiness that Herodotus uses—*eudaimon*, *olbios*

and *eutyches*—in order to elucidate their meanings and translations beyond the general translation "happiness." By analyzing the uses and contexts of these words, we can better understand not only the differences and nuances of several ancient Greek words for happiness in this one work, but perhaps also catch a glimpse of the larger cultural context in which Herodotus was writing. And maybe, just maybe, we can learn something about our own modern culture in the process.

Carol Fredrickson

Project advisor: Dr. Catherine C. Goebel, art history

Thomas Cole's Voyage of Life: An Iconic American Landscape Series

SESSION IV-H-2: Olin Center 305 (2:30–2:45 p.m.)

Thomas Cole defined American landscape painting. He was the acknowledged leader of the first American landscape movement: the 19-century Hudson River School. Romanticism encouraged painters and poets alike to find their inspiration in Nature. Both writers and artists were fascinated with dual aspects of Nature: acknowledging she could be picturesque and sublime...beautiful, and at times, deadly. The Romantic imagination was fascinated that people could not fully control Nature. And within this acknowledgement, the inherent power of God in Nature, whose changes and natural disasters baffled the minds of those with creative thoughts, was paramount. In his famous series, the *Voyage of Life*, Cole's landscape paintings present complex multi-faceted arrangements, reflective of their time and illustrative of his genius, where science, painting, poetry and religion co-exist in this new American paradise presenting a moral to a receptive middle-class audience.

Bonnie Thornton

Project advisor: Dr. Brian Leech, history

The Conservation and Preservation of Blackhawk State Park, 1917-1927

SESSION IV-H-3: Olin Center 305 (2:45–3 p.m.)

Local historian John Henry Hauberg persisted throughout the 1920s to transform Rock Island, Illinois' amusement park into recognizing the land and its history.

SESSION IV-J (BERGENDOFF HALL OF FINE ARTS, LARSON HALL) 2:15–3:15 p.m.

Camilo Duarte and the rest of Heywire

Project advisor: Dr. Mark Salisbury, assistant dean, director of assessment and institutional research

Heywire – Improvisation in the Real World

SESSION IV-4-1: Bergendoff Hall, Larson Hall (2:15–2:35 p.m.)

Improvisational performances are growing around the world. Today, people are beginning to see the application of improvisation outside of the arts, including business, science, education and more. Symposium Day creates the opportunity for us to show how this can be done through performance and presentation, all while having fun!

SPECIAL PROJECTS

Dr. Jessica Nodulman, Communication Studies 405 students

A Student Designed Health Campaign on Bystander Intervention

The Gerber Center, 4th Floor Hallway (9:30 a.m.–4:30 p.m.)

The students in COMM 405: Health Communication Campaigns have designed a campaign raising awareness and educating the campus on bystander intervention techniques. They will display their campaign materials and ask for your feedback.

Anna Dominguez

Project advisor: Samuel Payan, director of multicultural student life

Discomfort Zone: Microaggression and Oppressive Language Simulation

Oasis Game Room, The Gerber Center (9:30 a.m.–4:30 p.m.)

My graphic design installation is a poster series of statements coated in microaggressions and oppressive language. The installation includes distressing strobe lights, irritable sound effects, and distorted text on 30x40 white poster boards. The installation begins in the dark and then the lights are turned on without warning, causing the distorted text to become even more blurry to read in the light. Essentially, it's a simulation on the irritability of microaggressions and oppressive language. Sometimes the instigators aren't even aware that what they said was wrong, tasteless, rude and/or hurtful. Microaggressions and oppressive language start small, but they lead to larger systemic barriers that marginalized groups of people go through on a daily basis. The aim is to allow others who aren't usually subject to such language to participate in an experience that is intentionally distressing.

Dr. Scott Gehler, Dr. Rupa Gordon, Dr. Ian Harrington, Dr. Shara Stough, Michael Clapp, Jessica Czarnecki, Ethan Harrod, Kristina Humphreys, Caleb Ivey, Erica Kirinovic, Alexander Lobo, Lisa Nguyen, Phoebe Strell, Steven Todorov

NeurdFest: Celebrating Neuroscience Through Elementary School Outreach

(NOT OPEN TO THE PUBLIC)

This year marks the second offering of our neuroscience education outreach program, NeurdFest. In 2015, Augustana students and faculty from neuroscience and biology began working with second-grade students from Longfellow Elementary. Through a series of interactive exhibits, these students learn about the general functions of the brain, how the brain deals with sensory information, how brain cells transmit signals, how the brains of different animals are similar and dissimilar, and, most importantly, why it is important to practice brain safety. This annual outreach program has proven beneficial to all involved.

Mecca Joseph

Project advisors: Dr. Jane Simonsen, history; Dr. Araceli Masterson, Spanish

Women of Color at Augustana: A Multimedia Art Installation

Old Main 21 (10 a.m.–3:30 p.m.)

This multimedia art installation is aimed at creatively reflecting what it is like to be a woman and a person of color at Augustana. The unique experience of being a woman of color can at times be lost in discourses of resources for women and people of color. This work ultimately hopes to express the humanity and specific lived experience of being a woman and of color.

Dr. Forrest Stonedahl, mathematics and computer science

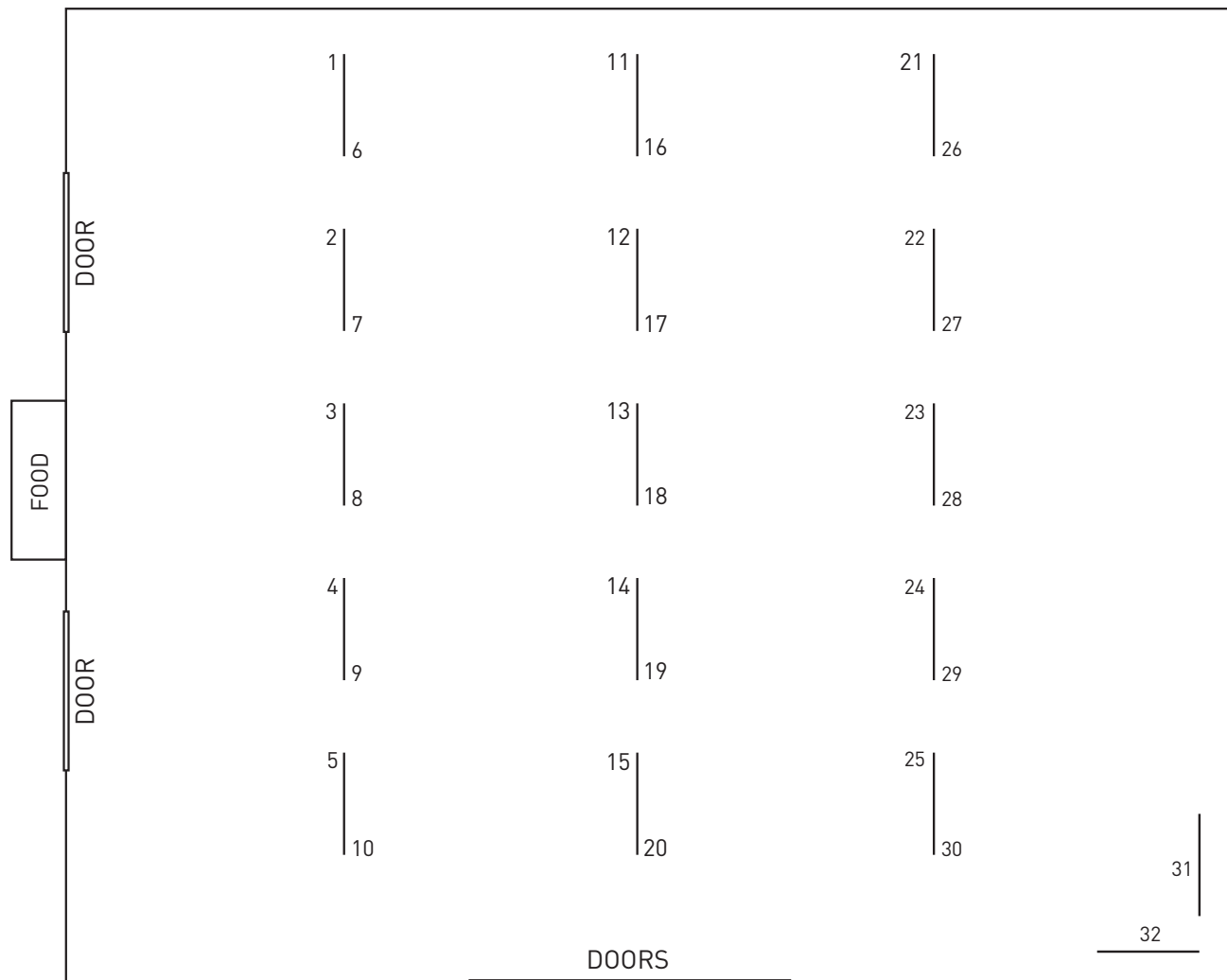
Augustana Invitational Robotics Challenge

Session 5: Hanson Hall 102 (5:30–7 p.m.)

This session is an invitational intercollegiate robotics contest wherein student teams test the performance of the robot (that they designed/built/programmed) versus other teams. This year's task is a "hurdles" race, wherein the robot must climb over wooden obstacles.

POSTER SESSION 2 | 3:15-4:30 p.m.

Poster Presentation Layout | The Gerber Center, Gävle Room



- | | |
|---|--|
| 1 Robert French, Heather Stratton, Ondrea Kramer | 15 Eric Shershen, Nicholas Orslini, David Channon, Marvin Agyeben |
| 2 Brianna Cousineau, Sean Fitzgerald, Desirae Dowding | 16 Emily Stanevicius |
| 3 Dominic LiFonti | 17 Austin Anderson, Charlie Bentley, Felipe Hernandez |
| 4 Dr. Tierney Brosius, Dr. Michael Reisner | 18 Adam Bernardi, Madeline Crook, Andrew Groenewold, Connor McMartin |
| 5 Jillian Jespersen, Laura Becker, Kortney Hix, Dr. Kevin Geedey | 19 Jessica Joerger, Tanner Logan, Kiefer Kious, Jake Rancic |
| 6 Kendall Smith, Victoria Lason, Dr. Tierney Brosius, Dr. Michael Reisner | 20 Courtney Olson, Rachel Butter, Shelby Reid, Alexa Caputo |
| 7 Kassandra Tyra, Dr. Michael Reisner | 21 Matt Klyman |
| 8 Jacob Torres, Dr. Tierney Brosius, Dr. Lori Scott | 22 Isaac Smith |
| 9 Lauren Adamick, Ariana Galvan, Kelsey Gorsch, Katherine Villa | 23 Alyssa Kendell, Dr. Troy Larson |
| 10 Peter Francissen, Joseph Gonziorek, Katherine Morgan, Danielle Deering | 24 Jacob Gylten |
| 11 Amanda Holmes, Amanda Ico, Jessica Berry, Macy Koepke | 25 Brandon Wills |
| 12 Megan Janssen, Emily Geison, Tiffany Bertoni, Matthew Zimmerman | 26 Cale McCormick, Dr. Lori Scott |
| 13 Stephen Lavelle, Dr. Bohdan Dziadyk | 27 Sara Mitchell Haley West Sarah English Ethan Harrod Caleb Ivey, Jennifer Vanderpool, Shara Stough |
| 14 Nicole Morrissey, Viktoria Andonova, Danielle Hurmis, Hanna Gobeille | 28 Katelyn Lorenz, Kristina Humphreys, Michael Clapp, Lisa Nguyen, Colin Kalmes, Alexander Lobo |
| | 29 Nellie Bubb, Josie Fioretto, Brett Bialek, Dr. Rupa Gordon |

POSTER SESSION II

GÄVLE ROOM, CENTER FOR STUDENT LIFE

3:15 - 4:30 P.M.

Hors d'oeuvres and beverages will be served during the afternoon poster session.

