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Augustana
celebration
of learning
18

Augustana College

8:15-9:30 HONORS & AWARDS BREAKFAST
WALLEBERG HALL, DENKMANN

9:30-10:45 POSTER SESSION I (WITH BREAKFAST SNACKS): The Gerber Center, Gayle Room—
 Biology, Business Administration, Economics, History, Chemistry, Environmental Studies,
 Geography, Geology, Spanish, Photo Bureau and Study Away Photo Contest

Session	Room A:	Room B:	Room C:	Room D:	Room E:	Room F:	Room G:	Room H:	Room I:	Room J:	Room K:	Room L:	Room M:	Room N:	Room O:	Room P:
SESSION 1 10:45-11:45	FEATURED I: FACULTY PRESENTATION	Anthropology		Business, Communication Studies, Political Science	Scanning Electron Microscope Demo	Business	Chemistry	French	History, Geography		Women & Gender Studies: Display (presentation)		Music, Music Therapy, Performance	Senior Art Show: Featured Artist Presentations (10:45 - 12:45)	Honors, Sport, Classics, Women & Gender Studies (MGST)	Readings: Creative Writing (10:45 - 12:15)
SESSION 2 12-1	FEATURED II: ALUMNI PRESENTATION	Political Science, MJC		Study Away/ Service, Math and Language Instruction		Biology, Bio-Med	Chemistry	French	Religion	Museums of Masculinity		Vocal Performance	(Gallery open 10:45 - 12:45)	WGST	Motivation (12:15 - 12:35)	
SESSION 3 1:15-2:15	FEATURED III: FACULTY/STUDENT PRESENTATION	Sport Science, Community Service, Environmental Studies/Biology	Math, Engineering	Psychology	Scanning Electron Microscope Demo	Texas Medical Centers-SCRIP	Chemistry	French, Philosophy	Religion		Civil Discourse 12:00 - 1:30	Reading: "The 4-Minute Mile": SGA Year in Review		Communication Studies: Reflective Practitioner Senior Inquiry		
SESSION 4 2:30-3:30	FEATURED IV: STUDENT PRESENTATION	Art History	Engineering	Chemistry, Biology		Texas Medical Centers-SCRIP	Chemistry	Philosophy	Religion							
SESSION V 7:30-9:30																

POSTER SESSION II (WITH SNACKS): Gayle Room, The Gerber Center
 Biology, Public Health, Education, Computer Science, Neuroscience, Psychology, Sociology

SESSION ROOM Q: 4th Floor, The Gerber Center—+IMPACT! in the Brew
SESSION ROOM R: Various Spots Around Campus—Creativity Pop-Ups

Q&R SESSIONS
 10:45-3:30

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CELEBRATION OF LEARNING 2018 OVERVIEW

POSTER SESSION I

9:30–10:45 a.m. | Gävle Room, The Gerber Center

POSTER SESSION II

3:30–4:45 p.m. | Gävle Room, The Gerber Center (4th floor)

SENIOR ART SHOW GALLERY TALKS

10:45 a.m.–12:45 a.m. | Augustana Teaching Museum of Art (Centennial Hall)

FEATURED & CONCURRENT PRESENTATIONS, SESSION I [10:45-11:45], II [Noon-1], III [1:15-2:15], IV [2:30-3:30]

Olin Auditorium (Featured Presentations I, II, III, IV), Olin 209, Olin 305, Hanson 102, Hanson 115, Hanson 304, Hanson 305, Wallenberg Hall, Old Main 132, Old Main Lower Level, Evald Great Hall, Evald 17&18, Larson Hall, Augustana Teaching Museum of Art, Honkamp Mhyre Black Box, Wilson Center, Gerber Center 4th Floor/Brew, and various other spots around campus.

FEATURED FACULTY PRESENTATION-I

10:45 a.m. | Olin Auditorium

Dr. Nathan Frank, physics

What Happens on a Research Sabbatical in Nuclear Physics?

FEATURED ALUMNI PRESENTATION-II

Noon | Olin Auditorium

Erin Blecha-Ward '07

Founder & President, Evolved Experience Solutions and Executive Director, Fresno Football Club

The Road Less Taken...

FEATURED STUDENT-FACULTY COLLABORATION PRESENTATION-III

1:15 p.m. | Olin Auditorium

Dr. Jennifer Popple, Melina Herman, Alexis Downey, theatre arts

Using Theatre to Develop Clinical Empathy: Working with

Pre-professional Majors

FEATURED STUDENT PRESENTATION-IV

2:30 p.m. | Olin Auditorium

Janelle Norden, community service

Exploring Food Insecurity at Augustana

SPECIAL PROJECTS

10:45 a.m.–3:30 p.m. | The Gerber Center, 4th floor hallway
+IMPACT Table in the Brew

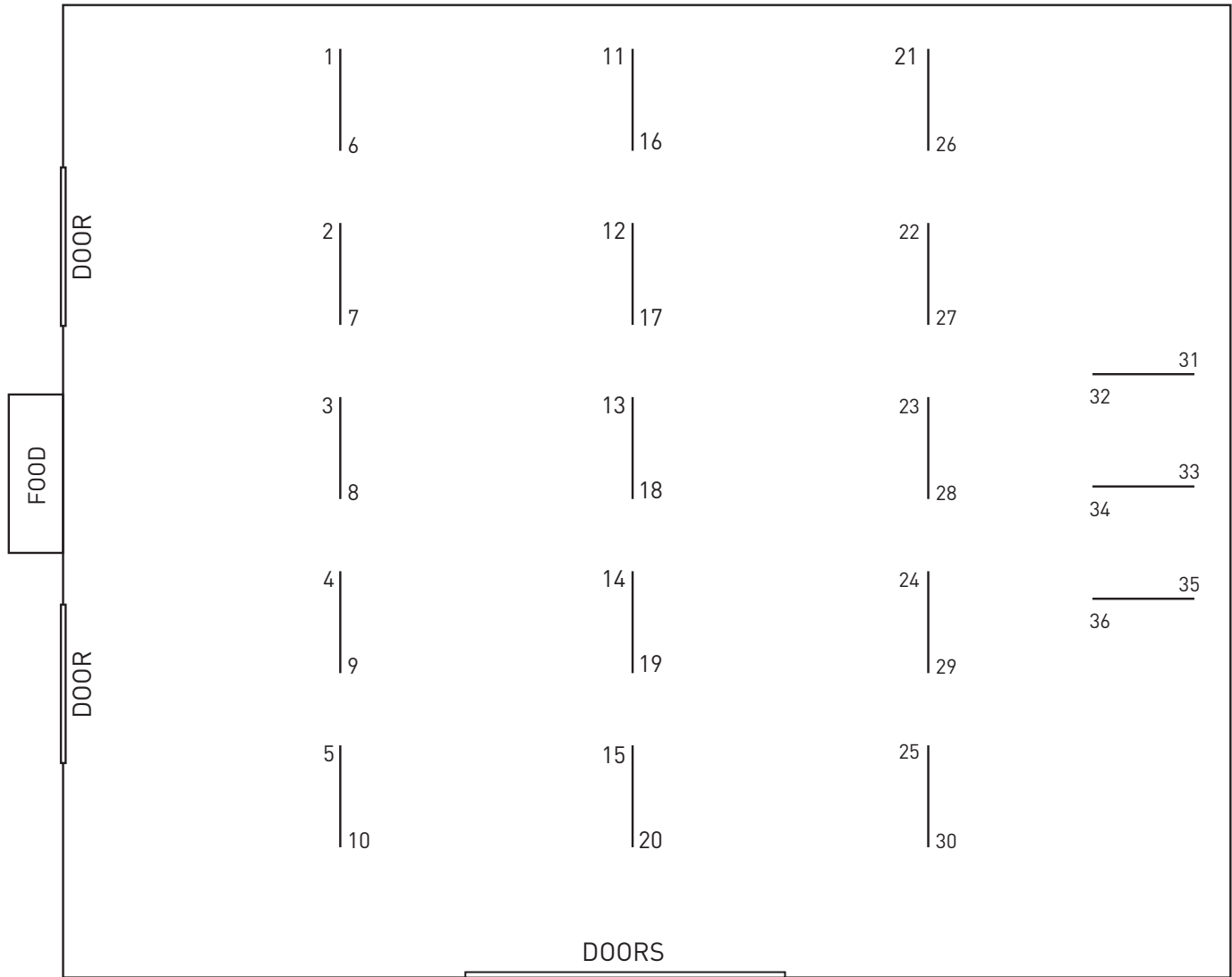
9:30 a.m.–4:45 p.m. | Various times and locations through the day
Creativity Pop-Ups

7:30–9:30 p.m. | Hanson 102

Augustana Invitational Robotics Challenge 2018

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

Poster Presentation Layout | Gävle Room, The Gerber Center



- 1 Courtney Becker
- 2 Michael Hickey
- 3 Zineb Zirari
- 4 Nicole Travis
- 5 Huyen Le
- 6 Brendan Vorobiev
- 7 Olivia LaPlante
- 8 John Danko
- 9 Kevin Zaldivar
- 10 Zachary Carlson
- 11 Ziou Zhang
- 12 Indre Virsinskaite
- 13 Lisa Pohlman-Zordan

- 14 Rocio Barron, Johnathan Briggs,
Abigail Carus, Mikaela Ferrara,
Adam Huffstutler, Alexander
LaMendola, Connor Maccabee,
Julia Meyer, Mikee Pagdanganan,
Harrison Phillis, Andrew
Remeselnik, Victoria Witkowski
- 15 Dr. Lendol Calder
- 16 Dr. Jeffrey Renaud
- 17 Ryan Johnson, Dr. Kevin Geedey
- 18 Caitlin Lebel, Dr. David Grimley
- 19 Erin Anusinha, Dr. Tim Muir
- 20 Carissa Gilliland, Patricia Hartzell,
Martina Ederer
- 21 Hayden Holland, Dr. Amanda
Wilmsmeyer
- 22 Nick Torres
- 23 Marissa Iverson

- 24 Sarah Oswald
- 25 Ryan Maher
- 26 Joseph Teresi
- 27 Jeffrey Swanson
- 28 Kristin Schoenecker
- 29 Chad Populorum
- 30 Evan Grassmann
- 31 Dr. Tierney Brosius, Jacon Stytz,
Nathan Kies, Nicolette Geddeis,
Sydney Zaragoza, Tawnya Smith,
Andrew Cyr, Joey Gonsiorek
- 32 Philip Tunnicliff
- 33 Joseph Cross
- 34 John Malone
- 35 Mark Lundine
- 36 Allison Pease

POSTER SESSION 1

GÄVLE ROOM, THE GERBER CENTER

9:30-10:45 a.m.

Dr. Allen Bertsche

Augie Abroad Photo Contest Ceremony

Poster Session [P1] #0: 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.

Courtney Becker

Project advisor: Dr. Christopher Marmé, economics

Income Determinants in 1940

Poster Session [P1] #1: Gävle Room, The Gerber Center

I attempt to identify the determinants of income in 1940. I use 1940 Census data from the Greater Milwaukee Area. This data contains income and potential explanatory factors such as age, education level, and immigrant status. Inputting these variables into a regression shows the main determinants of income.

Michael Hickey

Project advisor: Dr. Christopher Marmé, economics

NBA Salary Determinants From 2001-2017

Poster Session [P1] #2: Gävle Room, The Gerber Center

I used econometrics and multiple regression analysis to determine whether contract values of NBA players are most closely tied to individual statistics, individual achievements and accolades; the financial performance of the league as a whole; or the economic health of the United States. The results of this study could potentially be used to help NBA general managers forecast the fair market value of free agents.

Zineb Zirari

Project advisor: Dr. Christopher Marmé, economics

Women's Education Levels in Developing Countries

Poster Session [P1] #3: Gävle Room, The Gerber Center

This poster presentation is a Development Economics research on the educational attainment of women in developed and developing countries around the world. This research aims at contrasting women's education levels in developing and in developed countries, and ultimately finding a correlation between women's education and economic development. We looked at the mean level of study of women in 30 different countries and ran statistical tests to analyze the different factors contributing to it.