Robert French, Heather Stratton, Ondrea Kramer

Project advisor: Dr. Kevin Geedeey, biology

FPOM in the Rock Island Watershed

Poster Session (P2) #1: Gävle Room, The Gerber Center

The purpose of our research was to determine the amount of fine particulate organic matter within a range of streams located in Rock Island, Ill., and whether it had a correlation to stream health. The sites were chosen by Dr. Michael Reisner and the Upper Mississippi Center for Sustainable Communities at the request of the City of Rock Island. Eighteen sites were chosen to cover the entire watershed that ranges across the City of Rock Island. The watershed of Rock Island empties into the Rock River.

Brianna Cousineau, Sean Fitzgerald, Desirae Dowding

Project advisor: Dr. Kevin Geedeey, biology

Ammonium Uptake in Rock Island Urbanized Streams

Poster Session (P2) #2: Gävle Room, The Gerber Center

This session focuses on a study done on four streams in Rock Island's watershed to test their ability to uptake ammonium.

Dominic LiFonti

Project advisor: Dr. Kevin Geedeey, biology

Macroinvertebrates and Stream Health

Poster Session (P2) #3: Gävle Room, The Gerber Center

For my poster, I will present the data I obtained during my Aquatic Biology Senior Inquiry, regarding the macroinvertebrate life within local watersheds and how it reflects the health of the river.

Dr. Tierney Brosius, Dr. Michael Reisner

Understory diversity and composition drives carabid assemblages

Poster Session (P2) #4: Gävle Room, The Gerber Center

Fire suppression has nearly eliminated fire as a disturbance in temperate deciduous forests. Lack of fire is transforming these ecosystems through a positive feedback loop termed mesophication: cool, damp, shady conditions become continually more favorable for a few mesophytic species, while deteriorating for diverse array of heliophytic ones. Disturbances caused by urbanization fragment and degrade remnant forests. In urban settings, human management (or lack thereof) is often a dominant driver of succession. Carabid diversity, understory vegetation, patch size, patch connectivity and permeable surface area were all examined in multiple forest plots in Rock Island and Moline. The result of this research adds to our understanding of how mesophication and urbanization interact to influence forest ecosystem composition and structure at two trophic levels—plant understory and carabid beetle communities.

Jillian Jespersen, Laura Becker, Kortney Hix, Dr. Kevin Geedeey

Project Advisor: Dr. Kevin Geedeey, biology

The Effects of Urbanization on Leaf Breakdown Rates in a Rock Island Watershed

Poster Session (P2) #5: Gävle Room, The Gerber Center

The ability of streams to break down leaves is widely used as an indicator of stream health. In this study, a series of six streams within

the Rock Island, Ill., watershed, which were similar in discharge, order, temperature and pH, were categorized as healthy or unhealthy based on chloride levels. This study was part of a broader study of the Rock Island watershed by Augustana. Maple leaves were collected shortly after abscission, weighed, packaged in mesh bags (approximately 5g per bag) and deployed in the streams for two- and four-week periods. After each time period, the leaves were removed, dried and weighed, and the mass loss was calculated as well as overall leaf decomposition rate. The healthy streams decomposed leaves significantly faster than the unhealthy streams. These results suggest that streams in close proximity to impervious surfaces (the unhealthy streams) experienced a loss of the ecosystem service of leaf decomposition perhaps due to a loss of invertebrate shredders because of high chloride levels associated with urbanization.

Kendall Smith, Victoria Lason, Dr. Tierney Brosius, Dr. Michael Reisner

Project advisors: Dr. Tierney Brosius, biology; Dr. Michael Reisner, environmental studies

The Spatial Distribution and Density of the Emerald Ash Borer Infestation in Rock Island and Moline, IL

Poster Session (P2) #6: Gävle Room, The Gerber Center

The Emerald Ash Borer (EAB) *Agrilus planipennis* Fairmaire (*Coleoptera: Buprestidae*) is a destructive colonizer of ash trees that arrived in the United States in 2002. Since then, EAB has been detected in 22 states and two Canadian provinces, and has proven to be a complicated management issue for many cities, including Rock Island, Ill. The purpose of this study was to determine the spatial distribution and density of the EAB infestation in Rock Island and to identify potential correlations between host larval densities and visual symptoms. A continuation of spatial distribution was determined through a tree survey examining specific species of ash trees, canopy health and epicormic shoots in conjunction with the City of Rock Island Public Works. All information collected was sent to ArcGIS electronically through an iPhone application (Collector App) and later analyzed with the use of GIS (Geographic Information System). Larval density and potential correlations with visual symptoms were determined by removing two 50cm branch segments from ash trees. Branch segments were whittled in 1mm thick sheets until the cambium was reached while recording the number of larvae and galleries. Visual symptoms including ash canopy rating, bark splitting, epicormic shooting and exit holes were assessed for each tree used in the trapping survey and branch sampling. No EAB beetles were found outside the invasion epicenter at Hasselroth Park in Rock Island, Ill. Similarly to the data that was collected (summer 2014), the larval density in sampled branches was insignificant, concluding that there were no significant relationships between larval density and the presence of any visual symptoms.

Kassandra Tyra, Dr. Michael Reisner

Project advisors: Dr. Michael Reisner, environmental studies; Dr. Tierney Brosius, biology

An Investigation of Butterfly Species Diversity along an Urbanization Gradient in Moline, IL

Poster Session (P2) #7: Gävle Room, The Gerber Center

Urbanization rates are increasing dramatically. The United Nations estimates that between 2 and 3 billion people will be added to the world population by the year 2050. As urbanization trends continue, it is becoming increasingly important to understand and mitigate our impact on urban ecosystems. The purpose of this study was to observe trends in butterfly diversity across an urbanization gradient at three forest plots in Rock Island and Moline, Ill. Butterfly surveys were conducted according to the standard Pollard walk. Results of this study indicated that butterfly abundance and diversity are

negatively impacted by urbanization, as has been found in other studies. Recommendations for future studies include performing surveys at more sites and also increasing the number of transects at each site to increase the strength of statistical analysis.

Jacob Torres, Dr. Tierney Brosius, Dr. Lori Scott

Project advisors: Dr. Tierney Brosius and Dr. Lori Scott, biology
Poster Session (P2) #8: Gävle Room, The Gerber Center

Genetic variations between populations of *C. Splendida* and *C. Limbalis* found in Illinois and Nebraska

How to define a “species” has long perplexed scientists. Prior to the genetic revolution, species were often defined by morphological characteristics. Now that we are able to look at genetic sequences of the organisms being studied, we have to make adjustments to past classifications. Tiger beetles are widespread throughout the United States and are relatively well studied and catalogued. The goal of this study is to compare two different populations of two different tiger beetle species—*Cicindela splendida* and *Cicindela limbalis*—using mitochondrial DNA. This study is important because morphological studies suggest that *C. splendida* and *C. limbalis* are two separate species (they are classified as such), while other studies based on mitochondrial DNA suggest they are a singular species of tiger beetle that exhibits several different morphologies and has the capacity to hybridize, which it has been observed to do in some locations in the wild. We will compare two additional locations and determine if it supports the previous work examining mitochondrial DNA. Beetles of both “species” have been collected from a population in southern Illinois and a population in northeastern Nebraska. The result of our data collection will examine how genetically diverse these two species are within two separate populations and the level of diversity between two populations more than 800 km apart.

Lauren Adamick, Ariana Galvan, Kelsey Gorsch, Katherine Villa

Project advisor: Dr. Bohdan Dziadyk, biology

The most effective soil acidity for *Brassica rapa* growth

Poster Session (P2) #9: Gävle Room, The Gerber Center

In this experiment, we observed the effects that soil acidity have on the growth of Wisconsin Fast Plants *Brassica Rapa*. We hypothesized that if the fast plants are grown in acidic conditions, then they would grow to be shorter and have fewer flowers and leaves than the plants grown in tap water conditions. The experiment consisted of three groups: control, E1 and E2. Both experimental groups were maintained with a different pH level. Control had tap water, E1 had pH 5.0, and E2 had pH 4.0. The height of the plants were recorded, and the total number of flowers and leaves were recorded for each plant. There was a significant difference in the heights of the control and E1 groups, $p=.0009$. There was a non-significant difference in the heights of the control and the E2 groups, $p=.9582$. Lastly, there was a significant difference in the heights of the E1 and E2 groups, $p=.0015$. Number of flowers and leaves consistently increased across all groups every week. In conclusion, our hypothesis was supported since the control group plants grew more rapidly compared to any of the other two groups, followed by E1 and then E2. Thus, pH of soil does have an effect on the Wisconsin Fast Plant growth.

Peter Francissen, Joseph Gonziorek, Katherine Morgan, Danielle Deering

Project advisor: Dr. Bohdan Dziadyk, biology

Effects of two different concentrations of Miracle-Gro solution on Wisconsin Fast Plant growth

Poster Session (P2) #10: Gävle Room, The Gerber Center

Wisconsin Fast Plant (*Brassica Rapa*, *Brassicaceae*) seeds were planted in three six-celled planting chambers. The chambers were filled with standard potting soil under continuous grow-lux lighting. A week after germination, one planting chamber (E1) was supplied with the recommended Miracle-Gro fertilizer solution. Our second experimental chamber (E2) was supplied with 1.5x the recommended amount of Miracle-Gro solution, and the control chamber was supplied with tap water. Thereafter, the plant heights were measured on seven-day intervals. After four weeks of data-recording, the average plant height (mm) for the control group was 189.7, for E1 it was 73.5, and for E2 the average plant height was 60.4. Our t-tests showed that the height of the control plants vs. E1 was significant ($P=.010563$), for control plants vs. E2 it was even more significant ($P=.008813$). However, for E1 vs. E2, our data was insignificant ($P=.318883$). Our hypothesis was that supplying the Wisconsin Fast Plants with the recommended amount of Miracle-Gro fertilizer solution would cause the plants to grow higher, but supplying the plants with above the recommended amount of fertilizer solution would hinder plant growth. The hypothesis was not supported because the plants in the control chamber grew significantly higher than any of the plants in the Miracle-Gro solution. We believed this result was attributed to an excess of nutrients in the Miracle-Gro solution that inhibited plant growth.

Amanda Holmes, Amanda Ico, Jessica Berry, Macy Koepeke

Project advisor: Dr. Bohdan Dziadyk, biology

The Effect of Herbivory on the Growth of Wisconsin Fast Plant

Poster Session (P2) #11: Gävle Room, The Gerber Center

Wisconsin Fast Plant (*Brassica rapa*, *Brassicaceae*) was planted into three six-celled planting chambers (labeled Control, E1 and E2), which were all maintained in the same controlled environment. After a week of germination, in order to simulate herbivory, the cotyledons of E1 plants were cut off completely, and the cotyledons of E2 plants were cut in half. Any true foliage leaves that grew on E2 plants were also cut in half. After four weeks, the average height of the Control group was 133.62mm, for the E1 condition was 57.67mm, and for the E2 condition was 106.93mm. A student t-test was performed for a comparison of heights. It was hypothesized that simulated herbivory would inhibit growth of Wisconsin Fast Plants, and this was supported in our data. In comparing the Control and E1 condition ($p < .01$) as well as Control and the E2 condition ($p=.023$), the height differences were statistically significant. The results of the t-test comparing heights of the E1 and E2 conditions also showed to be statistically significant ($p < .01$), indicating that extreme cases of simulated herbivory on the cotyledons of the Wisconsin Fast Plant greatly inhibits primary growth.

Megan Janssen, Emily Geison, Tiffany Bertoni, Matthew Zimmerman

Project advisor: Dr. Bohdan Dziadyk, biology

The Effects of Two Levels of Salinity on Wisconsin Fast Plants

Poster Session (P2) #12: Gävle Room, The Gerber Center

Wisconsin Fast Plant (*Brassica rapa*, *Brassicaceae*) seeds were planted in three, six-celled planting containers filled with potting soil and put beneath a continuous grow-lux light. One week after sprouting, one container (E1) was put into a separate tray filled with 0.5% NaCl solution, another container (E2) was put into a separate

tray filled with 1.0% NaCl solution, and the third container was left in regular tap water. At seven-day intervals thereafter, the height of all plants was recorded, and the numbers of leaves and flowers were recorded. By week four of recording data, the average height (mm) of the control plants was 166.5, 97.7 in the E1 plants, and 71.6 in the E2 plants. The t-test for height of the control plants vs. the height of the E1 plants was significant ($p=0.00067$). Similarly, the t-test for the control plants vs. E2 plants was highly significant ($p=0.00003$). The height of E1 plants vs. E2 plants was also significant ($p=0.00834$). That same week, the average number of leaves for control plants was 2.86, for E1 plants was 2.36, and for E2 plants was 2.00. The average number of flowers for control plants that week was 2.50, for E1 plants was 2.14, and for E2 plants was 2.31. Our hypothesis that higher salinity hinders plant growth, flower production and leaf production was fully supported. We infer that fast plants and other herbaceous species may have a lower tolerance of salinity compared to that of woody plants.

Stephen Lavelle, Dr. Bohdan Dziadyk

Project advisor: Dr. Bohdan Dziadyk, biology

Tree Density on EREN Permanent Forest Plot Project Sites at the Augustana College Field Stations

Poster Session (P2) #13: Gävle Room, The Gerber Center

The Ecological Research as Education Network (EREN) Permanent Forest Plot Project at Augustana consists of permanent 20m x 20m plots set up at the three biological field stations owned and managed by the college. In the summer of 2015, a Local Flora class collected data from each of seven plots scattered across the three locations. The field stations include (1) the 170 ha (420-acre) Green Wing Environmental Laboratory (GWEL) in Lee County, a mosaic of upland forests, modified grassland habitats and numerous ponds and wet meadows; in Rock Island County are (2) the 32-ha (80-acre) Collinson Ecological Preserve (CEP), dominated by upland forests and a small hill prairie outcrop; and (3) the Beling Ecological Preserve (BEP) a 40-ha (100-acre) lowland habitat on the Rock River, consisting of riparian forests and extensive sedge meadow communities. Field work included identifying all trees and woody vines within each plot and recording the diameters of all live, woody stems greater than 2.54 cm at chest height. Of the six species recorded at the bottomland BEP, the dominants are silver maple, green ash and slippery elm, with an average of 475 trees per hectare. The upland forest at CEP is characterized by greater richness with 12 species and an average density of 750 trees per hectare. The dominant species are red oak, pignut hickory and slippery elm. At the larger and more ecologically diverse GWEL, two plots dominated by burr oak, black oak and wild cherry contained nine species but had the highest density observed with 875 trees per hectare. A last plot at this site dominated by an old planted, red pine grove exhibited 825 trees per hectare. The density of trees at the three stations is not unexpected, ranging from the low values at the regularly flooded and harsh Beling site, the more mature and stable Collinson preserve with its high species richness, and the local, patchy habitats of Green Wing Lab.

Nicole Morrissey, Viktoria Andonova, Danielle Hurmis, Hanna Gobeille

Project advisor: Dr. Bohdan Dziadyk, biology

Effect of Two Levels of Salinity on the Growth of Wisconsin Fast Plants

Poster Session (P2) #14: Gävle Room, The Gerber Center

Wisconsin Fast Plant (*Brassica rapa*, *Brassicaceae*) seeds were planted in three, six-celled planting chambers. They were filled with potting soil and placed under continuous lighting in a tray filled with tap water. A week after germination, the E1 chamber was placed in a separate tray with the 0.5% saline solution, the E2 chamber was also

placed in a separate tray which contained 1.0% saline solution, and the control remained in the tap water. Thereafter, every seven days the height of all plants was recorded (mm). After the fourth week of data-recording, the average height of the control plants was 63 mm, of the E1 plants was 45.5mm, and of the E2 plants was 27.6mm. The t-test for height of control plants vs. E1 plants was significant ($p=0.00122$). The t-test for height of control plants vs. E2 plants was significant ($p=2.75 \times 10^{-7}$). The t-test for height of E1 plants vs. E2 plants was significant ($p=2.87 \times 10^{-5}$). Our hypothesis that salinity inhibits plant growth was supported by our data.

Eric Shershen, Nicholas Orslini, David Channon, Marvin Agyeben

Project advisor: Dr. Bohdan Dziadyk, biology

Effect of Different Miracle-Gro Concentrations on the Growth of Wisconsin Fast Plants

Poster Session (P2) #15: Gävle Room, The Gerber Center

The Wisconsin Fast Plant, *Brassica rapa* (*Brassicaceae*) seeds were planted in three, six-celled containers and were filled with standard potting soil under continuous grow-lux lighting. After the first week of plant growth, E1 and E2 were placed in a separate trays and given 1.0 and 1.5x the recommended amount of Miracle-Gro formula, respectively. The control was left in tap water and all were kept in 1 cm of solution. Every seven days the plants' heights were recorded, and the total number of flowers were counted. By the fourth week, the average height of the control plants was 105.7 mm, of the E1 plants was 83.9 mm, and of the E2 was 60.5 mm. The t-test for the height of control vs. E1 was significant with $p=0.023$ and the control vs. E2 was significant with $p=5.63 \times 10^{-5}$. The heights between E1 and E2 was significant with $p=0.003$. During week four, the average number of flowers for control, E1 and E2 were 9, 8 and 7 respectively. This data proved our hypothesis was not supported; we thought that the recommended rate would work the best, but the control group was the healthiest with the highest average growth. We believe that the control fast plants will continue to grow better than the experimental plants because of the trend observed after the conclusion of the experiment.

Emily Stanevicius

Project advisor: Dr. Bohdan Dziadyk, biology

Mapping Morels: Predicting the Locations of Morchella Species Through Environmental Factors Using the GIS System

Poster Session (P2) #16: Gävle Room, The Gerber Center

Morel mushrooms, *Morchella esculenta* and *M. deliciosa*, are known delicacies across the globe, ranging from exquisite dishes in French cuisine to Eastern palates such as Japanese Matsutake. According to literature, true morels diverged as their own genus about 129 million years, again which has led to the development of more than 177 species and have been part of the human diet since their beginning. However, the elusiveness of morels has contributed to the mushrooms infamy for rarity, and has even been known to sell for more than \$40 per pound. This project seeks to aid in the search for morels by focusing on plausible locations for *Morchella esculenta* and *M. deliciosa* on the Augustana campus. Specific parameters such as amount of sunlight, moisture, slope and temperature were used as limiting factors to narrow the locations of morels using the GIS system. Four maps were initially created to allow for variability in weather and time frames due to the unpredictable weather. After the ideal moisture map is selected, morels will be plotted using statistical regression models to determine if the specified parameters were congruent with determining the location of the fungi. Size, biomass, moisture levels, soil acidity and temperature also will be recorded to provide adequate data in these microclimates to account for variations in results. If successful, the majority of morels will be found in areas

that have roughly 40% moisture levels, on south facing slopes, after optimum air (21° C) and soil (4.5° C) temperatures in late April have been achieved.

Austin Anderson, Charlie Bentley, Felipe Hernandez

Project advisor: Dr. Bohdan Dziadyk, biology

Testing the Effect of Type of Light on the Growth of Wisconsin Fast Plants

Poster Session (P2) #17: Gävle Room, The Gerber Center

Wisconsin Fast Plant (*Brassica rapa*, *Brassicaceae*) seeds were planted inside three planting chambers with six cells each. The three chambers were packed with standard potting soil, and left to germinate under continuous lighting for one week. We hypothesized that the type of light will have a significant effect on the growth rate of the Wisconsin Fast Plant. After the week of germination, the control was maintained under direct fluorescent light. The second planting chamber was used as experimental group 1 (E1), and placed in the window for sunlight. The third planting chamber, experimental group 2 (E2), was placed under intermittent fluorescent light. Every seven days, all the plants' heights were recorded as well as the number of flowers on each. At the end of the fifth week, the control group plants had an average height of 16 cm, the E1 group plants had an average height of 12.2 cm, and the E2 group plants had an average of 5.8 cm. A t-test performed found that the control group vs. E1 was found to not be statistically significant ($p=0.3254$), the control group vs. E2 was found to not be statistically significant ($p=0.0757$), and E1 vs. E2 was also found to not be statistically significant ($p=0.0722$). At the end of week five, the average number of flowers for the control group was 7, for the E1 group was 4, and for the E2 group was 2. Our hypothesis was not supported by the data, and we accept the null hypothesis, which states that the type of light has no effect on the growth rate.

Adam Bernardi, Madeline Crook, Andrew Groenewold, Connor McMartin

Project advisor: Dr. Bohdan Dziadyk, biology

The effects of varying acidity levels on plant growth

Poster Session (P2) #18: Gävle Room, The Gerber Center

Wisconsin Fast Plant seeds (*Brassica rapa* *Brassicaceae*) were planted into three six-celled planting chambers, and then placed under grow-lux lighting. One week later, a planting tray was treated with a pH solution of 5.0 and 4.0 for experimental trays 1 and 2, respectively, for five weeks. Weekly measurements of plant height and leaf production were recorded. Statistical analysis was performed to show whether the mean plant heights of each group were significantly different. The student t-test was done for Control vs. Experiment 1 ($p=0.4134$), Control vs. Experiment 2 ($p=0.7815$), and Experiment 1 vs. Experiment 2 ($p=0.6100$). Based on the high P-values obtained for each difference, there was no significant difference to be reported between any of the plant growth means with the change in acidity level in the soil. This insignificance rejects the hypothesis and accepts an alternative hypothesis that no change in plant growth is observed between neutral and acidic conditions.

Jessica Joerger, Tanner Logan, Kiefer Kiou, Jake Rancic

Project advisor: Dr. Bohdan Dziadyk, biology

The Effects of Simulated Herbivory on the Growth of Wisconsin Fast Plants

Poster Session (P2) #19: Gävle Room, The Gerber Center

Wisconsin Fast Plant (*Brassica rapa*, *Brassicaceae*) seeds were planted in three six-celled containers with 15 seeds in each tray. After a week of germination in standard potting soil and tap water,

we started our manipulation of simulating herbivory with scissors. E1 plants had both cotyledons of each plant removed, E2 plants had half of the cotyledons of each plant removed, and the control group was allowed to grow. E2 plants had its foliage leaves cut when they exceeded 1 cm from that week on. Every week (seven-day intervals), the height of all the plants were recorded as well as the number of flowers and foliage leaves. By the fourth week of recording data, the average height (in cm) of the control plants was 12.15, E1 plants was 8.14, and E2 plants was 8.806. The average number of flowering plants during the fourth week of measurement was 8 plants for the control group, 4 for E1, and 9 for E2. The t-test for the height of control plants vs E1 plants was statistically significant ($p=0.009803$). The control plants vs E2 plants was also significant ($p=0.010953$). The E1 vs E2 plants was not statistically significant ($p=0.292112$). Our hypothesis that plants that experience a loss of half of their cotyledons will have a lower biomass than the plants that undergo continuous herbivory was not supported. We suspect that herbivory, regardless of whether it is continuous, may have an equal effect on the fast plants because we were unable to reject the null hypothesis.

Courtney Olson, Rachel Butter, Shelby Reid, Alexa Caputo

Project advisor: Dr. Bohdan Dziadyk, biology

The Effects of Three Levels of Light on Wisconsin Fast Plants

Poster Session (P2) #20: Gävle Room, The Gerber Center

Three small trays with six-celled chambers each were used to plant Wisconsin Fast Plant seeds (*Brassica rapa*, *Brassicaceae*) in Ultimate Potting Soil 3-4 cm deep. The control was placed in tap water under continuous Gro-Lux lighting, while experimental group 1 (E1) was placed in a separate bin in the window sill under the window illumination conditions. Experimental group 2 (E2) was placed in an interior room with intermittent illumination conditions. Plant heights were recorded on the same day every week, along with the number of leaves and the number of flowers. By the fourth week, the average height (mm) of the control plants was 78.9, of E1 plants was 69.3, and of E2 plants was 38.3. Our t-test between the control and E1 plants was not statistically significant ($p=0.5225$). Control vs. E2 was very statistically significant ($p=0.0028$). Lastly, between E1 and E2, our P-value ($p=0.0009$) was extremely statistically significant. We can accept the alternate hypothesis that the condition offering the most amount of light will generate the most growth for plants in a six-week time period.