Nicole L. Travis

Project advisor: Dr. Christopher Marmé, economics

Determinants of Income in Chicago Suburbs in 1940

Poster Session [P1] #4: Gävle Room, The Gerber Center

Using data from the 1940 U.S. Census and other sources I attempt to model the determinants of income in the 1940s Chicago suburban area. I have based my analysis on age and level of education as well as proxy variables for whether the person is native to the U.S., if they work in the farming industry, and if they work privately, for the government, or own their own business. This is research being carried out in Economics 403 this term.

Huyen Le

Project advisor: Dr. Christopher Marmé, economics

Determinants of Spending on Clothes in the U.S. from 1987 to 2017

Poster Session [P1] #5: Gävle Room, The Gerber Center

Using annual data from the U.S. Bureau of Labor Statistics, Economic Research at the St. Louis Fed, the Statistics Portal, and other sources and regression analysis, I attempt to model the determinants of spending on clothes in the U.S. from 1987 to 2017. Besides the amount of spending on clothes as the response variable, my analysis includes different explanatory variables, which are clothing prices, average income, advertising spending, and the U.S. population. This research is being carried out in Economics 403 this term.

Brendan Vorobiev

Project advisor: Dr. Christopher Marmé, economics

Exploring the Economic Reasons for the Rise and Continuous Fall of Detroit

Poster Session [P1] #6: Gävle Room, The Gerber Center

This project will highlight the historical implications and current economic issues facing the city of Detroit. This piece will also try to explain potential reasons for the fall and almost impossible economic recovery of Detroit due to reasons such as a lack of industrial diversity, urbanization/collapsing housing market, crime rates, and other researched topics. These results will be compared and contrasted to other major cities such as Chicago and Pittsburgh.

Olivia LaPlante

Project advisor: Dr. Christopher Marmé, economics

Literacy of Russian Immigrants in the United States 1834-1897

Poster Session [P1] #7: Gävle Room, The Gerber Center

Using records from the National Archives Access to Archival Databases, other sources and regression analysis, I attempt to model the determinants of literacy of Russian immigrants in the United States from 1834 to 1897. I have based my analysis on various factors such as gender, age, nationality and year of arrival derived from the U.S. National Archives and Records Administration data files. This is research being conducted in Economics 403: Senior Research Seminar this term.

John Danko

Project advisor: Dr. Christopher Marmé, economics

Impact of WPA Expenditures on Job Creation and Wages in Selected States from 1935 to 1943

Poster Session [P1] #8: Gävle Room, The Gerber Center

Using yearly data from the U.S. Library of Congress and regression analysis I attempt to analyze the variance of WPA expenditures between five states, and measure the impact that total WPA expenditures had on job creation and wages between 1935 and 1943. During this time period, the U.S. economy was fresh out of the Great Depression and the Dust Bowl wreaked havoc on agricultural states in the Great Plains. For this study, I am interested in determining if WPA expenditures were larger in the Dust Bowl states relative to the rest of the country. I have based my analysis on total WPA expenditures, total WPA wages paid, and WPA jobs created in New York, Illinois, Kansas, Oklahoma and California. This research is based off of a previous proposal for Economics 404, and is being conducted in Economics 403 this term.

Kevin Zaldivar

Project advisor: Dr. Christopher Marmé, economics

The Impact of Infrastructure on GDP

Poster Session [P1] #9: Gävle Room, The Gerber Center

The impact of the railroad on the American economy is a classic dispute in need of modern research. This research is an attempt to highlight the most important factors of growth in GDP in modern times. This data can be used to make smart budget decisions and policy reworks.

Zachary Carlson

Project advisor: Dr. Christopher Marmé, economics

An Analysis of 1910 Illinois Corn Production

Poster Session [P1] #10: Gävle Room, The Gerber Center

Through the use of 1910 U.S. Census data and University of Illinois soil surveys from 1910-1919, I attempt to model corn production by county to identify the key factors that influenced corn cultivation in the early 20th century. The study considers yield per acre, average farm size, average farm value, and soil type of select counties in Illinois to define crop yield for this select time period before the Great Depression. The research is a part of Economics 403 to complete the economics major.

Ziou Zhang

Project advisor: Dr. Christopher Marmé, economics and mathematics

Income Inequality in China

Poster Session [P1] #11: Gävle Room, The Gerber Center

In this poster presentation, I will use table and data to show the situation and reasons of income inequality of China when China's economy is growing super fast.

Indre Virsinskaite

Project advisor: Dr. Christopher Marmé, economics

Education and Earnings: The Economic Value of Your College Degree

Poster Session [P1] #12: Gävle Room, The Gerber Center

Utilizing data from College Board and various other sources, this paper seeks to analyze the return on investment of a college education. Through regression analysis of the average student's cost of attendance per year and various other factors I attempt to reveal the correlation between rising tuition rates and earnings thereafter. This research is being carried out in Economics 403 this term.

Lisa Pohlman-Zordan

Project advisors: Dr. Sheila Goins and Dr. Ann Ericson, business administration

50 Shades of Green: A Study on Environmental Claims in Marketing Materials

Poster Session [P1] #13: Gävle Room, The Gerber Center

"Greenwashing" is considered providing false or exaggerated information about a product to make it appear more environmentally friendly or sustainable than it actually is. With environmental concerns on the rise, deceptive claims about products being more beneficial to the environment than they are are becoming a more prevalent issue. This study aims to identify factors that may affect a person's ability to decipher between what is greenwashing and what is not through gathering basic demographics, purchasing decisions, and level of environmental enthusiasm.

Rocio Barron, Johnathan Briggs, Abigail Carus, Mikaela Ferrara, Adam Huffstutler, Alexander LaMendola, Connor Maccabee, Julia Meyer, Mikee Pagdanganan, Harrison Phillis, Andrew Remeselnik, Victoria Witkowski

Project advisor: Dr. Brian Leech, history

Augustana Winter Traditions

Poster Session [P1] #14: Gävle Room, The Gerber Center

The students of History 369: Oral History & Testimony plan to present five separate posters. These posters will draw on many oral history interviews completed with members of the Augustana community, past and present, as well as extensive research into the archives held by both the Swenson Swedish Immigration Research Center and the Augustana College Special Collections. Each research poster will focus on a separate topic related to winter traditions at Augustana College, including (1) Sankta Lucia, (2) Food Traditions (especially Smörgåsbords), (3) Musical Traditions (like Messiah, Lessons and Carols, and Christmas at Augustana), (4) Non-Christmas Traditions (including Kwanzaa, Hanukkah and Our Lady of Guadalupe), and (5) the Joy of Christmas Celebration at the Jenny Lind Chapel in Andover, Ill.

Dr. Lendol Calder

History

Uncovering the Story of American History

Poster Session [P1] #15: Gävle Room, The Gerber Center

For my sabbatical term in 2016-17, I continued work on an "untextbook" I'm writing for adoption in U.S. history survey courses. My poster will describe the learning design for the book, how it differs from traditional textbooks, and why this first-of-its-kind digital course book is important for helping instructors teach history more effectively.

Dr. Jeffrey Renaud

WLLC-Spanish

Coarticulation in Two Fricative-Vowel Sequences of Latin American Spanish

Poster Session [P1] #16: Gävle Room, The Gerber Center

Dialectal surveys of Latin American Spanish (Perissinotto 1975, Resnick 1975) describe three main possible pronunciations for fu (fuego "fire") and fo (foco "focus") sequences: faithful [f], velarized [x], and bilabialized [ɸ], in order of frequency. While the velar realization has received phonetic and theoretical consideration (Lipski 1995, Mazzaro 2011), little is understood about the voiceless bilabial fricative [ɸ] in Spanish. This paper describes a three-part production study to uniformly account for the unfaithful velar and bilabial realizations. [Mazzaro 2011] explains the velar [x] variant by arguing that, given the acoustic similarity of, e.g., [fu]/[xu], listeners misperceive a speaker's intended [fu] as [xu] and will, in subsequent speech, articulate [xu] instead. Coarticulatory accounts, however, would argue that, given the backness of the vowel, speakers retract the fricative from labiodental [f] to velar [x]. (In the case of bilabial [ɸ], speakers assimilate lip-roundedness.) If (mis)perception were the sole motivating factor, we would expect discrete points of articulation in the [xu], [xo], [ɸu] and [ɸo] pronunciations, as opposed to a high degree of coarticulation under an assimilatory account. Based on the phonetic analysis of 1,457 recorded fricatives from four [4] Chilean and four [4] Mexican Spanish speakers, I argue that the coarticulation found suggests assimilation and undermines an exclusively perceptual account.

Ryan Johnson, Dr. Kevin Geede

Project advisor: Dr. Kevin Geede, biology and environmental studies

Functions of Ecosystems: Stream Metabolism as an Efficient and Effective Means to Gauge the Health and Understand the Interworking of Urban Streams in a Watershed of Rock Island, Ill.

Poster Session [P1] #17: Gävle Room, The Gerber Center

Stream metabolism is a critical functional measure of stream health that integrates physical parameters like slope and discharge, with ecosystem functions like photosynthesis and respiration. Stream metabolism is widely studied; however, urban stream metabolism remains poorly understood. Stream metabolism was measured for five streams ranging from 1st to 5th orders from October 11 to October 18, 2017, and four streams ranging from 1st to 4th order from October 22 to October 25, 2017, located within an approximately 9.3 square-kilometer watershed of Rock Island, Ill., that has an urban to suburban type of development. These measurements were carried out using calibrated HACH water quality multiprobes measuring continuous temperature and oxygen concentrations over five days for the earlier data collection and three days for the later data collection at 30-minute intervals. Metabolism was estimated using a Monte Carlo Markov Chain approach that took into account irradiance and gas-transfer velocity to estimate the 24-hr. average and time stepped community respiration, gross primary production, and the total mass flux of O₂ by gas exchange. This data was then compared with previously collected physical and chemical data from each site. All sites were characterized by relatively low rates of gross primary production that were far less than community respiration, a pattern that indicates a reliance on energy input from outside the stream rather than in stream photosynthesis. Variation in respiration and photosynthesis were poorly explained by the existing water quality data for the sites (range of R² data). However, two of the sites experienced transient drops in dissolved oxygen at or near 0 mg/l. When those two sites are removed from the analysis, total Phosphate concentration (mg/l) and fecal coliform were both negatively related to integrated community respiration (R² value of .4965 and .53, respectively). These transient drops in oxygen remain unexplained but show the importance of continuous monitoring for capturing potentially critical ecosystem events.

Caitlin Lebel, Dr. David A. Grimley

Project advisor: Dr. David A. Grimley, Illinois State Geological Survey

Fossil Gastropods for Use in Estimating Paleoclimate and Paleoecology in Last Glacial Loess, Southwestern Illinois

Poster Session [P1] #18: Gävle Room, The Gerber Center

During the Pleistocene, thick packages of loess in the central U.S.A. were derived from glacial meltwater deposits in large valleys that drained the Laurentide Ice Sheet. The potential to utilize terrestrial gastropod fossils preserved in loess horizons as high-resolution paleoecological and paleoclimatic indicators has not been fully explored in the central U.S.A. Such fossils can assist in our ability to date glacial loess horizons, measure accumulation rates, as well as to reconstruct paleoecological and paleoclimatic conditions. In this study, we collected loess samples, in 25 cm intervals vertically, from a site (Demazenod Section) in southwestern Illinois (Belleville) with thick Peoria Silt. Approximately 1,300 terrestrial gastropod shells were extracted from wet sieving of bulk loess sediment. A diverse fauna, containing 15 species, is documented at the site. Individual *Webbhelix multilineata* and *Succinea* gastropod shells within the loess were radiocarbon dated at approximately 18,100 to 16,700 radiocarbon years before present (21,800 to 20,100 calibrated years). Known geographic ranges and temperature tolerances of species existing today were extrapolated to estimate paleotemperatures for this interval. The presence of fossil gastropod species such

as *Stenotrema hirsutum*, *Hendersonia occulta*, *W. multilineata* and *Allogona profunda* imply a forested landscape and mean July temperature > 18°C. However, the occurrence of *Vertigo modesta* in some zones suggest a mean July temperature < 20°C, compared with 26°C in the same area today. Multi-centennial climatic or ecological oscillations are implied by variations in the gastropod assemblage stratigraphically.