Matt Klyman

Project advisor: Dr. Amanda Wilmsmeyer, chemistry

Surface Interaction of Volatile Organic Compounds' Adsorption to Silica

Poster Session (P2) #21: Gävle Room, The Gerber Center

Preemptive disease treatment falls to the wayside as diagnosing disease early can be complicated, and patients may be unwilling to undergo testing due to a lack of clearly visible symptoms. The key to correcting such trends is to develop a simple, but effective way to catch illness in its initial stages. Breath analysis can achieve early diagnosis due to disease altering the concentration of volatile organic compounds in one's breath. These chemical changes represent a vector to provide evidence to prompt further testing through a simple procedure. The patient would have to breathe into a sensor or provide a breath sample. For such a technique to work, one would need to understand how these volatile organic compounds interact with the substance acting as a sensor. The research conducted explores the surface interactions of a selection of volatile organic compounds on silica as a potential detector. Initial results yield a characterization of the gas-phase VOCs and the VOC adsorbed to silica, courtesy of Fourier Transform Infrared Spectroscopy. Graphs and peak assignments have been successfully plotted and examined with the intent of acting as a foundation for further work in the field.

Isaac Smith

Project advisor: Dr. Greg Domski, chemistry

Synthesis, characterization, and catalytic behavior of mono- and bimetallic iridium(III) complexes supported by pyridine-functionalized N-heterocyclic carbene ligands

Poster Session (P2) #22: Gävle Room, The Gerber Center

We have prepared and characterized several previously unreported iridium(III) complexes supported by pyridine-functionalized N-heterocyclic carbene ligands. These complexes have shown catalytic potential as transfer hydrogenation catalysts.

Alyssa Kendell, Dr. Troy Larson

Project advisor: Dr. Troy Larson, biology

Cloning of two acetylxylnan esterase genes for heterologous protein expression in *E. coli*

Poster Session (P2) #23: Gävle Room, The Gerber Center

Lignocellulose is one of the most abundant biopolymers on earth, and its degradation represents a currently underutilized source of carbon for ethanol production. Plant primary and secondary cell walls contain cellulose, hemicellulose, and lignin, all of which provide structural support for the plant. Plant hemicelluloses contain long chains of various pentose sugars, including xylan, arabinoxylan, glucuronoxylan, and glucomannan with β -1,4 linkages. The long chain of pentose sugars has many side chains, including arabinofuranosyl side chains, acetate groups, and ferulic acid groups. Removal of these side chains enhances enzymatic degradation of the xylan allowing released five carbon sugars to be available for fermentation by yeast to produce ethanol. The ability to produce inexpensive enzymes for degradation of feedstocks is necessary if production of biofuels is to become cost effective in the future. In this study, two acetylxylnan esterases (*AxeI* and *AxeII*) from the maize endophyte were selected for cloning and protein expression. These genes were initially cloned and the resulting proteins were expressed in *E. coli*. High levels of protein were produced, unfortunately all of the protein was localized to the insoluble fraction and unable to be purified in an active form. In order to facilitate solubility in *E. coli*, these sequences were submitted to the company GenScript (genscript.com) for codon optimization. Codon optimization is a process where the DNA sequence is altered and the coding sequence is optimized to codons most commonly used by bacteria while still retaining the protein coding sequence of interest. The optimized gene sequences from GenScript were removed from the cloning vectors and placed into the protein expression vector pET45b(+) using restriction endonucleases. The resulting protein expression vectors contain a 6X histidine tag located on the N-terminus of the protein coding sequence. This tag will allow for purification and detection of the resulting proteins in future experiments.

Jacob Gylten

Project advisor: Stephanie Fuhr, biology

Poster Session (P2) #24: Gävle Room, The Gerber Center

Brandon Wills

Project advisor: Dr. Lori Scott, biology

Effects of mutating the *Mrub_1345* gene found in *Meiothermus ruber*

Poster Session (P2) #25: Gävle Room, The Gerber Center

Meiothermus ruber is a unique, red-pigmented, thermophilic bacterium that preferentially grows in high-temperature environments ranging from 35-70°C. Due to the lack of studies performed on this organism, there is quite a bit of information missing in regard to the genes found within this organism's genome and their function. This study focuses in on the *Mrub_1345* gene in *M. ruber*, which has been suggested to be orthologous to the *proC* gene found of *E. coli* proline biosynthesis pathway. To test if these genes are orthologs, we performed the complementation assay on wild-type *proC*. Next, we performed site-directed mutagenesis on amino acids that are suspected to play an important role in enzyme functionality, and then repeated the complementation assay. A missense mutation swapping a glycine residue to aspartate was shown to have no effect on *M. ruber proC* functionality. We are currently working on preparing more mutant versions of this gene for further studies.

Cale McCormick, Dr. Lori Scott

Project advisor: Dr. Lori Scott, biology

Confirmation of *Meiothermus ruber proB* function using the complementation assay

Poster Session (P2) #26: Gävle Room, The Gerber Center

This project is part of the *Meiothermus ruber* genome analysis project, which uses wet lab procedures and computational analysis to gather evidence of orthologous genes between *Escherichia coli* and *Meiothermus ruber*. In previous work, bioinformatics evidence supported the hypothesis that the gene *Mrub1080* was an ortholog of *E. coli proB*. We investigated the biological function of *Meiothermus ruber* genes *proB* and *proBA* using the complementation assay. However, functional analysis proved inconclusive. For this particular research project, we confirmed that weakly complementing *E. coli proB*- null strains actually contained the desired *M. ruber proB* and *proBA* genes (inserted into a pKt1 expression vector), as opposed to being growth artifacts or bacterial contamination. The *proB* gene encodes the γ -glutamyl kinase (EC 2.7.2.11), which is the first step of the proline biosynthesis pathway (KEGG map number 00330). The *proBA* gene encodes the first two enzymes of the proline biosynthesis pathway γ -glutamyl kinase (EC 2.7.2.11) and γ -glutamyl phosphate reductase (EC 1.2.1.41), suggesting they are part of an operon.

**Sara Mitchell Haley West Sarah English Ethan Harrod Caleb Ivey,
Jennifer Vanderpool, Shara Stough**

Project advisor: Dr. Shara Stough, psychology

Exposure-Type Social Buffering of Predator-Induced Fear Behavior in Young Domestic Chicks

Poster Session (P2) #27: Gävle Room, The Gerber Center

It is well-known that social support before, during or after a fear-inducing event can reduce a variety of fear responses in humans and animals (Hostinar, Sullivan, & Gunnar, 2014). This phenomenon, known as social buffering, is relevant to the study of Post-Traumatic Stress Disorder (PTSD). Secure attachments with caregivers early in childhood critically impact the development of the hypothalamic-pituitary-adrenal axis that mediates the stress response (Gunnar, Brodersen, Nachmias, Buss & Rigatuso, 1996), and perceived social support before and after a traumatic event has been shown to reduce the severity of PTSD symptoms (Ozer, Best, Lipsey & Weiss, 2003). In the animal literature, these types of social support are referred to as "housing-type social buffering." However, much less is known about the efficacy of social support during exposure to traumatic events in the reduction of fear responses, a phenomenon known as "exposure-type social buffering." In our lab, we investigate fear responses of young chicks to predator cues and subsequent fear memory as an animal model of PTSD. A recent study demonstrated that the presence of maternal hens can alter their chicks' responses to an aversive air puff to the eye (Edgar, Held, Paul, Pettersson, Price & Nichol, 2015). In this study, we sought to extend these results to more ecologically relevant stimuli and look at exposure-type social buffering between young chicks. Male chicks were exposed to paired auditory and visual predator stimuli in the presence or absence of a companion chick. Chicks were randomly assigned to either companion or no companion groups, with a set of four separately housed chicks serving as companions to control for possible housing-type social buffering. All chicks first experienced a neutral condition, in which no stimuli were delivered, followed by a fearful condition, in which the fear-inducing predator stimuli were delivered. The degree of fear induction in each chick was determined by a within-animal comparison of overall activity before and after exposure to the predator stimuli. Between-group comparisons indicated that chicks actually demonstrated more fear when experiencing predator stimuli in the presence of a companion chick, contrary to our hypothesis. Both groups demonstrated similar levels of fear after presentation of the predator stimuli, but chicks without a companion recovered much more quickly. These results suggest that chicks may be experiencing social transmission of fear. Future experiments will be designed to test this interpretation.

**Katelyn Lorenz, Kristina Humphreys, Michael Clapp, Lisa Nguyen,
Colin Kalmes, Alexander Lobo**

Project advisors: Jacob Romaniello, Learning Commons; Dr. Ian Harrington, psychology

Meditation and the brain: Exploring the physiological correlates of mindfulness in a student sample

Poster Session (P2) #28: Gävle Room, The Gerber Center

Mindfulness refers to a state of mind marked by present-moment awareness and a disposition of acceptance (Tang, et al., 2015). Numerous studies have demonstrated that mindfulness can be increased by certain forms of meditation practice and, moreover, that these psychological changes are accompanied by anatomical and functional changes in the brain, even when these interventions are fairly brief. Here we have attempted to take advantage of a first-year course (LSFY 103) that includes training in mindfulness-based meditation taught by one of the authors (JR) to explore the relationship between mindfulness and brain activity. In the first

phase of this experiment, 20 of these students (14 female) volunteered to have their brain activity monitored via electroencephalogram (EEG) and their general physiological arousal monitored via skin conductance (SCR) as they either sat quietly with eyes open, reflected on their breathing with eyes closed, or were presented with quiet tone pulses, during the second week of spring term. Participants also completed a self-report measure of mindful awareness. In this first report, we will describe the procedures used for physiological data acquisition and analysis, as well as some preliminary findings. Additional questions will be addressed once we have completed the second phase of data collection near the end of spring term. Thus far, analyses reveal that we were able to obtain stable data from all 20 participants, that certain manipulations (e.g., closing the eyes) produced consistent and expected physiological effects, and that the effects of these manipulations on the physiological measures varied between participants. It is our hope that some of these physiological differences will be related to participants' levels of mindfulness.

Nellie Bubba, Josie Fioretto, Brett Bialek, Dr. Rupa Gordon

Project advisor: Dr. Rupa Gordon, psychology

Physiological Synchrony in Storytelling

Poster Session (P2) #29: Gävle Room, The Gerber Center

During social interaction, we are strongly influenced by the behaviors of other people, and tend to mimic the behaviors, speech and emotions of other people (Bernieri & Rosenthal, 1991). Even physiological processes (heart rate, skin conductance responses) have been shown to be synchronized between therapist and client (Marci, Ham, Moran & Orr, 2006). The present study focused on the physiological synchrony between speaker and listener while telling or listening to stories. We began by having speakers tell a neutral story (a description of their day), followed by an emotional story (a sad, scary or exciting event in their life) while heart rate and skin conductance were collected. Then, listener participants had the same physiological responses collected as they listened to audio recordings of both stories of three different speakers. We analyzed the running correlation between physiological responses between the speakers and listeners by taking the slope of the skin conductance response at moving five-second intervals to measure the rate of change. We hypothesize that there will be synchrony in the physiological responses between speaker and listener, especially during the emotional stories.

FACULTY ACHIEVEMENTS

CALENDAR YEAR 2015 (updated 4/13/16)

Compiled and formatted by Ann K. Miller, Thomas Tredway Library

Bancks, Jacob. *Southern Harmony*. Fulcrum Point New Music Project. Harris Theater, Chicago, IL. 13 May 2015.

Bancks, Jacob. *Lumen*. Sarajevo Philharmonic with Daniel Horn. Cond. Nyela Basney. National Theatre Sarajevo, House of Culture Brcko District, Bosnia and Herzegovina. 23-24 Apr. 2015.

Bancks, Jacob. *Southern Harmony*. Perf. Julia Bentley and Kuang-Hao Huang. College Music Society Great Lakes Conference, East Lansing, MI. 27 Mar. 2015.

Bancks, Jacob. *Canticle*. Fulcrum Point Discovery Series. Merit School of Music, Chicago, IL. 31 Jan. 2015.

Bancks, Jacob. *Arbor una nobilis*. Bellingham Chamber Music Society. Heiner Theatre, Bellingham, WA. 25 Jan. 2015.

Bancks, Jacob. *String Theory*. American Music Ensemble. SubCulture, NY. 15 Jan. 2015.

Bancks, Jacob. *String Theory* for chamber ensemble. Commissioned by American Modern Ensemble. 2015.

Bancks, Jacob. *A Song for St. Cecilia's Day* for chorus, orchestra, soloists. Commissioned by Augustana College Orchestra. 2015.

Bancks, Jacob. *Dream Variations* for bassoon and orchestra. Commissioned by Quad City Symphony. 2015.

Bancks, Jacob. *Into the Wild* for orchestra. Commissioned by Minnesota Commissioning Club. 2015.

Bracke, Deborah, and Jessica M. Schultz. "A new way to assess student learning." Poster presented at the Annual Meeting of the Association of Teacher Educators, Phoenix, AZ, Apr. 2015.

Brosius, Tierney R., C. Ghinazzi, and J. Torres. "Connecting across campus through cultural entomology." Presented at the Entomological Society of America, Invited Symposium, Minneapolis, MN, 5-7 Nov. 2015.

Brosius, Tierney R., M. Reisner, and D. Schultz. "An investigation of the impact of urban riparian forest composition and diversity on carabid assemblages." Presented at the Entomology Society of America, Minneapolis, MN, 5-7 Nov. 2015.

Brosius, Tierney R., V. Lason, M. Conley, and M. Reisner. "Spatial distribution and density of emerald ash borer in Rock Island and Moline, IL." Presented at the Entomology Society of America Annual Conference, Minneapolis, MN, 5-7 Nov. 2015

Brosius, Tierney R., J. Torres, K. Geedey, and M. Reisner. "Aquatic macroinvertebrate diversity within an urbanized gradient." Presented at the Entomology Society of America Annual Conference, Minneapolis, MN, 5-7 Nov. 2015.

Brosius, Tierney R., M. Reisner, C. Evans-Peck, D. Schultz, and B. Chileen. "Composition and diversity of urban riparian forests in Rock Island and Moline, IL." Presented at the Upper Mississippi River Research Consortium Annual Meeting, La Crosse, WI, 23-25 Apr. 2015.

Brosius, Tierney R., D. Schultz, C. Evans-Peck, and M. Reisner. "Garlic mustard and honeysuckle dominance of urban riparian forests in Rock Island and Moline, IL." Presented at the Upper Mississippi River Research Consortium Annual Meeting, La Crosse, WI, 23-25 Apr. 2015.

Brosius, Tierney R., M. Conley, and M. Reisner. "Spatial extent and magnitude of emerald ash borer invasion in Rock Island and Moline, IL." Presented at the Upper Mississippi River Research Consortium Annual Meeting, La Crosse, WI, 23-25 Apr. 2015.

Brosius, Tierney R., T. Cullison, K. Self, J. Flondro, K. Geedey, and M. Reisner. "Assessing the aquatic health of the urban watersheds of Rock Island and Moline, IL." Presented at the Upper Mississippi River Research Consortium Annual Meeting, La Crosse, WI, 23-25 Apr. 2015.

Brosius, Tierney R., J. Torres, B. Lovejoy, K. Geedey, and M. Reisner. "Using the family biotic index to assess the aquatic health of the urban watersheds of Rock Island and Moline, IL." Presented at the Upper Mississippi River Research Consortium Annual Meeting, La Crosse, WI, 23-25 Apr. 2015.

Bruning, Brandon. "Make Me a Sanctuary, That I May Appear in Your Midst' (Exodus 25:7 LXX): The Structure of Leviticus 8-9 in Light of the Vorlage of LXX Exodus." Presented at The Society of Biblical Literature Annual Meeting, Atlanta, GA, Nov. 2015.

Bruning, Brandon. "Neither Women nor Mirrors: An Alexandrian Error, a Masoretic Miscue, and the Formation of the Tabernacle Account." Presented at The Society of Biblical Literature Annual Meeting, Atlanta, GA, Nov. 2015.

Burnham, Jennifer. "Trophically Disparate Levels of Blood Mercury in Breeding Birds of Northwest Greenland." Presented at the Association of American Geographers (AAG) Conference, Chicago, IL, 21-25 Apr., 2015.

Calder, Lendol. "The Kids are (Going to be) Alright." *Journal of the Gilded Age and Progressive Era* 14:3 Jul. 2015: 433-440.

Calder, Lendol. "Uncovering History in the History Survey Course." Presented at the Texas Conference on Introductory History Courses, an American Historical Association Conference, The University of Texas at Austin, Austin, TX, 28-29 Aug. 2015.

Calder, Lendol. "Decoding Bottlenecks in Teaching and Learning." Presented at the faculty retreat for the Center for Management Communication, University of Southern California, Los Angeles, CA, 17 Aug. 2015.

Calder, Lendol. "The Future of Teaching History." Presented to the Chicagoland Regional Conference on Faith and History Student Research Conference, Trinity Christian College, 11 Apr. 2015.

Carter, Angie and Ahna Kruzic. "Opportunities for Common Ground: Pipeline Fights and Discourse Shifts." Presented at the Society for the Study of Social Problems annual meeting, Chicago, IL, 21 Aug. 2015.

Chambers-Samadi, Chadia. *Repression des Manifestants Algériens a Paris: La Nuit Meurtrière du 17 octobre 1961*. Algérie, France: L'Harmattan, 2015. Print.

Chambers-Samadi, Chadia. Chair for panel entitled, "Problematising Sexual Categories" at the Sexual Dis/Continuities conference, City of New York Center for the Humanities, NY, 13 Feb. 2015.

Chambers-Samadi, Chadia. "When the French Muslim character entered the arena of Literature (La fabrication du personnage Beur- in French)." Presented at the International Colloquium 20th and 21st Century French and Francophone Studies, Baton-Rouge, LA, 24 Feb. 2015.

Corts, Daniel and Mark Krause. *Psychological Science: Modeling Scientific Literacy, 2nd Edition*. New Jersey: Prentice Hall, 2015. Print.

Corts, Daniel and Jessica M. Schultz. "Should I do that? Examining boundaries with undergraduate students." Workshop presented at the Society for the Teaching of Psychology Annual Conference on Teaching, Atlanta, GA, Oct., 2015.

Coussens, Jeffrey, J. Delaney, M. Coe, and J. Reddington. "The case of the frequent flyer fraudster." *Journal of Accounting Education*, 33, 219-227, 2015.

Cranford, Jerry Jay. Selected to teach two musical theatre workshops for the Iowa Thespian Festival, University of Northern Iowa, Cedar Rapids, IA, Nov. 2015.

- Croll, Paul.** "Contradictions in Privilege." Presented at the 2015 Annual Meeting of the Midwest Sociological Society, Kansas City, MO, 28 Mar. 2015.
- Croll, Paul, and Randall Thomas.** "New Trends in Survey Methodology and Sampling for Survey Research: Practical Advice for Researchers." Presented at the 2015 Annual Meeting of the Midwest Sociological Society, Kansas City, MO, 28 Mar. 2015.
- Croll, Paul, and Joseph Gerteis.** "Race as an Open Field: Exploring Identity Beyond Fixed Choices." Presented at the Regular Session on Multiracial Classification/Identity at the Annual Meeting of the American Sociological Association, Chicago, IL, Aug. 2015.
- Cullison, Tara M., K. Geedey, T.R. Brosius, K. Self, J. Flondro, and M. Reisner.** "Assessing the aquatic health of the urban watersheds of Rock Island and Moline, IL." Presented at the Upper Mississippi River Research Consortium Annual Meeting, La Crosse, WI, 23-25 Apr. 2015.
- Daniels, Kelly.** "Golden Threads." *The Sun*, 475, 2015.
- Daniels, Kelly.** "Early Riser." *Hotel Amerika*, Winter 2015.
- Daniels, Kelly.** "They Called Me Jesus." *Badlands*, Fall 2015.
- Davis, Ian Kivelin.** "Foreign Media and American Industrial Parochialism: The Contradictions of Public Interest Diversity in Global News." Presented at the International Association for media and Communications Research (IAMCR) Conference, Montreal, Canada, Jul. 2015.
- Day, Kirsten.** "Windows and Mirrors: Illuminating the Invisible Women of Rome." Cyrino, Monica S., ed. "Contributors". *Rome Season Two: Trial and Triumph*. Ed. Monica S. Cyrino. Edinburgh University Press, 2015. x-xiv. Print.
- Day, Kirsten.** "Aeneas in the Old West: Virgil's Hero in Western Film." Presented at The New Heroes on Screen Conference, Delphi, Greece, Jul. 2015.
- Day, Kirsten.** "Go West!": Manifest Destiny in Western Film and Divine Impetus in the Aeneid." Presented at the Film and History Conference, Madison, WI, 4-8 Nov. 2015.
- Delaney, John and J. Coussens, M. Coe, and J. Reddington.** "The case of the frequent flyer fraudster." *Journal of Accounting Education*, 33, 219-227, 2015.
- Edmondson, Michael.** *Marketing Your Value: 9 Steps to Navigate Your Career*. New York: Business Expert Press, 2015. Print.
- Edmonson, Michael.** "No Common Ground: The Spectrum of Policies Related to Domestic Off-Campus Program." *Putting the Local in Global Education*. Ed. by Neal W. Sobania. VA: Stylus Publishing, 2015. Print.
- Fockler, Matthew.** "An American Playground: Designing United States Forest Service Recreation in Montana's Northern Rockies." Presented at the Association of American Geographers (AAG) Conference, Chicago, IL, 21-25 Apr., 2015.
- France, Margaret.** "The Transatlantic Family Instructor." Presented at the annual meeting for the American Society for Eighteenth-Century Studies, Los Angeles, CA, 21 Mar., 2015.
- France, Margaret.** "The Revolution Will Wear Pink Bunny Ears: Bob's Burgers and Birth Order Theory." Presented at the National Conference of the Popular Culture Association/American Culture Association, New Orleans, LA, 3 Apr., 2015.
- Frank, Nathan, Ali Rabe, and Matthew Tuttle-Timm.** "Unbound Resonance of ^{26}F ." Poster Presentation at the American Physical Society's Division of Nuclear Physics meeting, Santa Fe, NM, Oct. 2015.
- Frank, Nathan, M. D. Jones, T. Baumann, J. Brett, J. Bullaro, P.A. DeYoung, J.E. Finck, K. Hammerton, J. Hinnefeld, Z. Kohley, A.N. Kuchera, J. Pereira, A. Rabe, W.F. Rogers, J.K. Smith, A. Spyrou, S.L. Stephenson, K. Stiefel, M. Tuttle-Timm, R.G.T. Zegers, and M. Thoennessen.** "Two-neutron sequential decay of ^{24}O ." *Physical Review C* 92 25 Nov. 2015: 051306[R].
- Frank, Nathan.** Refereed Publication: Neutron correlations in the decay of excited ^{11}Li , J.K. Smith, T. Baumann, D. Bazin, J. Brown, P.A. DeYoung, M.D. Jones, Z. Kohley, B. Luther, B. Marks, A. Spyrou, S.L. Stephenson, M. Thoennessen, and A. Volya, Submitted to Nucl. Phys. A, (2015).
- Frank, Nathan.** Refereed Publication: Population of ^{13}Be in nucleon exchange reactions, B.R. Marks, P.A. DeYoung, J.K. Smith, T. Baumann, J. Brown, J. Hinnefeld, M. Homan, M.D. Jones, Z. Kohley, A.N. Kuchera, B. Luther, A. Spyrou, S. Stephenson, C. Sullivan, M. Thoennessen, N. Viscariello, and S.J. Williams, Phys. Rev. C 92, 054320 (2015).
- Frank, Nathan.** Refereed Publication: Unbound excited states of the $N = 16$ closed-shell nucleus ^{24}O , W.F. Rogers, S. Garrett, A. Grovum, R.E. Anthony, A. Aulie, A. Barker, T. Baumann, J.J. Brett, J. Brown, G. Christian, P.A. DeYoung, J.E. Finck, A. Hamann, R.A. Haring-Kaye, J. Hinnefeld, A.R. Howe, N.T. Islam, M.D. Jones, A.N. Kuchera, J. Kwiatkowski, E.M. Lunderberg, B. Luther, D.A. Meyer, S. Mosby, A. Palmisano, R. Parkhurst, A. Peters, J. Smith, J. Snyder, A. Spyrou, S.L. Stephenson, M. Strongman, B. Sutherland, N.E. Taylor, and M. Thoennessen, Phys. Rev. C 92, 034316 (2015).
- Frank, Nathan.** Refereed Publication: Search for unbound ^{15}Be states in the $3n+^{12}\text{Be}$ channel, A.N. Kuchera, A. Spyrou, J.K. Smith, T. Baumann, G. Christian, P.A. DeYoung, J.E. Finck, M. D. Jones, Z. Kohley, S. Mosby, W.A. Peters, and M. Thoennessen, Phys. Rev. C 91, 017304 (2015).
- Frank, Nathan.** Refereed Publication: Three-body correlations in the ground-state decay of ^{26}O , Z. Kohley, T. Baumann, G. Christian, P.A. DeYoung, J.E. Finck, B. Luther, E. Lunderberg, M. Jones, S. Mosby, J.K. Smith, A. Spyrou, and M. Thoennessen, Phys. Rev. C 91, 034323 (2015).
- Frank, Nathan.** Refereed Publication: Further insights into the reaction $^{14}\text{Be}(\text{CH}_2, \text{X})^{10}\text{He}$, M.D. Jones, Z. Kohley, T. Baumann, G. Christian, P.A. DeYoung, J.E. Finck, R.A. Haring-Kaye, A.N. Kuchera, B. Luther, J.K. Smith, J. Snyder, A. Spyrou, S.L. Stephenson, and M. Thoennessen, Phys. Rev. C 91, 044312 (2015).
- Frank, Nathan.** Refereed Publication: Selective population of unbound states in ^{10}Li , J.K. Smith, T. Baumann, J. Brown, P.A. DeYoung, J. Hinnefeld, Z. Kohley, B. Luther, B. Marks*, A. Spyrou, S.L. Stephenson, M. Thoennessen, and S.J. Williams, Nuclear Physics A 940, 235-241 (2015).
- Gehler, Scott, and Frances V. Compere.** "Semaphorin3A Increases Focal Adhesion Formation to Shift the Relationship Between Cell Migration and Substratum Concentration Through a ROCK-dependent Mechanism." Presented at the American Society for Cell Biology Annual Meeting, San Diego, CA, Dec. 2015.
- Geedey, Kevin, T.R. Brosius, J. Torres, and M. Reisner.** "Aquatic macroinvertebrate diversity within an urbanized gradient." Presented at the Entomology Society of America Annual Conference, Minneapolis, MN, 5-7 Nov. 2015.
- Geedey, Kevin, T.R. Brosius, T. Cullison, K. Self, J. Flondro, and M. Reisner.** "Assessing the aquatic health of the urban watersheds of Rock Island and Moline, IL." Presented at the Upper Mississippi River Research Consortium Annual Meeting, La Crosse, WI, 23-25 Apr. 2015.