Erin Ansinha, Dr. Tim Muir

Project advisor: Dr. Tim Muir, biology

Energy Use in *Chrysemys picta* Hatchlings During Hibernation

Poster Session [P1] #19: Gävle Room, The Gerber Center

Chrysemys picta, commonly known as painted turtles, are ectothermic animals that hatch in late summer and hibernate through the winter until emergence from the nest the following spring. Throughout dormancy, the aphagic hatchlings must rely on endogenous energy stores, presumably in the form of residual yolk, to keep up with metabolic demands. Recent evidence suggests that residual yolk is mostly depleted by early fall, which indicates that its initial energy must either be consumed soon after hatching, or transferred from the yolk to somatic energy stores. To track the use or transfer of residual-yolk energy, we separated and weighed the residual yolk, liver, small intestine, and remaining carcass of hatchling turtles at 0, 2, 4, 6, 10, and 34 weeks after hatching. The residual-yolk size at hatching was indirectly manipulated by incubating half of the eggs in dry conditions, yielding relatively large residual yolks, and half in wetter conditions, yielding relatively small residual yolks. Our results show notable decreases in residual-yolk mass over time in both the wet- and dry-group hatchlings, although the average residual-yolk mass at hatching for the wet group was substantially lower than that of the dry group. Between 0 and 2 weeks after hatching, the dry group residual-yolk mass had decreased by 59.80% while the wet group residual-yolk mass had decreased by 44.71%. In addition, the residual yolk of wet-group hatchlings was virtually immeasurable by 34 weeks after hatching, while the dry group's average residual-yolk mass remained higher than the wet-group at just 4 weeks after hatching. While liver mass in both conditions remained relatively stable at 0, 2, 4, 6, and 10 weeks after hatching, we observed a decrease in mass 34 weeks after hatching in both groups. This finding supports the idea that the liver plays a role in sustaining metabolic activity throughout hibernation. To better understand the fate of residual-yolk energy, we will measure triglyceride concentration in the residual yolk, liver and carcass from each turtle.

Carissa Gilliland, Dr. Patricia Hartzell, Martina Ederer

Project advisor: Dr. Patricia Hartzell, biology (University of Idaho)

Glyphosate in Roundup Affects Siderophore Synthesis in *Pseudomonas Fluorescens*

Poster Session [P1] #20: Gävle Room, The Gerber Center

Glyphosate, the active ingredient in Roundup, is the most widely used broad-spectrum herbicide worldwide. Glyphosate use has increased over 15-fold since the introduction of glyphosate-resistant (Roundup Ready) crops in 1996. Microbes, like plants, are inhibited by glyphosate. Hence, given this significant global use of Roundup, more research is needed to discern the long-term effects of glyphosate on microbes. We hypothesized that some soil microbes would develop tolerance to glyphosate and that recurrent glyphosate exposure would decrease the amount of time it would take for soil microbes to evolve resistance to the herbicide. Evolution of resistance in the model soil bacterium, *Pseudomonas fluorescens*, was tested. Resistant strains had an unexpected phenotype — pyoverdine, the fluorescent siderophore (pigment), was diminished significantly in the Roundup (glyphosate) R strains.

Hayden Holland, Amanda Wilmsmeyer

Project advisor: Dr. Amanda Wilmsmeyer, chemistry

Adsorption of Volatile Organic Compounds to Amorphous Silica

Poster Session [P1] #21: Gävle Room, The Gerber Center

Understanding the chemical interactions that occur between gas molecules and a surface is essential for the preparation of a surface material that could be used to separate, attract or analyze certain gas molecules of interest in the natural world. For example, recent research has shown that patients with lung cancer exhale certain volatile organic compounds (VOCs) at higher concentrations than healthy patients. Our research has focused on the fundamental interactions occurring between these VOCs and a sorbent material. Continued research on this topic could lead to breakthroughs in the development of noninvasive diagnostic techniques for lung cancer.

Nick Torres

Project advisor: Dr. Michael Reisner, environmental studies

Lead Contamination in Scott County, Iowa

Poster Session [P1] #22: Gävle Room, The Gerber Center

Lead is a highly resourceful element implicated in various industrial applications. Utilized most for exterior and interior painting, lead was banned in 1978 once concurring the extremely dangerous neurological damage it causes once exposed to the bloodstream. Scott County, Iowa, has experienced high levels of child lead poisoning, since 2000 having over 1,600 documented poisonings, bringing Scott County, Iowa, four times over the national average. The Upper Mississippi Center focused on resolving this issue through a summer of research, with 27 homes sampled, and a partnership with the Scott County Health Department, the results proved to be helpful in finding an end to this epidemic. With the data recorded from paint, dust and house conditions of each location, we observe general trends that assist in this countywide outbreak. To name a few, there were strong direct relationships with the condition of windows and the number of lead hazards within a home, as well as the elevated lead levels in dust having relation to the renter occupancy. Trends found within the data sampled allow us to make conclusive, evidence-supported assumptions while assessing homes for lead.

Marissa C. Iverson

Project advisor: Dr. Reuben Heine, environmental studies, geography

Spatial and Temporal Analysis of Island Morphology in Lower Pool 18 of the Mississippi River

Poster Session [P1] #23: Gävle Room, The Gerber Center

The Upper Mississippi River System has a significant trend in island loss due to river engineering structures. However, Lower Pool 18 is observed as a counterexample to the island loss pattern with its island development near Lock and Dam 18 during the past 80 years. This research is modeled after a study done in Lower Pool 6 of the Upper Mississippi River, where an island development was found to contradict the island loss prevalence. The Lower Pool 18 research's goal is to map, describe and explain spatial patterns of islands' growth, persistence and loss. Historical maps and aerial photographs of the islands, throughout the time period of before the lock and dams were implemented up until today, will be used as the main sources of data. Visual analysis, descriptive analysis, and a preliminary explanation were completed to explain the spatial patterns of the islands' morphology. Results have shown the spatial growth of the Lower Pool 18 islands to be significant, as well as the pattern in which it occurs. Historic flooding levels and human engineering sources are possible contributors to this particular

instance of island growth. These findings will aid river managers in future decision-making on engineering and restoration plans. The results will also serve as another counterexample to the island loss pattern, and will result in a better understanding of the Mississippi River.

Sarah Oswald

Project advisor: Dr. Jeffrey Strasser, geology

Temporal and Spatial Variations in Anthropogenic Contaminants in Mill Creek, Kane County, Ill.

Poster Session [P1] #24: Gävle Room, The Gerber Center

Surface waters, such as rivers, creeks and streams are vulnerable to anthropogenic contamination from point and nonpoint sources. Surface runoff from agriculture, suburbia and industrial sites commonly results in contributing to higher concentrations of heavy metals and nutrients to nearby waterways. Growing populations with rapid development contribute to increases in surface water contamination. Mill Creek, a tributary of the Fox River in northeastern Illinois, has a drainage basin area of approximately 80.3 km², with a channel length of approximately 25.7 km draining agriculture areas, suburbia, forests, wetlands and lakes. Hydrographs from a gauging station near its confluence with the Fox River shows that discharge peaks quickly after large rain events, with lag times typically in the range of hours to days, depending on the amount of precipitation, according to USGS water gauge tracking. The creek shows signs of significant bank erosion during high flow events. The purposes of this study are: 1) to determine if there is a predictable relationship between discharge (and gauge height) and contaminant concentrations, and 2) to identify point sources of pollution. The contaminants studied include P+, Cu²⁺, NO₃⁻, Fe³⁺, Pb²⁺, Hg²⁺, As³⁺ and the pH. This study found the highest contaminant concentrations in the low-flow and high-flow conditions. The contaminants of highest concern include NO₃⁻, Pb²⁺, As³⁺ and Hg²⁺, due to their environmental impacts and high concentrations found in this study above EPA standards. There are no EPA standards, but there were high concentrations found between 1.76-6.91 ppm. Arsenic was found at the highest level of 1.33 ppm when EPA standards are set at maximum 0.034 ppm. Lead was found at concentrations ranging from 2.99-4.61 ppm while EPA standards are set at a 0.065 ppm maximum. Lastly, Mercury concentrations found ranged from 0.33-2.16 ppm while EPA standards are set at a 0.0014 ppm maximum. One test site is concerning for its concentration of Iron found at 7.77 ppm while EPA standards are set at 1.0 ppm. Downstream variations indicate contaminant sources from both agricultural and suburban areas, although no point sources were identified.

Ryan Maher

Project advisor: Dr. Jeffrey Strasser, environmental studies and geology

Identifying Trace Element Chronological Markers within Upper Mississippi River Floodplain-Sediments

Poster Session [P1] #25: Gävle Room, The Gerber Center

During the 19th and 20th centuries, efforts to control the upper Mississippi River resulted in significant geomorphological changes to the channel and floodplains, leading to rapid sedimentation in parts of the floodplain. Some areas along the Mississippi River have experienced up to 3 meters of alluvial sediments during post-settlement times. Previous studies suggest that this rapid sedimentation was caused largely by anthropogenic manipulation of the river and its valley (e.g. levee construction, wing dams, and locks and dams). The original goal of this study was to identify

anthropogenic elements in the sediment that could separate pre-settlement from post-settlement times, thus providing a chronologic marker. However, high water conditions impeded deep sampling, and these results suggest that samples are limited to post-settlement times. The study site is located on the east bank of the Mississippi River near river mile 425 and downstream of L&D No. 17. Historical data indicate rapid sedimentation rates adjacent to the main channel in this area in the past 100 years. Samples were collected on three separate occasions over a timespan of a year and a half, using soil pits, hand-driven soil cores, and a Giddings drill rig. In total, 28 samples were taken, with a maximum subsurface depth of approximately 2 meters. Bulk sediment samples were analyzed by XRF spectroscopy for Y, Zr, Nb, Mo, Ce, Ba, Pb, Na₂O, MgO, Al₂O₃, SiO₂, P₂O₅, K₂O, CaO, TiO₂, MnO, and Fe₂O₃. Trace elements Zr, Mo, Fe₂O₃, and MnO exhibited trends in the data that suggest that fluctuations in their concentrations could be linked to flood events. Further testing is required to verify that relationship; however there is an apparent upward trend in Pb concentrations with depth, possibly caused by an influx of detrital Pb during the 19th century, when upstream regions experienced significant mining and deforestation. These data suggest that Pb could be a viable element to distinguish pre-settlement and post-settlement sediments in this area. Further testing at greater depths are required to corroborate these findings.

Joseph Teresi

Project advisors: Dr. Michael Reisner, environmental studies;
Dr. Jeffrey Strasser and Dr. Michael Wolf, geology

Analysis of Surface Soil Lead Contamination in Urban Neighborhoods of Davenport, Iowa

Poster Session [P1] #26: Gävle Room, The Gerber Center

Davenport, Iowa, is a typical Midwestern city with a population of ~102,600 residents and is characterized by aging infrastructure and housing stock. Consequently, alarmingly high rates of child lead poisoning—as a result of deteriorating lead paint—constitute a major public health concern in some urban neighborhoods. A research team conducted free home lead screenings in vulnerable Davenport neighborhoods to better understand the severity of the problem. Via appointment, 27 homes were tested for lead in their paint, dust, soil and water. Many of the highest-risk homes were found in low-income neighborhoods. The purpose of this study was to assess the extent of soil lead contamination and lead bioavailability in this urban setting. A total of 56 composite soil samples were collected: 26 Drip Zone (DZ), 18 Center of Yard (CY), and 12 Play Area (PA). These designations correspond to, respectively: soil within 1 m of the home's foundation, soil elsewhere in the yard, and soil elsewhere in the yard but deemed a high-traffic area for children. Samples were taken from a depth of 1.5 cm, oven-dried, milled, and pressed into pellets for XRF analyses. The ubiquitous contamination of this well-documented neurotoxin threatens the livelihood of Davenport residents and especially poses irreversible health issues for children under the age of 6.