- Geedey, Kevin, T.R. Brosius, J. Torrez, B. Lovejoy, and M. Reisner.** "Using the family biotic index to assess the aquatic health of the urban watersheds of Rock Island and Moline, IL." Presented at the Upper Mississippi River Research Consortium Annual Meeting, La Crosse, WI, 23-25 Apr. 2015.
- Ghinazzi, Connie, Brosius, T.R., and J. Torres.** "Connecting across campus through cultural entomology." Presented at the Entomological Society of America, Invited Symposium, Minneapolis, MN, 5-7 Nov. 2015.
- Gillette, Meg.** "The Sun Also Rises and the Stimulating Strangeness of Paris." *Teaching Hemingway and Modern*. Ed. Joseph Fruscione, and published by Kent: Kent State University Press. 2015. Print.
- Goebel, Cathy.** "The Fine Art of the Liberal Arts." Presented for an opening session at the Amsterdam International Conference on Liberal Arts in the European Context. 2015.
- Havard, Megan.** "Grit or Grace: Packing for the Camino de Santiago." Presented at the Global Conference on Sacred Journeys, Mansfield College, Oxford, UK, Jul. 2015.
- Hay, Ellen.** "Millennials: How Generational Difference Impacts Philanthropy." Presented at the Fundraising and Philanthropy Communication Forum, University of Iowa, Iowa City, 10 Apr. 2015.
- Hengst, Randall.** Randy has been writing apps for iPad. Most are related to the Number Sense Project Mike Egan and he organize between Kindergarten at Longfellow and the Education Departments' junior-year teacher candidates. <http://www.classroomfocusedsoftware.com/index.html>.
- Hilton-Morrow, Wendy and Kathleen Battles.** *Sexual Identities and the Media*. London: Routledge, 2015. Print.
- Huntscha, Lisa.** "What's Next for Digital Outreach and Archives: A Swedish Perspective." *Provenance, Journal of the Society of Georgia Archivists*, 33 2015, 1: art. 6.
- Huntscha, Lisa.** Showcasing the Swenson Center's collections and projects. Presented at the The Quad Cities Area History Network (QCAHN) *Collaboration In Action: QCA Historic Collection Showcase* at the Rock Island County Historical Society, Rock Island, IL, 27 Oct. 2015.
- Jakielski, Kathy, Casey Janko, Alexandra Jones, and Chelsey Peterson.** "Designing and Evaluating an Ethical Global Service Learning Experience." Presented at the 2015 Annual Convention of the American Speech-Language-Hearing Association, Denver, CO, Nov. 2015.
- Jakielski, Kathy.** Foreword. M. Fish, *Here's how to treat childhood apraxia of speech: An integrated approach* (2nd ed.). (pp. vii-ix). San Diego, CA: Plural, 2015. Print.
- Jakielski, Kathy, C. Powers, C.E. Gildersleeve-Neumann, E. Maas, and R. Stoeckel.** "Investigating amount and intensity of practice in treatment of CAS." Post-presentation at the Annual Meeting of the American Speech-Language-Hearing Association, Denver, CO, Nov. 2015.
- Jakielski, Kathy.** "Slow progress is still progress: Documenting therapy gains." Presented at the National Conference on Childhood Apraxia of Speech, San Antonio, TX, Jul. 2015.
- Jakielski, Kathy and A. Meredith.** "Let's talk!: Questions and answers about older children and teens with CAS." Presented at the National Conference on Childhood Apraxia of Speech, San Antonio, TX, Jul. 2015.
- Jones, Christopher.** "Seeking the Divine, Divining the Seekers: The Status of Outsiders Who Seek Yahweh in Ezra 6:21." *Journal of Hebrew Scriptures* 5 2015, Article 5.
- Jones, Christopher.** "Embedded Written Documents as Colonial Mimicry in Ezra-Nehemiah." Presented in the Postcolonial Studies and Biblical Studies program unit at the Society of Biblical Literature Annual Meeting, Atlanta, GA, Nov. 2015.
- Katz, Brian.** All-day workshop on Active Learning and Curriculum Revision Strategies. Presented for the Math Department Faculty at Dominican University, River Forest, IL, 14 Nov. 2015.
- Katz, Brian.** "To δε or not to δε." Presented at the Joint Meetings of the Mathematical Societies, San Antonio, TX, 10-13 Jan. 2015.
- Katz, Brian, John Paul Cook, and Milos Savic.** "The Transfer of Knowledge from Groups to Rings: An Exploratory Study." Presented at the Joint Meetings of the Mathematical Societies, San Antonio, TX, 10-13 Jan. 2015.
- Katz, Brian, Rebecca Post, Milos Savic, and John Paul Cook.** "An analysis of sociomathematical norms of proof schemes." Presented at Conference on Research in Undergraduate Mathematics Education, Pittsburg, PA, 19-21 Feb. 2015.
- Katz, Brian, John Paul Cook, and Milos Savic.** "The Transfer of Knowledge from Groups to Rings: An Exploratory Study." Presented at the Joint Meetings of the Mathematical Societies, Pittsburg, PA, 19-21 Feb. 2015.
- Katz, Brian.** "How Do Mathematicians Believe?" Presented at the Beling Science Colloquium, Illinois Wesleyan University, Bloomington, IL, 27 Feb. 2015.
- Katz, Brian.** "Norms and Practices in an IBL Classroom." Presented at the 18th Annual Inquiry-Based Learning Conference, Austin, TX, Jun. 2015.
- Katz, Brian.** "Opening a Gateway to Mathematical Inquiry." Presentation/Contributed Paper Session at MathFest, Washington, D.C., 5-8 Aug. 2015.
- Katz, Brian.** "Incorporating Inquiry-Based Learning at the Individual and Department Levels." Chaired Workshop and Presented to the Dominican University Department of Mathematics, River Forest, IL, Nov. 2015.
- Strunk, Christopher.** "Practicing Citizenship: Bolivian Migrant Identities and Spaces of Belonging in Washington D.C." *Journal of Intercultural Studies*. Ed. Peter Kivisto. 36 [5]: 620-639, 2015.
- Kivisto, Peter, and Giuseppe Sciortino.** *Solidarity, Justice and Incorporation: Thinking through The Civil Sphere*. ed. New York: Oxford University Press, 2015. Print.
- Kivisto, Peter, and Peter Kraus.** *The Challenge of Minority Integration: Politics and Policies in the Nordic Nations* (Berlin and Warsaw: Walter de Gruyter). Helsinki: Augsburg University Press, 2015. Print.
- Kivisto, Peter.** "America's Immigration Impasse 50 Years after Hart-Celler." Presented at the University of Helsinki's Center for the Study of Ethnic Relations and Nationalism (CEREN), Helsinki, Finland, 14 Oct. 2015.
- Kivisto, Peter.** "Current Issues on Transnationalism and Migration Studies" Presented at the Research Laboratory on Transnationalism and Migration Processes, St. Petersburg State University, St. Petersburg, Russia, 10 Dec. 2015.
- Koontz, Jason.** "Conservation biology in larkspurs (*Delphinium; Ranunculaceae*): examples from Illinois and California." Presented to the Biology Department at the University of South Dakota, Vermillion, SD, February 2015.
- Koontz, Jason and Laura Zangori.** "Integrating ecology in an undergraduate botany course." Presented at the 2015 National Association of Biology Teachers (NABT) Professional Development Conference, Providence, RI, 2015.