Jeffrey L. Swanson

Project advisor: Dr. Reuben Heine, geography

Use of Floodscape Mapping to Assess Changes in Inundation Frequency of the Upper Mississippi River

Poster Session [P1] #27: Gävle Room, The Gerber Center

As an alternative to probability-based maps, DeJager (and others) reconceptualized floodplain mapping using the notion of "floodscapes" (DeJager et al., 2015). A floodscape map is developed

using daily stage data and high-resolution topography to create maps that depict the average number of days of inundation (per year or growing season). Floodscape maps reveal intricate and continuous patterns of high-frequency flows that are critically important to floodplain ecological functioning. DeJager found significant correlations between floodscape inundation and riparian vegetation patterns but single floodscape maps only provide snapshots in time. This current research develops and utilizes multiple floodscape maps to quantify changes in flooding over decadal time periods. Using a Mississippi River site near Keithsburg, Ill., we developed floodscape maps for Blackhawk Island over three different 30-year time periods (1908-1937, 1939-1968 and 1986-2015). Historic floodplain topography was developed from 1938 1-ft contour-line (0.31m) topographic maps and modern digital terrain were developed from 2011 bare-earth LiDAR data. These maps quantify floodscape changes in the 73 years since the completion of the lock and dam system. When comparing 1938 to 2011, DEM differencing reveals a geomorphic pattern dominated by deposition and aggradation. Despite the increase in terrain elevation, this research finds an overall pattern of more frequent inundation (a more submerged floodscape) and demonstrates that increases in stage frequencies have overwhelmed the increases in floodplain elevation in the 73 years since the construction of the lock and dams. Floodscape-change analysis provides a useful spatial tool for visualizing and conceptualizing flood-inundation changes over time.

Kristin Schoenecker

Project advisor: Dr. Reuben Heine, geography

Solving the Mystery of the Big Thicket: A Predictive Study on Land Ownership

Poster Session [P1] #28: Gävle Room, The Gerber Center

Big Thicket National Preserve (BITH) was created in 1974 to preserve its unique, biodiverse landscape in response to rampant resource extraction. However, due to a lack of resources allocated to the creation of accessible property ownership records in the region and the gradual purchasing process of the land within the set boundaries of the preserve, the boundaries dividing preservation land and private land are often unclear. Maps that should contain land ownership information for each parcel are often missing key data about the owner. This uncertainty inspired this study's goal of using a logistic regression model to calculate the likelihood that a given parcel is owned by the preserve or another owner. This study analyzed parcels that intersect units of BITH that surround the Neches River. Key processes completed in ArcGIS included using supervised classification on imagery from the National Agriculture Imagery Program to find areas of vegetation disturbance as well as using parcel metrics on data collected from Hardin, Jasper, Jefferson, Orange, and Tyler County Appraisal Districts. Statistical analysis using JMP-in Version 4.0.2 by SAS yielded a model that could be used to identify land-ownership type on parcels with unknown landowners. The model performed with 96% accuracy on parcels of known ownership-type and had an R-Squared value of .8444. Of the 43 unknown parcels, 14 were identified as likely belonging to BITH and 29 were identified as likely belonging to another owner. This data will help fill a crucial knowledge gap about land use near and within BITH's boundaries.

Chad Populorum

Project advisors: Dr. Jennifer Burnham, Dr. Reuben Heine and Dr. Christopher Strunk, geography; Dr. Michael Reisner, environmental studies

A Quantitative Analysis of the Effects of Urbanization, Mesophication and Prescribed Burns on Oak Woodlands in the Chicago Metropolitan Area

Poster Session [P1] #29: Gävle Room, The Gerber Center

Urban expansion has had devastating impacts on forest ecosystems, especially within the past century. Human attempts to dominate nature have diminished natural disturbance regimes, which have maintained the biodiversity and historic composition of these ecosystems. Fires have been a prominent force in maintaining the structure of oak, hickory and other heliophytic (sun-loving and fire-adapted) forest systems. Human-induced fire suppression has led to mesophication across North America. Mesophication is the transition from drier conditions with open canopies to wetter conditions with closed canopies. These new conditions decrease the survival rates of these important species and begin to favor mesophytic and invasive species. Without fires to fight off these competitors, the positive feedback loop that is mesophication ensues. In urbanized areas where mesophication has been occurring, forest managers are working to mimic nature by implementing prescribed burns and other restoration techniques. The purpose of this study was to determine the effectiveness of prescribed burns within the Chicago metropolitan area, specifically at Blackwell Forest Preserve in Winfield, Illinois. By comparing the species composition within three forest patches at Blackwell that receive varying amounts of prescribed burns, the results helped to determine whether mesophication is occurring and whether the burns are working to combat these issues. The results showed that mesophication has been occurring within this preserve and that implementing prescribed burns does help to maintain historic biodiversity. This is significant for forest managers due to the inevitable loss of biodiversity in urbanized areas experiencing the impacts of mesophication.

Evan J. Grassmann

Project advisor: Dr. Jeffrey Strasser, geology

Lithologies and Provenance of Pebbles Found in the Moraines of Wisconsin

Poster Session [P1] #30: Gävle Room, The Gerber Center

Pebble lithologies in moraines generally reflect the relative percentages of bedrock types exposed at the earth surface along the flow paths in the up-ice direction. This study aims to quantify the fractional percentages of pebble lithologies distributed across Wisconsin by the Laurentide Ice Sheet and to compare those variations to previously mapped up-ice bedrock compositions. Samples were taken from the terminal moraines of three glacial lobes in northern Wisconsin and from the Green Bay / Lake Michigan interlobate kettle moraines. Pebbles ranging from 0.5-1.0 inches were isolated by sieving, and pebbles were sorted according to lithology. GIS software was then used to predict lithologic distributions at these sample sites based on the composition and area of up-ice bedrock and an assumption of linear ice flow. The predicted relative percentages of lithologies vary across the study area due to variations in up-ice bedrock. Large Paleozoic sedimentary basins in the east contrast with extensive Precambrian plutonic and igneous terranes in the west. The pebble-count data from the field generally agree with predicted lithologic distributions utilizing GIS analytical techniques. Samples taken from between the GBL and LML consistently showed fewer igneous pebbles than those taken from the lobes farther west. This research adds to the growing repertoire of useful applications for GIS software by demonstrating that in this broad study area, GIS analysis is a

viable way to predict compositions of glacial sedimentary deposits, assuming existing bedrock maps are accurate.

Dr. Tierney Brosius, Jacon Stytz, Nathan Kies, Nicolette Geddeis, Sydney Zaragoza, Tawnya Smith, Andrew Cyr, Joey Gonsiorek

Project advisor: Dr. Tierney Brosius, biology

Augie Insects: The Importance of Insect Diversity

Poster Session [P1] #31: Gävle Room, The Gerber Center

Insects are the most diverse multi-cellular life found on our planet and they help drive almost every ecological process that impacts human life. Even though they are incredibly important to our everyday lives, most people are unaware of the insect communities around them, and when they are aware they are often scared of the little creatures that they don't understand. The goal of our fall project was to do an initial inventory of the insects that could be found on Augustana's campus. We did this survey to help bring awareness to the amazing diversity that can be found in what some think of as an urban setting. In addition to this goal, we also hope that these insects can be used as indicators of the ecological health of the campus as multiple projects move forward on ecological restoration projects.

Philip Tunnicliff

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

Lead Contamination Assessment of Drinking Water in Davenport, Iowa

Poster Session [P1] #32: Gävle Room, The Gerber Center

The recent and ongoing water crisis in Flint, Michigan, has raised awareness of the susceptibility of municipal water supplies to lead contamination from aging infrastructures and household plumbing fixtures. As part of a larger, multifaceted project to assess lead contamination and poisoning in an aging neighborhood, this study focused on lead concentrations in water sampled from high-risk homes of older neighborhoods in Davenport, Iowa. The drinking water in Davenport comes entirely from the Mississippi River, and it is treated by Iowa American Water before being released into the city's storage and distribution system. The goals of this study are to identify homes likely to contain lead pipes and to assess the amount of lead present in their drinking water. Site selection depended on which occupants gave permission to collect samples. Samples were taken from either kitchen or bathroom faucets. Water was sampled using standard EPA protocols. A first draw sample was taken without flushing the tap after a minimum six-hour stagnation time. Samples were collected in 1000 ml bottles, and nitric acid was added as a preservative. Samples were analyzed by Iowa American Water's certified lab. Some water samples did contain detectable lead. However, no sample concentrations exceeded the EPA's action level. These results contrast with a previous study of untreated surface waters in the area, which found lead concentrations above the EPA action levels (Emmer, 2012). This study provides evidence that the water treated in Davenport has lead removed, and remains drinkable after passing to the home.

Joseph Cross

Project advisor: Dr. Michael Wolf, geology

Geochemical and Thin Section Analysis of Ring Mountain Serpentine

Poster Session [P1] #33: Gävle Room, The Gerber Center

Ring Mountain is a large geologic complex located on the Tiburon Peninsula in Marin County, northern California. Ring Mountain lies within a broader collection of rocks called the Franciscan Complex, which has been intensely studied by geologists due to the subduction and accretion during the Jurassic and Cretaceous periods. Ring Mountain has four main stratigraphic sections, the closest to the

surface being the Coast Range Ophiolite. The stratigraphic layers within Ring Mountain have a puzzling geologic history because their organization is erratic and defies superposition. Additionally, these rock layers have long and arduous metamorphic histories shown via identifiable physical features. The Coast Range Ophiolite contains mafic and ultramafic material, specifically mantle peridotites which have undergone serpentinization. The basis of this study is a geochemical analysis of Ring Mountain serpentinites in order to determine their affinity between abyssal, mantle wedge, or subduction zone. Nine samples were collected from Ring Mountain and analyzed for major, minor and trace element geochemical composition by XRF and textural analysis by thin-section study. The purpose of this research is to clarify the composition and identity of the serpentinites in Ring Mountain. This project will help geologists better understand serpentinization and how this process affects ultramafic material.

John Ethan Malone

Project advisors: Dr. Michael Wolf and Dr. Jeffrey Strasser, geology
Archean Geochronological and Deformational Framework of the Southern Margin of the Bighorn Batholith, Wyoming: Successive Synplutonic Shearing Between 2960 and 2840 MA

Poster Session [P1] #34: Gävle Room, The Gerber Center

The Mesoarchean core of the Bighorn Mountains of Wyoming reveals a boundary between two separate terranes. The northern part of the crystalline core is composed of the ~2850 Ma Bighorn Batholith (BhB), an undeformed composite granitic intrusion, whereas the central and southern area of the range exposes older quartzofeldspathic gneiss complexes as well as minor supracrustal rocks. The boundary between the two regions is marked by a shear zone referred to here as the Upper Paint Rock Shear Zone (UPRSZ). Eight high-resolution U-Pb LA-ICPMS age determinations of granodiorite (2), tonalite (2), migmatite leucosome (2), and mylonite (2) exposed just near Geneva Pass along the southern margin of the BhB reveal a >100-million-year history of magma intrusion and deformation. The earliest event was the intrusion of a coarse-grained tonalite between 2960-2935 Ma (and subsequently foliated). These rocks are cut by the UPRSZ. A second magmatic event involved the emplacement of unfoliated and foliated granodiorite between 2920-2900 Ma. The southern margin of the UPRSZ is marked by a ~20-meter-wide mylonite zone that dips 60-70 degrees to the north and has north side up kinematic indicators. The UPRSZ mylonite is 2876 Ma, and was active during the emplacement of the main body of the BhB exposed to the north. Late migmatite bodies intrude at 2841 Ma. The migmatite and early granodiorite each contain xenocrystic zircons as old as 3200 Ma, which indicates that the BhB assimilated some of the oldest rocks present in the Wyoming Archean province. Two conclusions can be drawn from these data. First, the BhB, at least along the southern margin, contains phases at least 100 million years older than the main phase of the body (Frost and Fanning, 2006). Second, episodes of both intrusion and shearing took place in this area as the BhB was emplaced. A comprehensive geologic map of the area has been completed, and samples for geochemical analysis are being processed; these data will aid in deciphering the origins of these magmatic events.

Mark Lundine

Project advisor: Dr. Art Trembanis, College of Earth, Ocean & Environment (University of Delaware)

Optimizing UAV Surveys for Coastal Morphodynamics: Estimation of Spatial Uncertainty as a Function of Flight Acquisition and Post-processing Factors

Poster Session [P1] #35: Gävle Room, The Gerber Center

Recent developments in unmanned aerial vehicles (UAVs) and photogrammetry software enable the rapid collection of aerial photography and video over study areas of varying sizes, thereby providing ease of use and accessibility for studies of coastal geomorphology. However, there remains uncertainty over UAV survey techniques, with disagreement on specific flight patterns, flight altitudes, photograph amounts, ground control point (GCP) amounts, GCP spacing schemes, drone models, and which SfM software to use, among other study-specific parameters. A controlled field test (of 1.2 hectares) was performed to determine SfM's sensitivity to the following flight parameters: altitude (60 m, 80 m, 120 m), photo overlap (70%, 75%, 80%), drone model (DJI Phantom quadcopter, Sensefly eBee RTK fixed-wing), SfM software (PhotoScan, Pix4D), number of GCPs (4-34), and GCP spacing scheme (even, random). Through comparisons of the root mean squared error (RMSE) relative to the GCPs, altitude affected error significantly (>1 cm RMSE difference between 60 m and 120 m), while photo overlap was the least significant parameter (only 4 mm RMSE difference between 70% and 80% overlap). Different drone models, along with varying photogrammetry software, affected RMSE significantly (>3 cm RMSE differences). Surprisingly, GCP spacing schemes were insignificant to error sensitivity (differences). The most efficient survey parameters were six GCPs per hectare of land surveyed, 80 m flight altitudes, and 70% photo overlap. This study can be immediately referenced in future studies for its insight on conducting efficient and low-error UAV surveys.

Allison Pease

Project advisor: Dr. Michael Wolf, geology

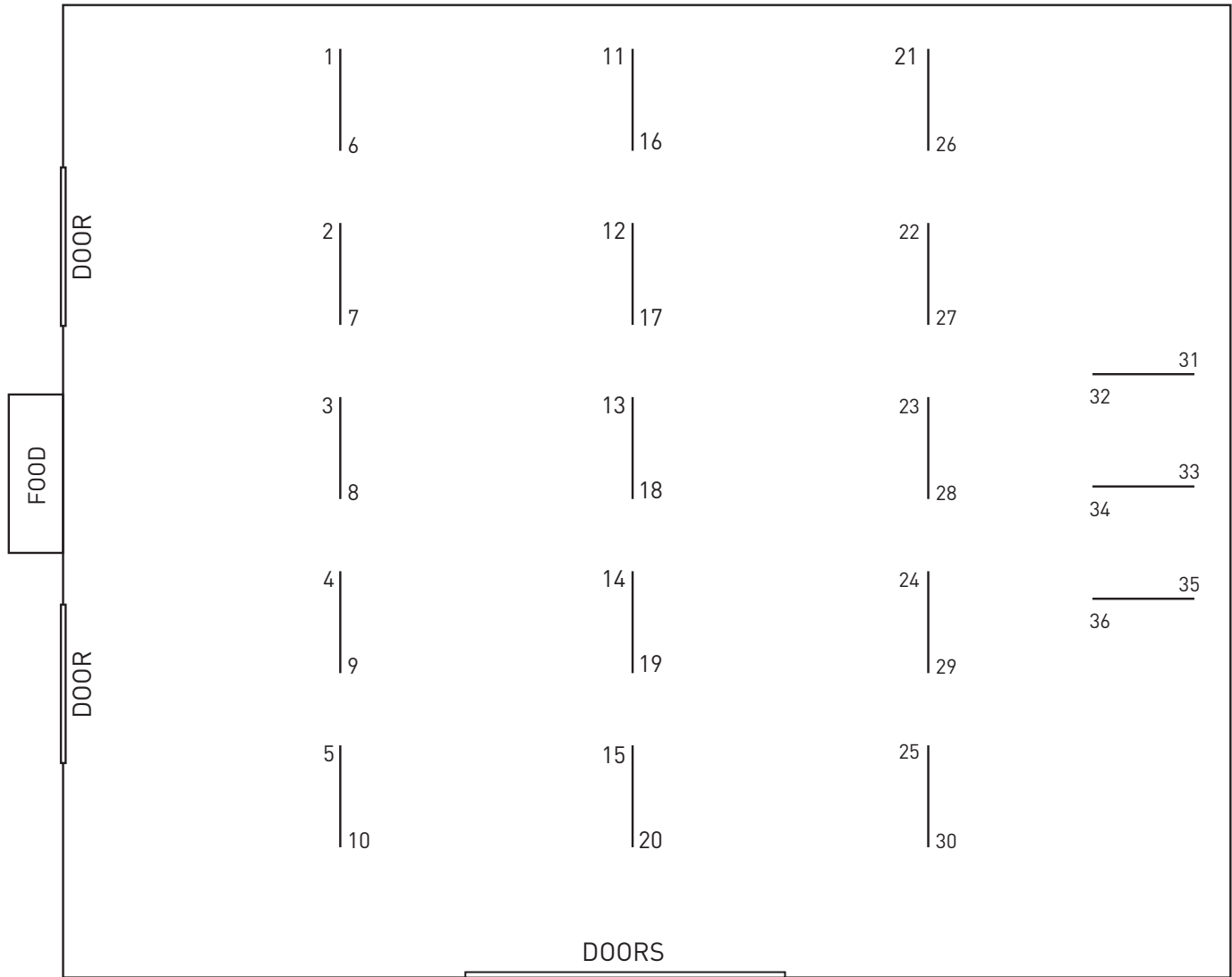
How Does Clinohumite React?

Poster Session [P1] #36: Gävle Room, The Gerber Center

Clinohumite has been observed to breakdown based on experiments conducted by Engi and Lindsley (1980) at various pressure and temperature conditions. Clinohumite has also been observed to breakdown in the Cerro del Almirez Massif of southern Spain (Sanchez-Vizcaino et al., 2005, 2009) and at various locations within the Swiss Alps. The Cerro del Almirez Massif is the largest exposure of ultramafic rock in the upper sequence of the Nevado-Filabride Complex (Sanchez-Vizcaino et al., 2005, 2009). Within the antigorite serpentinites, clinohumite appears as rock forming clinohumite, deformed veins of clinohumite and olivine, and strings of clinohumite (exsolution lamellae) in clinopyroxenes (Sanchez-Vizcaino et al., 2005). Within the deformed veins of clinohumite and olivine, two principle reactions occurred: Reaction 1, clinohumite to olivine and ilmenite; Reaction 2, clinohumite and diopside to tremolite and ilmenite. The only known documented case for reaction 2 occurred in the Cerro del Almirez Massif; we show that this reaction is experimentally possible using Augustana College's SEM/Cold-Seal Vessels and resources at Argonne National Laboratory. We were able to determine the effect of duration, seeding and water on reactions 1 and 2. For example, seeding reaction 1 and 2 produced globular ilmenite and the unseeded sample produced a large tabular ilmenite. In addition, when reaction 2 was saturated with water the crystals of ilmenite and tremolite grew larger than the dry reaction.

POSTER SESSION 2 | 3:30-4:45 p.m.

Poster Presentation Layout | Gävle Room, The Gerber Center



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|---|---|--|
| 1 Aaron Jones, Dr. Scott Gehler | 13 Autumn Erichsen, Meg Klocke,
Jenna Noesen, Jenna Dolan,
Amanda Ray, Amanda Tannhauser | 23 Kalyn Engel |
| 2 Katie Laschanky | 14 Kia Lechleitner, Phoebe Strell,
Madelin LoCicero, DaeNia La Rode,
Carla Bennett, Dr. Rupa Gordon | 24 Nicole Montgomery |
| 3 Lawrence Catalan, Fan Xiao,
Dr. James Griffith | 15 Tyler Kellett | 25 Valeria Melo |
| 4 Sarah Foreman | 16 Livy Zienty, Dr. Jamie Nordling | 26 Emma Larson |
| 5 Erin Ansinha, Melette DeVore,
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Tan Nguyen, Tyler May |
| | | 36 Blake Erquiaga |

POSTER SESSION 2

GÄVLE ROOM, THE GERBER CENTER

3:30-4:45 p.m.

Aaron Jones, Dr. Scott Gehler

Project advisor: Dr. Scott Gehler, biology

The Flavonoids Acacetin and Pinostrobin Inhibit Cell Migration and Adhesion in MDA-MB-231 Breast Epithelial Cells

Poster Session [P2] #1: Gävle Room, The Gerber Center

Cancer cell metastasis, the process by which cancer cells migrate and form new tumors elsewhere in the body, accounts for approximately 90% of cancer-related deaths worldwide. Consequently, finding new ways to hinder cancer cell metastasis is crucial for the effective treatment of late-stage cancer patients. For the last 30 years, the majority of anticancer drugs have originated in some form from natural compounds. These compounds continue to be the main source of disease treatment. Naturally occurring flavonoids have been found to have anticancer effects on various cancer cell lines. However, the effects of flavonoids have not been extensively studied on breast cancer cells. In this project, we tested the effects of acacetin and pinostrobin on MDA-MB-231 invasive breast cancer cells. Using scratch and transwell assays, both acacetin and pinostrobin inhibit MDA-MB-231 cell migration in a dose-dependent manner. However, neither of the drugs had any effect on cell proliferation when tested over a wide range of drug concentrations. In addition, both acacetin and pinostrobin produced approximately a 58% and 40% inhibition of cell adhesion, respectively. Interestingly, while both acacetin and pinostrobin inhibited cell adhesion, there was no measurable difference in focal adhesion formation, compared to the control, when treated with various concentrations of either acacetin or pinostrobin. These results suggest that both acacetin and pinostrobin mediate their effects on motility by preventing breast epithelial cell adhesion. However, additional studies are necessary to better understand how acacetin and pinostrobin alter cell adhesion dynamics to influence MDA-MB-231 cell migration.

Katie Laschanzky

Project advisor: Dr. Dara Wegman-Geedey, biology

Contact Lens Contamination and Associated Health-Related Beliefs and Behaviors: Preliminary Results

Poster Session [P2] #2: Gävle Room, The Gerber Center

Many contact lens users never encounter symptoms that require medical intervention; however, improper contact lens care can lead to severe health implications. Eye infections, bacterial conjunctivitis, microbial keratitis, or even blindness are just a few potential, but severe, outcomes of inadequate lens care. Common members of the human microbiome, such as *E. coli* and *Staphylococcus* species, can be used as indicator organisms to determine relative levels of lens care. By assessing the presence (or absence) of these microbes on a donated soft contact lens and comparing that to survey responses from the same participant, we can address two questions in this study: How does the Augustana College community compare to larger cohorts from previous studies in regard to the level of these microbes on contact lenses?; and Are there relationships among the presence/absence of these indicator organisms on contact lenses and self-reported common hygiene behaviors, basic scientific literacy, and an individual's perceived locus of control? This poster presents our preliminary data from microbiological screening of used contact lenses and a paired survey of health behaviors and beliefs related to contact lens care. The survey portion determined the participants' level of compliance to recommended contact

lens care procedures, as well as their basic scientific literacy and perceived locus of control. In previous studies on other health behaviors, the level of a person's scientific literacy was found to play a role in the ability to make educated decisions about one's behaviors when given the relevant information needed to make a decision. A person's perceived locus of control about life events (internal vs. external) has also been correlated to one's tendency to comply with recommended health behaviors in past studies. This study is the first time these measures have been evaluated for contact lens care behaviors.