- Kovacs, Claire.** "Mapping Paris: Considerations of a Digital Collaboration at the Trailhead." Presented at the Southeastern College Arts Conference, Pittsburgh, PA, Oct. 2015.
- Lee, Dan.** "Cheating and the Culture of the Classroom." *SAGE Encyclopedia of Classroom Management*. Thousand Oaks: SAGE Publishing, 2015. Print.
- Magalhães, Mariano and Samantha DeForest-Davis.** "The Workers Party in Power in Brazil: The Good, the Bad and the REALLY Ugly." Presented to the Iowa City Foreign Relations Council, Iowa City, IA, 1 Apr. 2015.
- Marklevits, Farah.** "Mothering the Unknown." *Literary Mama*. Oct. 2015.
- Mayer, Tomas F.** "The Roman Inquisition: Trying Galileo." Ed. Kenneth Bartlett. Philadelphia, PA: University of Pennsylvania Press, 2015.
- Morris, Dan.** *Virtue and Irony in American Democracy: Revisiting Dewey and Niebuhr*. Lanham: Lexington Books, 2015. Print.
- Morris, Dan.** Review of Adam Edward Hollowell. *Power and Purpose: Paul Ramsey and Contemporary Christian Political Theology*. Grand Rapids, MI: Wm. B. Eerdmans Publishing Co., 2015. In *Journal of Lutheran Ethics* (June 2015): <http://www.elca.org/JLE/Articles/1095>.
- Morris, Dan.** Review of Nicholas P. Wolterstorff. *Journey toward Justice: Personal Encounters in the Global South*. Grand Rapids, MI: Baker Academic Press, 2013. In *Biblical Theology Bulletin: Journal of Bible and Culture* 45, no. 2 (May 2015): 126-127, doi:10.1177/0146107915577101i.
- Morris, Dan.** Review essay of a) Daniel Malotky. *Reinhold Niebuhr's Paradox: Paralysis, Violence, and Pragmatism*. Lanham, MD: Lexington Books, 2012. b) Reinhold Niebuhr. *Moral Man and Immoral Society*. Foreword by Cornel West. Louisville, KY: Westminster John Knox Press, 2013. c) Reinhold Niebuhr. *An Interpretation of Christian Ethics*. Introduction by Edmund Santurri. Louisville, KY: Westminster John Knox Press, 2013. In *Journal of the Society of Christian Ethics* 35, no. 1 (Spring/Summer 2015): 207-210.
- Morris, Dan.** "Quick Takes: If We Raise the Christian Flag Above Old Glory, What Does That Really Imply?" *Political Theology Today* (7/14/2015) <http://www.politicaltheology.com/blog/quick-takes-if-we-raise-the-christian-flag-above-old-glory-what-does-that-really-imply/>.
- Morris, Dan.** "Quick Takes: Do New State 'Religious Freedom' Laws Ensure Such Freedoms, or Only a License to Discriminate?" *Political Theology Today* (4/7/2015) <http://www.politicaltheology.com/blog/quick-takes-do-the-new-state-religious-freedom-laws-ensure-such-freedoms-or-only-a-license-to-discriminate/>.
- Morris, Dan.** "Quick Takes: Should We in the West Make an Effort not to Insult Other People's Religions?" *Political Theology Today* (3/3/2015). <http://www.politicaltheology.com/blog/quick-takes-should-we-in-the-west-make-an-effort-not-to-insult-other-peoples-religions/>.
- Morris, Dan.** "Eric Garner on the Jericho Road: Just War Thought, Police Brutality, and Black Resistance." Presented at the American Academy of Religion Annual Meeting, Atlanta, GA, 21-24 Nov., 2015.
- Morris, Dan.** "Liberated from the Liberator: Frederick Douglass and Garrisonian Political Theology." Presented at the AAR Midwest Regional Meeting, Ada, OH. 11-12 Apr. 2015.
- Morris, Dan.** Publication Grant awarded by Text and Academic Authors Association, Summer, 2015.
- Morse, Margaret.** "Solitude and Domestic Devotions." Presented at the Domestic Devotions in the Early Modern World 1400-1600 Conference, St. Catharine's College, University of Cambridge, UK, Jul. 2015.
- Morse, Margaret.** "The Dependent Portrait in Early Modern Venice." Presented at the Southeastern College Art Conference (SECAC), Pittsburgh, PA, Oct. 2015.
- Murphy, Kimberly.** "Guiding Education through Novel Investigation (GENI): Facilitating authentic research in the classroom." Presented at the 2015 National Conference on Undergraduate Research, Eastern Washington University, Cheney, Washington, 17 Apr., 2015.
- Nordling, Jamie K., L.J. Boldt, J. O'Bleness, and G. Kochanska.** "Effortful control mediates relations between children's attachment security and their regard for rules of conduct." *Social Development*. Advanced online publication. Doi: 10.1111/sode.12139.
- Nordling, Jamie K.** "Insecure and angry: The role of attachment to mothers and anger proneness in bullying and victimization." Poster presented at the Annual Meeting of the Association for Psychological Science, New York, NY, May 2015.
- Nordling, Jamie K., L.J. Boldt, J. O'Bleness, and G. Kochanska.** "Effortful control mediates relations between children's attachment security and their regard for rules of conduct." *Social Development*. Advance online publication. doi: 10.1111/sode.12139. 2015.
- Nordling, Jamie K.** "Insecure and angry: The role of attachment to mothers and anger proneness in bullying and victimization." Poster presented at the annual meeting of the Association for Psychological Science, New York, NY, May 2015.
- Oliver, Tony.** Featured Performer, "Signature Series4: The Beaten Path – Members of the Quad City Symphony Orchestra Percussion Section." Rock Island, IL, 3 May 2015.
- Oliver, Tony.** Guest Director, QCSYE Percussion Ensemble, Quad City Symphony Youth Ensembles Fall Concert, Rock Island, IL, 1 Nov. 2015.
- Peterson, Paul R.** (2015). Old Norse nicknames [Doctoral dissertation]. Retrieved from the University of Minnesota Digital Conservancy, <http://hdl.handle.net/11299/172669>.
- Peterson, Paul.** "Some Rare and Obscure Nicknames in Landnámabók." Presented at The 16th International Saga Conference, Zürich, Switzerland, Aug. 2015.
- Popple, Jennifer.** *The Restoration Actress in Her Seventeenth-Century Social, Political, and Artistic Context*. Lewiston: Mellen Press, 2015. Print.
- Quinn, Megan.** Received an Arts Dollars grant from Quad City Arts to work on a mosaic project at Schweibert Park in Rock Island, Summer and Fall, 2015.
- Quinn, Megan, and Kristin Quinn.** Works displayed at Alma College, Alma, Michigan, Oct. 2015.
- Quinn, Megan, and Kristin Quinn.** Works displayed at Southwest Community College, Ludington, Michigan, Sept. 2015.
- Reisner, Michael, T.R. Brosius, and D. Schultz.** "An investigation of the impact of urban riparian forest composition and diversity on carabid assemblages." Presented at the Entomology Society of America, Minneapolis, MN, 5-7 Nov. 2015.
- Reisner, Michael, T.R. Brosius, V. Lason, and M. Conley.** "Spatial distribution and density of emerald ash borer in Rock Island and Moline, IL." Presented at the Entomology Society of America Annual Conference, Minneapolis, MN, 5-7 Nov. 2015.
- Reisner, Michael, T.R. Brosius, J. Torres, and K. Geedey.** "Aquatic macroinvertebrate diversity within an urbanized gradient." Presented at the Entomology Society of America Annual Conference, Minneapolis, MN, 5-7 Nov. 2015.

- Reisner, Michael, T.R. Brosius, C. Evans-Peck, D. Schultz, and B. Chileen.** "Composition and diversity of urban riparian forests in Rock Island and Moline, IL." Presented at the Upper Mississippi River Research Consortium Annual Meeting, La Crosse, WI, 23-25 Apr. 2015.
- Reisner, Michael, T.R. Brosius, D. Schultz, and C. Evans-Peck.** "Garlic mustard and honeysuckle dominance of urban riparian forests in Rock Island and Moline, IL." Presented at the Upper Mississippi River Research Consortium Annual Meeting, La Crosse, WI, 23-25 Apr. 2015.
- Reisner, Michael, T.R. Brosius, and M. Conley.** "Spatial extent and magnitude of emerald ash borer invasion in Rock Island and Moline, IL." Presented at the Upper Mississippi River Research Consortium Annual Meeting, La Crosse, WI, 23-25 Apr. 2015.
- Reisner, Michael, T.R. Brosius, T. Cullison, K. Self, J. Flondro, and K. Geedey.** "Assessing the aquatic health of the urban watersheds of Rock Island and Moline, IL." Presented at the Upper Mississippi River Research Consortium Annual Meeting, La Crosse, WI, 23-25 Apr. 2015.
- Reisner, Michael, T.R. Brosius, J. Torrez, B. Lovejoy, and K. Geedey.** "Using the family biotic index to assess the aquatic health of the urban watersheds of Rock Island and Moline, IL." Presented at the Upper Mississippi River Research Consortium Annual Meeting, La Crosse, WI, 23-25 Apr. 2015.
- Roberts, Beth.** "Spotted deer." *Forklift, Ohio – A Journal of Poetry, Cooking and Light Industrial Safety*. 31: Fall 2015.
- Scarlett, Michael.** "Moving from Courses to a Curriculum." *The Teaching Professor* 29 Jan. 2015, 1: 1&4.
- Schultz, Jessica M., and Deborah Bracke.** "A new way to assess student learning." Poster presented at the Annual Meeting of the Association of Teacher Educators, Phoenix, AZ, Apr. 2015.
- Schultz, Jessica M.** "Large scale dissemination of IPT: The case of Los Angeles County Department of Mental Health." Presented at the 6th International Conference of the International Society for Interpersonal Psychotherapy, London, England, June 2015.
- Schultz, Jessica M., and S. Stuart.** "New Techniques in Interpersonal Psychotherapy." Presented at the 6th International Conference of the International Society for Interpersonal Psychotherapy, London, England, June 2015.
- Schultz, Jessica M., and D. Cortis.** "Should I do that? Examining boundaries with undergraduate students." Workshop presented at the Society for the Teaching of Psychology Annual Conference on Teaching, Atlanta, GA, Oct., 2015.
- Schussheim-Anderson, Rowen.** "Butterflye." Displayed in *From Lausanne To Beijing: 8th International Fiber Art Biennale*, Wuzhen, Tongxiang City, Zhejiang Province, China, 2015.
- Schwartz, Nadia.** "In the Footsteps of Leonardo da Vinci or... Dan Roam?" Roundtable presentation at the 2015 Conference on Teaching and Learning in Accounting (CTLA) in conjunction with the American Accounting Association Annual Meeting, Chicago, IL, Aug., 2015.
- Short, Joanna.** "The Effect of the 1918 Influenza Pandemic on Demand for Life Insurance Among U.S. Working-Class Families." Presented at the Cliometric Society Conference, University of Michigan, 17 May 2015.
- Simonsen, Jane.** "Neither 'Baby Factories' Nor Squatting 'Primitives': Defining Women Workers Through Alternative Childbirth Methods in the United States, 1945-1965." *Journal of Women's History*. Summer, 2015.
- Smith, Corrine.** Works displayed at the Quad Cities International Airport, Moline, IL, January & February 2015.
- Smith, Fred, and Dan Ebener.** *Strategic Planning: An Interactive Process for Leaders*. Mahwah: Paulist Press, 2015. Print.
- Smith, Marsha.** "Service Learning with Life and Hope Association in Siem Reap." Presented at the 2016 ASIANetwork Conference, St. Louis, MO, 11 Apr. 2015.
- Stonedahl, Forrest.** "An Agent-Based Model of Spatial Competition in Markets." Presented at the Seventh Annual Complexity in Business Conference, Washington, D.C., 13 Nov. 2015.
- Stonedahl, Forrest, S.H. Stonedahl, K.R. Roche, and A.I. Packman.** "Visualizing Hyporheic Flow Through Bedforms Using Dye Experiments and Simulation." *JoVE (Journal of Visualized Experiments)*, (105) e53285. doi:10.3791/53285. 2015.
- Stonedahl, Forrest, J. Lee, T. Filatova, A. Ligmann-Zielinska, B. Hassani-Mahmoei, I. Lorscheid, A. Voinov, G. Polhill, Z. Sun, and D.C. Parker.** "The Complexities of Agent-Based Modeling Output Analysis." *Journal of Artificial Societies and Social Simulation* 18 (4) 4 doi: 10.18564/jasss.2897. 2015.
- Stonedahl, Forrest, B. Ottino-Loffler, V.P. Veetil, and U. Wilensky.** "An Agent-Based Model of Spatial Competition in Markets." Presented at the 7th annual Complexity in Business Conference, Washington, D.C., 13 Nov. 2015.
- Stonedahl, Forrest, S.H. Stonedahl, C. Gibson, C. Reiter, and A.H. Sawyer.** "Impact of Spatial Permeability Distribution Characteristics on Hyporheic Flow Using a Physical System and Simulations. Abstract H31K-02." Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, 16 Dec. 2015.
- Stonedahl, Forrest, S.H. Stonedahl, and C. Reiter.** "Introducing Computer Programming into a Projectile Motion Lab." Presented to the American Association of Physics Teachers (Iowa Section), Central Academy, Des Moines, IA, 7 Nov. 2015.
- Stonedahl, Forrest, and S.H. Stonedahl.** "Puzzles and proofs: an adventure in logic, linear algebra, and graph theory." Invited presentation at the Engineering and Physics Departmental Seminar, St. Ambrose University, Davenport, IA, 7 Oct. 2015.
- Stonedahl, Forrest.** "An Introduction to Agent-Based Modeling." Cover art for Textbook authored by U. Wilensky, and W. Rand, MIT Press. <https://mitpress.mit.edu/books/introduction-agent-based-modeling>. 2015.
- Stough, Shara.** "Synaptic generation of an intracellular retrograde signal requires activation of the tyrosine kinase and mitogen-activated protein kinase signaling cascades in Aplysia." *Neurobiology of Learning and Memory*. 125 2015, 47-54.
- Strunk, Christopher.** "Practicing Citizenship: Bolivian Migrant Identities and Spaces of Belonging in Washington D.C." *Journal of Intercultural Studies*. Ed. Peter Kivisto. 36 (5): 620-639, 2015.
- Strunk, Christopher.** "Pathways of migrant incorporation in eastern Iowa and western Illinois." Presented at the Association of American Geographers (AAG) Conference, Chicago, IL, 21-25 Apr., 2015.
- Strunk, Christopher.** "Rootedness and mobility: Urban gardens and migration in the Rust Belt." Presented at the West Lakes Division of the Association of American Geographers Regional Meeting, Eau Claire, WI, Oct. 2015.
- Tapis, Gregory.** "Closing the GAAP: Are GAAP and IFRS Becoming One?" Presented at the Rocky Mountain Academy of Legal Studies in Business (RMALSB) annual conference, Colorado, 2015.
- Thomas Tredway Library.** Augustana College and the Thomas Tredway Library have been recognized by the Association of College and Research Libraries for their exemplary practices in increasing students' information fluency, especially in collaboration with faculty and of institutional/administrative support. Features of Augustana's program will be included in ACRL's Information Literacy Best Practices documents on its website. 2015.