Lawrence Catalan, Fan Xiao, Dr. James F. Griffith

Project advisor: Dr. James F. Griffith, medicine (The Chinese University of Hong Kong)

Reporting of Osteoporotic Vertebral Fractures Opportunistically Detected Using Thoraco-abdominal CT

Poster Session [P2] #3: Gävle Room, The Gerber Center

The vertebral fracture is the most prevalent and is usually the first osteoporotic fracture to occur. It provides indisputable evidence as to the presence of osteoporosis and, as such, should be routinely reported. This study investigated the reporting of vertebral fractures (detected on sagittal spinal reconstructions) during thoraco-abdominal computed tomography (CT) examinations in the Prince of Wales Hospital, Hong Kong.

Sarah E. Foreman

Project advisor: Dr. Jonathan Foreman, College of Veterinary Medicine (University of Illinois, Urbana-Champaign)

30-Day Oral Acetaminophen Tolerance in Adult Horses

Poster Session [P2] #4: Gävle Room, The Gerber Center

There are no controlled studies of acetaminophen toxicity in horses. The objective was to test the hypotheses that oral acetaminophen administered at a dosage 25% higher than that sometimes used in horses would result in measurable hepatic toxicity as seen in humans and other species. Six healthy adult horses were administered 25 mg/kg acetaminophen powder in corn syrup twice daily for 30 days. Three other horses served as negative controls receiving only corn syrup. Jugular venous blood samples were obtained on days 7 and 1 before treatment; on treatment days 1, 2, 5, 8, 12, 15, 19, 22, 26 and 30; and on days 3 and 7 after treatment ceased. Samples were analyzed the same day for complete blood counts and plasma biochemistry concentrations including hepatic and renal indices. Repeated measures analysis of variance and post hoc Tukey's test were used to identify differences between treatment groups at a significance level of P<0.05, and all measured values were within the normal range for this laboratory. It was concluded that acetaminophen at this oral dosage was not toxic in any measurable manner to the six horses receiving the drug in this way. It is postulated that the use of twice-daily 20 mg/kg orally should be safe for periods less than 30 days in healthy horses.

Erin Ansinha, Melette DeVore, Dr. Daniel Corts

Project advisor: Dr. Daniel Corts, psychology

How Auditory and Visual Working Memory Tasks Affect Misophonic Response Levels

Poster Session [P2] #5: Gävle Room, The Gerber Center

Misophonia is characterized by an extreme aversion towards auditory triggers, such as chewing, tapping and other repetitive sounds, making ignoring or directing attention away from the sounds nearly impossible. It is not classified as a psychological disorder, but it is associated with significant, reflexive emotional disturbances. Studies have shown that the anterior insular cortex (AIC), an area involved in detecting irregularities or errors, functions

differently in people with misophonia, which translates to difficulty in controlling emotional reactions. The present study examines how misophonic reactions might interact with cognition with particular attention to how cognitive demands may exacerbate the emotional response. I hypothesized that during auditory working memory tasks, the emotional response to trigger sounds would be more intense than during visual versions of the same tasks; further, this relationship would be positively correlated with self-reported misophonia symptoms. It is also possible that auditory working memory performance would decline in the presence of misophonic triggers. Participants completed visual and auditory n-back working memory tasks in a computer lab. Halfway through each task, a confederate at an adjacent station began eliciting a trigger sound and emotional, misophonic reactions were measured through skin conductance (SC). Participants then completed the Misophonia Questionnaire. One-way repeated measures ANCOVA with MQ as the covariate indicated a significant interaction in predicting SC response during the visual task ($F=4.239, p=.017$), but not during the auditory. This did not support the hypothesis, but is an interesting finding that could be examined further, if replicated, in future research. No significant correlations between task accuracy and SCR values over time or MQ score were found.

Melissa Drab

Project advisors: Dr. Troy Larson, biology; Dr. Eric Stewart, religion
Exploring Oral Health Education in Children in the Quad Cities
Poster Session [P2] #6: Gävle Room, The Gerber Center
Through my experiences with patients and dentists, I have learned that prevention and dental education are just as, if not more, important than the restorative procedures done in the office every day. One prominent, preventable disease is tooth decay. Even though this disease is preventable, studies show that tooth decay is the most common chronic childhood disease. There are many factors that contribute to this statistic, for example lack of resources or knowledge, or even cultural differences. My research question is: how does the level of oral health knowledge of children 6-8 years old in my community (the Quad Cities) compare to the standard determined by dental professions? I hypothesize that I will find a lack of dental knowledge in children in the Quad-City area according to the standards. In order to investigate this question, I first met with pediatric dentists in the Quad Cities. I talked with these dentists about what they see in their practices regarding disease and hygiene habits. I also learned what professionals see as the base knowledge that patients should have regarding their health and hygiene. I used this information to create a survey, which I administered to students in elementary school classrooms with the intention of clarifying what they actually know about maintaining oral health. I will compare the information I get in these surveys to what I learn from the dentists and my own research about what children should ideally be aware of at their age.

Vanessa Beck

Project advisor: Dr. Marsha Smith, sociology and anthropology
Factors of Student Success
Poster Session [P2] #7: Gävle Room, The Gerber Center
The purpose of my study is to understand student success in college. I focused a large amount of my research around extracurricular activities out of the classroom, which include clubs, sports, faculty interaction, employment, and time spent on preparation for classes. In order to understand student success, I sent out a survey to 200 students enrolled at Augustana to evaluate their responses to see what they spent their time doing. I paid close attention to the number of hours students spend on various

activities each day. The results allowed me to understand student habits, and how their involvement in extracurriculars, homework and social environments impacted grade-point averages (GPA).

Allison Brinker

Project advisor: Dr. Danielle Beliveau-Derion, education
Readers Theater as a Tool for Fluency Development
Poster Session [P2] #8: Gävle Room, The Gerber Center
This project details work with a small group of first- and second-grade students over the course of a 10-week period using readers theater to develop their fluency.

Peyton Achs

Project advisor: Dr. Danielle Beliveau-Derion, education
First-Grade Literacy Study on Monitoring and Self-Correcting
Poster Session [P2] #9: Gävle Room, The Gerber Center
Through Augustana's partnership with Longfellow, I had the opportunity to obtain a reading endorsement. As part of this process I worked with a group of first-graders and helped develop their skills in monitoring and self-correcting as they read a text.

Anna Dispensa

Project advisor: Dr. Danielle Beliveau-Derion, education
2nd-Grade Reading Research on Close Reading
Poster Session [P2] #10: Gävle Room, The Gerber Center
Through Augustana College's partnership with Longfellow Elementary School, I had the opportunity to engage in research regarding remedial reading strategies with second-grade students. I investigated the effectiveness of close reading in the elementary school classroom. From my research, it was evident that close reading boosted comprehension as well as minimized the amount of visual errors that students made.

Madeline Kohlbeck

Project advisor: Dr. Danielle Beliveau-Derion, education
Reading Clinic at Longfellow Elementary School
Poster Session [P2] #11: Gävle Room, The Gerber Center
During winter term I spent about eight weeks as a research assistant to Danielle Beliveau-Derion. During this time we researched the benefits of having a reading clinic for the struggling readers at the elementary school, as well as the undergraduate students that would run the clinic. This poster will present the positives and negatives of the time I spent at Longfellow Elementary School. It will also present student gains, as well as personal gains made during the experience.

Shelby Grandt

Project advisor: Dr. Danielle Beliveau-Derion, education
The Benefits of a Reading Clinic
Poster Session [P2] #12: Gävle Room, The Gerber Center
For 10 weeks, research was conducted over the benefits of a reading clinic for elementary students and teacher candidates. The research and findings presented are specific to one first-grader who is still learning to speak English and came to the clinic knowing how to read a limited number of words. Various literacy strategies were implemented and tested to determine their effectiveness, and conclusions were drawn based upon student and teacher candidate growth.

Autumn Erichsen, Meg Klocke, Jenna Noesen, Jenna Dolan, Amanda Ray, Amanda Tannhauser

Project advisors: Dr. Randy Hengst and Dr. Mike Egan, education

The Number Sense Project

Poster Session [P2] #13: Gävle Room, The Gerber Center

Our goal with the Number Sense Project is to help young students establish fundamental numeracy skills. We meet with kindergarten students several times a week and engage them in various activities designed to enhance their conceptual understanding of number. These activities include the use of a combination of traditional materials (i.e., traceables, counters and other physical manipulatives) and iPad apps. The apps have been inspired by our work with the students and have been designed to meet the needs of specific kindergarteners. We have found that the apps, used in addition to traditional materials, increase levels of engagement, as well as in many cases, lead students to make important discoveries regarding number. This project enables teacher candidates to apply their knowledge from the elementary math methods course, as well as collaborate with the kindergarten teachers to design and implement individualized instruction that helps students achieve their learning goals related to oral/rote counting, counting objects, identifying and writing numerals, subitizing, and adding/subtracting (composing/decomposing).

Kia Lechleitner, Phoebe Strell, Madelin LoCicero, DaeNia La Rode, Carla Bennett, Dr. Rupa Gordon

Project advisor: Dr. Rupa Gordon, psychology

Physiological Synchrony in Personal and Impersonal Conversations

Poster Session [P2] #14: Gävle Room, The Gerber Center

Previous research has shown that individuals are capable of synchronizing their heart rate, skin conductance and body temperature during conversations. For example, therapists and their clients displayed physiological synchrony when discussing emotional personal situations (Marci et al., 2007). However, the effect of personal content on physiological synchrony has yet to be observed outside of therapy context. While some studies have shown that people with established rapport often have greater synchrony (McIntosh, 2006), others have indicated that some friends may be overconfident in their communication methods (Savitsky et al., 2011), leading to decreased synchrony. We hypothesized an increase in physiological synchrony when dyads, composed of either more or less familiar partners, discussed personal topics in comparison to impersonal topics. Participants brought a partner to the study and the dyad was randomly assigned to converse for 10 minutes about either impersonal or personal questions while audio, video, skin conductance and heart rate were recorded. Most participants were highly familiar with their partners; therefore, we were unable to test our hypothesis regarding familiarity affecting synchrony of the dyads. Although we did not find a difference in physiological synchrony based on the personal or impersonal nature of the conversations, our results for synchrony between dyads was similar to the mean reported in previous research. This indicates that synchrony occurred between the dyads regardless of the personal content of the conversation.

Tyler Kellett

Project advisor: Stephanie Fuhr, biology

Effect Sizes in Task-Based Functional Magnetic Resonance Imaging

Poster Session [P2] #15: Gävle Room, The Gerber Center

Task-based functional magnetic resonance imaging (t-fMRI) techniques have changed the way scientists probe the neurological mechanisms underlying behavior. However, there are many problems surrounding t-fMRI. Especially underpowered studies

leading to misleading effect sizes. This study is using a recent large data collection study, the Human Connectome Project, to investigate effect sizes in specific regions of the brain involving working memory. Previous studies have come up with relatively small effect sizes due to small sample sizes and large regions of interest (ROI). This study is concentrated on using more precise ROI, called "parcels," to find larger effect sizes.

Livy Zienty, Dr. Jamie Nordling

Project advisor: Dr. Jamie Nordling, psychology

Fathers Are Helping, Mothers Are Hovering: Differential Effects of Helicopter Parenting in College First-Year Students

Poster Session [P2] #16: Gävle Room, The Gerber Center

Self-Determination Theory (SDT; Deci & Ryan, 1991) states that humans have three critical needs – autonomy, competence, and relatedness – that are necessary for optimal development. The current study posits that helicopter parenting (i.e., excessive parental involvement and attention) may interfere with the development of these needs; previous research has found links among helicopter parenting, greater mental health symptomatology, and decreased autonomy (Schiffirin et al., 2014). The current study focused on first-year college students who were experiencing significant changes in social and academic domains. It was hypothesized that first-year students with helicopter parents would be more likely to experience negative outcomes (i.e., greater depression, panic, social anxiety, sexual and substance risk taking, peer insecurity, and less social and academic competence). First-year students completed online questionnaires to assess the negative outcomes described above. Higher scores in mothers' helicopter parenting were associated with greater depression and social anxiety. Higher scores in fathers' helicopter parenting were associated with greater social competence and peer security and less depression. The pattern of results suggests that mothers' helicopter parenting was associated with negative outcomes, whereas fathers' helicopter parenting was associated with positive outcomes. Previous research has generally found that helicopter parenting is problematic for development; our research found that mothers' and fathers' parenting may be viewed differently. Mothers may have been perceived as being intrusive, whereas fathers may have been seen as protective. Future research should examine the different perceptions of mothers' and fathers' helicopter parenting and examine why these different perceptions exist.

Kayli Ahuja, Melissa Hagerty, Jenny Townsend

Project advisor: Dr. J. Austin Williamson, psychology

Social Support, Depression, and Life Stress: A Meta-Analytic Path Analysis

Poster Session [P2] #17: Gävle Room, The Gerber Center

Previous research has shown a negative correlation between perceived support and depression. Findings regarding the association between received support and depression have been mixed. Some studies have observed negative correlations between received support and depression. Others have found no correlation or even a positive correlation between received support and depression. This study used meta-analysis to explore the difference between perceived support and received support with regard to their correlation with depression. Results showed that perceived support was negatively correlated with depression. However, received support was not significantly associated with depression. In order to understand the difference between these two correlations, we investigated life stress as a potential confounding variable. Given that previous research has demonstrated a strong positive correlation between stress and depression, the fact that

stress may have a different impact on received versus perceived support could explain why those two constructs show different relationships with depression. Path analysis of the meta-analytically derived correlations showed that the correlation between received support and depression was stronger and statistically significant when controlling for life stress. The correlation between perceived support and depression was weaker after controlling for life stress. Perceived support is more strongly related to depression than received support, but part of this difference can be explained by the different effects of stress on these two forms of support.

Matthew Koch

Project advisor: Dr. Lena Hann, public health

Spatial Epidemiology of Summer Trauma in Scott County, IA: Use of GIS to Identify Trauma Incidence in Urban and Rural Areas

Poster Session [P2] #18: Gävle Room, The Gerber Center

Traumatic injury is a blanket term referring to acute physical injuries that pose an immediate threat to life and limb, requiring urgent medical care. Unintentional injuries are the fifth-leading cause of death, and fatal injuries cost the American economy over \$84 billion annually in lost work and medical costs. Scott County, Iowa, is a unique environment for trauma research because it is served by a single trauma center and features within its 458 square miles distinct urban and rural populations. Patient data from the trauma registry, including age, race, and mechanism of injury (MOI) was combined with the corresponding spatial data from the Scott Emergency Communications Center (SECC) to build an integrated spatial dataset. The spatial data was then visualized using geographic information systems (GIS) software to create a heat map of trauma incidence. This heat map and corresponding dataset were used to identify extreme outlying areas of trauma incidence and determine which mechanisms of injury were most prevalent in Scott County. This research project enabled stakeholders to assess the impact of trauma on the Scott County community, identify environmental factors contributing to trauma incidence, and position resources appropriately to respond to traumatic injuries. Furthermore, this project demonstrated the efficacy of GIS to accurately assess, map and analyze complex healthcare and public health issues.

Jacquelyn Grygiel

Project advisor: Dr. Lena Hann, public health

Take Note: Distributing Informational Materials Regarding Childhood Lead Poisoning in Low-Income Elementary Schools

Poster Session [P2] #19: Gävle Room, The Gerber Center

Lead poisoning is a serious illness, especially in younger children. Adolescents with high levels of lead in their bodies can suffer from learning disabilities, brain damage, and even kidney failure. However, these symptoms are difficult to identify and only a blood lead-level test can confirm lead poisoning. Unfortunately, high blood lead levels are most prevalent among lower income families who are often unable to afford such tests. The Scott County Health Department, in partnership with the Upper Mississippi Center, has developed the Live Lead Free Program in order to raise awareness concerning childhood lead poisoning and educate individuals within the Davenport Community School District on helpful prevention techniques. Together the organizations identified and targeted students in Title I schools, which are elementary schools that have large amounts of students coming from low-income families, as a potential at-risk population who could benefit from outreach. The Theory of Reasoned Action was applied to create and disseminate informational materials to families of children in Title I schools in order to increase awareness of lead poisoning prevalence along with the availability and importance of blood lead-level testing. Along with educational materials handed out through schools, a guide

for the Upper Mississippi Center documenting the steps needed to ensure proper distribution of these educational materials was also created to provide assistance as a reference for future works with the Davenport Community School District's Title I schools. There was a need for the Scott County Health Department and the Upper Mississippi Center to build strong relationships between themselves, community liaisons, and school administrators; by doing so, they gained support in their efforts towards getting at-risk children tested for lead poisoning. The resulting increase in awareness of childhood lead poisoning in areas where the illness is most common is crucial for the overall health of children in this community.

Hannah Kiel

Project advisor: Dr. Lena Hann, public health

Pumping Up Breastfeeding: A Toolkit for Black WIC Mothers

Poster Session [P2] #20: Gävle Room, The Gerber Center

Breastfeeding rates have been increasing since the 1970s, but the rates for black mothers in the United States are still significantly below the average. Because breastfeeding is one of the best preventative health measures for mother and child, it is important for as many people to breastfeed as possible. Using the Social Cognitive theory of behavior, a careful analysis of breastfeeding studies was conducted to determine the best interventions and resources for successful breastfeeding. Based on this research, the resources were compiled and posted to an easy-to-access online toolkit, which can be accessed through a search engine or through a URL. The Rock Island County Health Department and Moline WIC office will use this toolkit to enable black WIC mothers to breastfeed.

Rebecca Nyarko

Project advisor: Dr. Lena Hann, public health

Let's Take a Trip: Exposing Female Refugee Teens to Career Paths Through Field Trips

Poster Session [P2] #21: Gävle Room, The Gerber Center

It is estimated that 1 in every 230 persons in the world is a child or adolescent who has been forced to flee from home, and World Relief Moline assists in helping refugees. It is known that refugee migrants are at a disadvantage to thrive due to constraints by the geographic economic bound-ness of their social network and limited opportunities. According to research, refugee migrants receive little academic attention, which clarifies the importance of building opportunities for refugee teens to further their education through career-based field trips. Field-based learning exposes students to real world settings. This is an effective approach for young female refugee teens to build and establish relationships with people within the community. Progress was made towards this project through literature review and paired with the Social Network Theory to develop workshops for female refugee teens. The project will result in creating an interactive workshop, which will be an addition to the Global Leaders Program, which aims to help female refugee teens to become leaders and mentors. The workshops will be used to facilitate learning through field trips, which will impact female refugee teens. The project aims to improve literacy, language and leadership skills; to expose female refugee teens to different career paths, and to increase self-confidence to become better leaders and mentors.

Summer Lawrence

Project advisor: Dr. Lena Hann, public health

Twitter Use in Nonprofit Public Health Agencies: A Best Practices Strategy Report

Poster Session [P2] #22: Gävle Room, The Gerber Center

Social media is a relatively new, low-cost tool nonprofit organizations can use to mobilize volunteers, ask for donations, advertise events, and communicate with stakeholders and interested parties. Among the Quad Cities Open Network (QCON), a collaborative of 42 human service agencies in the Quad-Cities area, only 16 member organizations have a Twitter account. Overall Twitter usage, however, is on the rise, which demonstrates a need for nonprofit organizations to learn to use this platform. Through content analysis of QCON members' Twitter accounts (n=16), current Twitter use was assessed. Tweets by QCON members with Twitter accounts were collected for six months (July 2017-January 2018) and were categorized by subject matter (e.g., general program information, promotion of an event, etc.) to give quantitative data on how Twitter was being used by these agencies. Findings were compiled and used to create a Best Practices Strategy Report. This report, which was influenced by the Social Network Theory, evaluated QCON members' current Twitter use and provided best practices to promote effective Twitter use among nonprofit public health organizations in the Quad Cities. Since many nonprofit public health agencies, like those in the QCON, do not have staff dedicated to managing their social media presences, effective use—high return per time invested—will be key. QCON member organizations will have access to the Best Practices Strategy Report, which should help guide their Twitter use and improve their interactions with their intended populations.

Kalyn Engel

Project advisor: Dr. Lena Hann, public health

The Blood Trend: The Awareness and Understanding of Blood Donations with the American Red Cross

Poster Session [P2] #23: Gävle Room, The Gerber Center

Through the sociodemographics around the area, we tend to focus more on the high school populations that help the community's efforts in saving lives. As far as the supply and the demand goes for blood donations, the Baby Boomers are at risk for new donors. My work through the Red Cross has helped me find ways to raise awareness and increase the blood donations through the help of blood drives. They have helped me manage and inform myself on how a blood drive should be run through observations and volunteer work at several blood drives. My work has helped me create and coordinate my own blood drive through Augustana's campus. I got to learn how to put on a functioning and successful blood drive that I brought to Augustana's community. The blood drive helped out many people in the community, where our goal for next time is to make some changes to increase the blood units. The blood drives impact many people in the area who are in need of blood and blood transfusions. It is important that after the Red Cross received the urgent blood shortage alert, it means that many people who needed blood could not get the blood that they deserved. The shortage means that physicians can pick and choose what blood goes to what people, and that could make or break families' lives.

Nicole Montgomery

Project advisor: Dr. Lena Hann, public health,

The Path of Stroke Care: Nurse Education Materials For UnityPoint Health Trinity Medical Center

Poster Session [P2] #24: Gävle Room, The Gerber Center

Stroke is the fifth leading cause of death in the United States. Every year, about 795,000 people in the United States have a stroke. National best practice measures regarding stroke care are promoted through the quality and education department at UnityPoint Health Trinity Medical Center. Trinity's nurses are encouraged to update their skills at the annual Spring Fling informational fair. Through working with the quality and education department, informational materials regarding the care path of a stroke patient were created and delivered in order to educate nurses about these national best practice measures. This project utilized interpersonal communication models to increase knowledge of multi-departmental roles in the care of a stroke patient, as well as daily care best practices. Nurse education materials, including a professional poster, were created to highlight the importance of assuring a competent public and personal health care workforce. Through Spring Fling, nurses were exposed to information in a comfortable environment where they are challenged to continue their education. In this way, these nurse education materials promoted best practices and facilitated education across departments to assure better quality stroke care through creating a more competent workforce.

Valeria Melo

Project advisor: Dr. Lena Hann, public health

Helping Teal Warriors Thrive: An Ovarian Cancer Survival Toolkit

Poster Session [P2] #25: Gävle Room, The Gerber Center

As the health care system continues to increase in complexity, ovarian cancer (OC) patients are facing increased challenges when it comes to navigating the health care system and receiving care that treats the whole person. There is a need for public health resources, such as survivorship toolkits, that educate women diagnosed with OC about the disease and connect them to resources that aid in addressing the cohort of social, psychological, spiritual and physical challenges that come with an OC diagnosis. An OC survivorship toolkit for the NormaLeah Ovarian Cancer Initiative in Rock Island, Ill., was developed using document review methodology. Both authoritative documents (e.g., review articles, research papers, surveys, documented support services, pre-existing OC survivorship toolkits) and personal communication documents (e.g., survivor testimonies and feedback) were collected and synthesized into a portable toolkit. The transactional model of stress and coping was used to understand the needs of ovarian cancer patients and to guide the content development of the toolkit. The toolkit was designed to increase knowledge on the disease and disease management, enable coping efforts, and connect women to available resources. Distribution of the toolkit to women in the Quad Cities and the surrounding area will educate, inform and empower OC patients to undertake positive sick-role health behaviors that will lead to the best possible health outcomes.