Tawiah-Boateng, John. "Exorcizing Okonkwo's Truculence: Validating *Arrow of God's* Canonicity as Chinua Achebe's Opus Magnum." Presented at a special conference to mark the 50th anniversary of Chinua Achebe's classic novel, *Arrow of God* at the Institute of Advanced Study of the University of London, London, UK, 2015.

Tschopp, Doug. "*The Next Generation: Post-Millennials...the iGeneration.*" Presented at the HighEdWeb Conference, Milwaukee, WI, 4-7 Oct. 2015.

Xiao, Peter T. "*22nd Annual Juried Exhibition.*" Krempp Gallery, Jasper Arts Center; juror: Bryan W. Knicely, Jasper, IN, 2015.

Weeks, Kelly. "*Attracting and Retaining Entrepreneurs: The Role of City and State-wide Employment Nondiscrimination Ordinances to Protect LGBTQ Employees.*" Presented at the Southwest Academy of Management conference, Houston, TX, 13 Mar. 2015.

Yaschur, Carolyn. "Putting Pictures in our Heads: Second-Level Agenda Setting of New Stories and Photos." Presented at the Association for Education in Journalism and Mass Communication (AEJMC), San Francisco, CA, Aug. 2015.

Zarco-Real, Sonia. "*Ficciones (re)fundacionales a lo largo del Atlántico hispano: nacionalismo español y regeneración nacional en La Sonata de estío (1903) de Valle Inclán, Peninsular Spanish Literature, Film, and Culture.*" Presented at the 2015 KFLC: The Languages, Literatures, and Cultures Conference, University of Kentucky, Lexington, KY, 23-25 Apr. 2015.

Zarco-Real, Sonia. "*Constructing a Transnational Feminist Consciousness in the late XIX Century Atlantic-Latin American Women Travelers: Circulating Knowledge in the Transatlantic World.*" Presented at the 46th Annual Northeast Modern Language Association Convention (NeMLA), Ryerson University, Toronto, Canada, 30 Apr. to 3 May 2015.

Zargar, Cyrus. "*Allegory and Ambiguity in the Films of Majid Majidi: A Theodicy of Meaning.*" Presented at the International Conference on Religion and Film, Istanbul, Turkey, May, 2015.

Zemek, Michael. Conductor, Jenny Lind Vocal Ensemble at the Second Annual Women's Chorus Sing and Share Festival, 2015.

Zemek, Michael. Middle School Guest Conductor, River Valley Conference Vocal Festival, Cascade, Iowa, 28 Sept. 2015.

Zemek, Michael. Treble Choir Guest Conductor, 27th Annual Metrofest Choral Festival for Students, Iowa, 5 Oct. 2015.

STUDENT HONORS AND AWARDS (FIRST-YEARS, SOPHOMORES AND JUNIORS)

ACCOUNTING

Augustana Accounting Association Scholarship

Amie Badgett
Trang Ho

RSM Scholarship

Amie Badgett

Arthur Andersen Scholarship

Victoria Allen
Carter Amundsen
Jacob Barr
Courtney Becker
Kate Didier
Brittany Ern
Mahvish Fatima
Cassidy Foley
Korina Freidag
Michael Hickey
Kyle Hucker
Mitchell Malone
Nicholas Niles
Soe Maung Maung Phone Myint
Victor Velazquez

S. James Galley Scholarship

Arielle Bloemer
Michael Daniels
Amy Even
Sarah Funke
Jordan Gibb
Lauren Goggin
Jacob Hallendorff
Trang Ho
Michael Hoekstra
Michael Jacobs
Jacob Johnston
Jordan Midgley
Trong Nguyen
Layne Porembski
Jiajun Wei

KPMG Peat Marwick Scholarship

Lauren Goggin

ASIAN LANGUAGES

Outstanding Academic Achievement Award in Asian Languages

Hnin Nwe Soe (Chinese)

BUSINESS ADMINISTRATION

Harold E. and Louise Lage Swanson Scholarship

Amie Badgett
Austin Burant
Christina Clewlow
Michael Daniels
Sarah Funke
Lauren Goggin
Trang Ho
Michael Hoekstra
Mitchell Lewis
Olivia Mayer

Trong Nguyen
Patrycja Piekarczyk
Dominick Sullivan
Thomas Walker
Jiajun Wei

Thomas C. Montgomery Memorial Scholarship

Victoria Allen
Carter Amundsen
Courtney Becker
Allison Blaisdell
Lauren Cummings
Kate Didier
Jake Ellis
Mahvish Fatima
Korina Freidag
Michael Hickey
Kyle Hucker
Tien Le
Mitchell Malone
An Nguyen Dang
Du Anh Nguyen Ngoc
Nicholas Niles
Jonah Puls
Selena Romano
John Sagen
Hnin Nwe Soe
Luke Starr
Taylor Vaughan

CHEMISTRY

Albert L. Eliason Chemistry Endowed Scholarship

Isaac Smith

American Chemical Society Analytical Chemistry Award

Dat Tran

First-Year Chemistry Achievement Award (2014-15)

Lan Dang

CLASSICS

Eta Sigma Phi Honorees National Classics Honor Society

Allan Daly
Ethan Doan
Victoria Karnes
Samuel Langellier
Eileen Ruppel
Diana Sanchez
Donald Sisneros

MULTIMEDIA JOURNALISM AND MASS COMMUNICATION

Illinois College Press Association Awards

Luanna Gerdemann
Thuy Trang Le
Ian Magnuson
Lauren Mainz
Hoang Nguyen
Sarah Ritter

ECONOMICS

Bruce R. Milligan Endowed Scholarship

Patrick Conniff
Michael Daniels
Sarah Funke
Michael Jacobs
Michael Partyka
Luke Robinson
Robert Rosene

Thomas C. Montgomery Memorial Scholarship

Michelle Alano
Kevin Barbian
Courtney Becker
Allan Daly
Michael Hickey
Huyen Le
Nicole Travis
Indre Virsinskaite
Zineb Zirari

GEOLOGY

Dr. C. Leland Horberg Scholarship

Mark Lundine
John (Jack) Malone
Allison Pease
Joseph Teresi
Daniel Vitkus

Black Hawk Gem and Mineral Club Merit Scholarship

Mark Lundine

MATHEMATICS AND COMPUTER SCIENCE

Pi Mu Epsilon, National Honorary Mathematics Society

Amiao Gao
Hussam Ibrahim
Ali Rabeh
Sophia Ries
Dominick Sullivan

RELIGION

Floyd and Louise Anderson Fund for Excellent in Religious Studies

Atticus Garrison

SOCIOLOGY, ANTHROPOLOGY AND SOCIAL WELFARE

Mike Kirn Book Award

Kathryn Gorzek
Amanda Schar

THEATRE ARTS

Judith Katz Memorial Theatre Scholarship Award

Emma Brutman

Freistat Student Language Award

Allison Arvia (Dijon, France)
Rachel Buenaobra (Dijon, France)
McKenna Burns (Uppsala, Sweden)
Nicole Chase (Ecuador)
Sarah Crawford (Uppsala, Sweden)
Madeline Crook (Dijon, France)
Andrew Cyr (Ecuador)
Brienne Frys (Ecuador)
Carissa Gilliland (Ecuador)
Adiba Hasan (Irqaa Arabic Language Center)
Sabrina Hill (Ecuador)

Rachel Kammerzelt (Dijon, France)
Anna Krause (Ecuador)
Katie Laschanzky (Uppsala, Sweden)
Adam Lydigsen-Grimes (Ecuador)
Nicole McAleese (Uppsala, Sweden)
Derrick McLean (Lingnan University/Chinese)
Kjersten Nelson (Ecuador)
Elizabeth Paris (Dijon, France)
Paige Pierson (Ecuador)
Kayleen Prins (Dijon, France)
Lee Roberson (University of Ling Nan)
Anna Tegge (Spain)
Omar Medina (Language in Taiwan)

Omicron Delta Kappa

Juniors

DeAnna Bender
Nora Bosslet
Michael Carlson
Krista Dawson
Samantha DeForest-Davis
Sam Dunklau
Bailey Englund
Katrina Friedrich
Brenna (German) Whisler
Rachel Hale
Trang Ho
Rachel Jennings
Claire Kepner
Brian Kuntz
Elizabeth Kubar
Brianna Meyer
Nicolette Sliwa
Alexandra Watts

Order of Omega

Arielle Bloemer
Michael Carlson
Bailey Englund
Luther Grulke
Rachel Jennings
Trevor Rogers
Myles Wallin
Kelly Wallner
Alexandra Watts

CLASS HONORS

(4.0 GPA)

Juniors

Emma Brutman
Mitchell Johnson

Sophomores

Braden Isbell
Giselle Carter
Francesca Scribano
Monte Schwartz
Haley Ochs
Zachary Schrank
Mourin Azar

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2016-17
Symposium Days

TUESDAY, SEPTEMBER 20

WEDNESDAY, JANUARY 18

WEDNESDAY, MAY 3:
Celebration of Learning



augustana.edu/celebrationoflearning