Emma Larson

Project advisor: Dr. Lena Hann, public health

Recovery as a Journey, not a Destination: Providing Those Who Suffer from Mental Health with Holistic and Multifaceted Recovery Options

Poster Session [P2] #26: Gävle Room, The Gerber Center

Mental health in the United States affects 1 in 5 people every year. It is a serious public health problem because it interferes or limits life activities substantially. Not only does mental ill health

decrease quality of life for those suffering from it, it also creates barriers to healthy lifestyles and increases risk of addiction to drugs and alcohol. Battling mental illness from multiple different aspects allows individuals to reach full recovery faster. Through observation of client problems and daily stressors at Transitions Mental Health Services in Rock Island, a lack of knowledge about resources, options and educational tools was identified. By using the transactional model of stress and coping, harm, stress, trauma and other barriers that occur when battling mental health problems were identified in the population. This deliverable project created a holistic health approach to recovery. By providing an educational tool kit of recovery, the results culminated with the re-establishment of emotional well-being and healthy behaviors, and increased the functional status of each client at Transitions. Using theory-based intervention plans along with well-researched information regarding recovery plans, this information will be used by people suffering from mental ill health in order to maintain the highest level of functioning in their everyday lives. This educational tool kit is also formatted specifically to be updated as new research emerges on the topic of holistic approaches to recovery.

Corey Lepoudre

Project advisor: Dr. Lena Hann, public health

Combatting the Opioid Crisis on College Campuses: A Harm Reduction Approach

Poster Session [P2] #27: Gävle Room, The Gerber Center

College-aged people are at a high risk of opioid misuse due to several risks, including: an increased opioid misuse in people between the ages of 18-25, those who experience daily elevated stress, and those who live in metropolitan areas or in the Midwest region of the United States. Due to these risks, a harm reduction initiative geared toward college populations is beneficial to prevent a further increase in opioid misuse and overdose. A harm reduction approach was used to develop an educational toolkit for Quad City Harm Reduction to conduct a one-hour workshop for college faculty and students. Harm reduction aims to reduce harmful consequences associated with opioid misuse, provide an alternative to abstinence, provide a safe environment for those who have opioid use disorders, and provide easier access to services. A workshop, using a PowerPoint presentation, was piloted to assess the toolkit. The toolkit was then updated based on participant feedback. The toolkit was developed to better inform individuals about how opioids work, their risk of opioid use disorders, what an opioid overdose looks like and how to save someone from an overdose, and equipped them with naloxone to save someone who has overdosed. This toolkit will be a useful tool for Quad City Harm Reduction when presenting to college communities.

Charlotte Engle

Project advisor: Dr. Lena Hann, public health

Navigating Medicaid and Managed Care Organizations of Iowa

Poster Session [P2] #28: Gävle Room, The Gerber Center

Policies regarding Medicaid and managed care organizations (MCOs) have been changing rapidly with the current political climate. Because of these frequent changes being made into policies, a lack of knowledge regarding benefits of MCOs and Medicaid is prevalent among the clients of the Integrated Health Home (IHH) program of Family Resources, Inc. in Davenport, Iowa. An Iowa Managed Health Insurance (IMHI) resource guide was developed using the health literate care model to introduce and explain the benefits of the

MCOs and Medicaid plans to the families of the individuals enrolled in the IHH program, and give clients the resources necessary to access the programs that they are eligible for. The goal of the IMHI resource guide is to empower clients with the knowledge regarding their health insurance plans, so that they can take agency in their health and get involved in the programs that fit their needs best. To obtain the information for the IMHI resource guide, general research about the health insurance plans and the programs they provide was completed. To format the IMHI resource guide, research regarding health literacy and health toolkits was completed. IMHI resource guides are to be distributed to clients through health promotion packets in the mail and emails. They will be used as a way for IHH employees to provide their clients with resources that will inform them about their specific health insurance plans and lead them to services covered by their health insurance plans that are specific to their needs.

Emily Haygood

Project advisor: Dr. Lena Hann, public health

A Big Issue at Hand: An Educational Tool on Hand Hygiene for New Hires

Poster Session [P2] #29: Gävle Room, The Gerber Center

Hand hygiene is the single most important intervention to decrease the likelihood of cross infections in health care facilities. It is estimated that hand hygiene compliance is currently less than 50% among health care workers. This project utilized the theory of planned behavior to create an educational tool for hand hygiene. Health care workers at UnityPoint Health-Trinity Hospitals in the Quad Cities were observed through an app called Iscrub. While completing rounds, health care workers were observed to see if they used an alcohol-based hand rub or washed their hands with soap and water when entering or leaving a patient's room, which was then documented through the app. From the observations made, it was clear that interventions were necessary to improve the compliance of hand hygiene among the health care facilities. Alongside other efforts being made, education was one of the best tools to utilize for change. In efforts to educate health care workers, a PowerPoint was created to present at each new hire orientation. By creating this visual, it can inform all new hires of proper protocol for hand hygiene in the workplace.

Jenna Lawrence

Project advisor: Dr. Lena Hann, public health

How Redesigning YMCA Tours Can Increase Membership and Lead to a Healthier Community

Poster Session [P2] #30: Gävle Room, The Gerber Center

According to the Centers of Disease Control and Prevention, 36.5% of American adults and 17% of American children are obese. Because of this, health interventions that prevent and reduce health behaviors related to obesity should be created and analyzed. The YMCA provides a space for community members to improve their overall health through facility access, fitness classes, personal training, and knowledgeable staff members. As an effort to add a health intervention that prevents and reduces health behaviors related to obesity, a YMCA Tour Card and a Wellness-Based Tour were developed using the Stages of Change Health Behavior Theory. The Tour Card asked community members who potentially join the YMCA to provide basic personal information, what YMCA activities they were interested in, and why they were looking to join the YMCA. Based on this information, a Wellness-Based Tour structure was

refined so that YMCA staff members gave these potential members a tour of the facility based on what individuals filled out on their tour cards. The YMCA Tour Card and Wellness-Based Tour was created and given to the Scott County YMCA locations in Davenport, Iowa, and the surrounding areas for the use of YMCA Membership Services Representative staff. In the future, YMCAs should use the Tour Card and the Wellness-Based Tour to provide community members an opportunity to see how the YMCA can benefit their personal health goals and eliminate their personal health risks, such as obesity.

Kevin Claus

Project advisor: Dr. Lena Hann, public health

Routine Cleaning in Homes with Lead to Reduce Childhood Lead Exposure in Scott County, Iowa

Poster Session [P2] #31: Gävle Room, The Gerber Center

Constant exposure to lead poses a major threat to children's health. Children who are constantly exposed to lead could experience cognitive impairment and neurobehavioral damage with blood-lead levels as low as 5 mg/dl. As of today, lead-based paint is the most common source of lead exposure for children. Routine cleaning of areas within and around the home can be an effective way to reduce a child's exposure to lead. A thorough literature review revealed cleaning methods aimed at reducing childhood lead exposure involve the routine cleaning of windows, floors, upholstery, kitchen and bathrooms. Application of the Health Belief Model assisted in the creation of a cleaning guide intended to help parents reduce their child's exposure to lead. Instructions on the guide are described at an elementary reading level to reduce perceived barriers and increase self-efficacy. This cleaning guide was created for parents who have a child that is poisoned with lead or have a child who is at risk for developing lead poisoning. Using the guide to perform routine, consistent cleaning of areas within and around the home will result most significantly in reduction of lead exposure. By incorporating an effective cleaning procedure into their weekly routine, parents can reduce their child's exposure to lead. This guide will be used by the Scott County Health Department to provide parents with the steps needed to reduce their child's exposure to lead.

Sara Hovren

Project advisor: Dr. Lena Hann, public health

Leading Through Church Outreach: A Toolkit Empowering Communities Affected by Childhood Lead Poisoning

Poster Session [P2] #32: Gävle Room, The Gerber Center

Although lead paint has been banned since 1977, many homes still have existing lead paint that can flake off and create an ingestible toxic dust. In 2016, there were 175 outstanding cases of children under the age of 6 with harmful levels of lead in their blood in Scott County, Iowa. The Health Department addresses cases of childhood lead poisoning by locating the source of lead and giving nutrition education and medical resources to the affected families. A thorough literature review yielded best practices for targeting organizations that could help address lead poisoning. Churches and faith organizations were identified as locations that could reach at-risk populations. A GIS risk model was used to identify neighborhoods in Scott County that could potentially have high risks of lead exposure. Churches were then located in the higher-risk areas and a discussion with a local faith leader demonstrated the need for comprehensive outreach strategies and materials. The Health Belief Model guided the development of a toolkit that aimed to address this specific population's needs. The toolkit aims to spread awareness among congregants of childhood lead poisoning in Scott County, and to educate members on effective household hygiene to reduce their risk of lead exposure, and proper nutrition

for lowering blood lead levels. This toolkit will be used by the health department to not only educate congregational members, but also for other organizations wanting to educate their members on childhood lead poisoning.

Maricarmen De La Rosa

Project advisor: Dr. Lena Hann, public health

It's On Us: A Formal Proposal for the Creation and Implementation of a Student-Led Victim Advocacy Group at Augustana College

Poster Session [P2] #33: Gävle Room, The Gerber Center

Sexual assault on college campuses is regarded as a public health issue affecting many students. College campuses across the nation are implementing new sexual assault prevention strategies. While there are different strategies to combat sexual assault, one strategy that shows promise is student-led victim advocacy groups. Victim advocates can provide various forms of support for sexual assault victims. Students also feel more comfortable speaking with a victim advocate. Using a community-based participatory research approach, a formal proposal was created for administrators at Augustana College, to allow a student victim advocacy group on campus. Upon approval of the proposal, certified student victim advocates will be able to provide their services to the Augustana College community.

Nicholas D. Phalen

Project advisor: Dr. Lena Hann, public health

Homeruns for Health: An Intervention Using Sports to Increase Physical Activity in Kids Attending an After-School Program

Poster Session [P2] #34: Gävle Room, The Gerber Center

This health behavior intervention targets the physical activity of kids (ages 6-14) at the Boys and Girls Club of the Mississippi Valley in Moline, Illinois. This intervention was developed with the application of the Social Cognitive Theory (SCT) during a 10-week long internship at the Boys and Girls Club of the Mississippi Valley's (BGC MV) facility. A trend of lengthy "screen time" and a lack of emphasis on the importance of physical activity were both noticed during said internship. To address these observations, help was sought out from varsity athletic programs at Augustana College, a private institution in the area. The goal of this intervention is to have the club members be active for at least one hour a month with the help of Augustana College varsity athlete volunteers. Each month, a different team will volunteer to teach the kids about its respective sport and the benefits of staying physically active, and play the sport with the kids. This intervention will also instill positive lifestyle habits in the club members by educating them on the importance of being physically active, teaching them the rules of sports to pique their interest, and allowing them to participate to get the experience and feel for the sport. It is important to expose the kids to healthy habits so that they can start to build these habits during their adolescence and carry them on into adulthood.

Jared Haeme, Kyle McCaw, Tan Nguyen, Tyler May

Project advisor: Dr. Forrest Stonedahl, mathematics and computer science

Project Whirligig: Modeling the Swarming Behavior of Whirligig Beetles

Poster Session [P2] #35: Gävle Room, The Gerber Center

This project involved the automatic identification and extraction of whirligig beetle locations from video frames using a variety of computer vision and machine learning methods, and tracking the beetle locations over time. Preliminary work was also done on agent-based computer simulation that aims to replicate the beetles' swarming motions.

Blake Erquiaga

Project advisor: Dr. Forrest Stonedahl, mathematics, computer science

A Swashbuckling Adventure in Game Development

Poster Session [P2] #36: Gävle Room, The Gerber Center

On my own time, I created a computer game that I call "BootyHunter: A Swashbuckling Adventure." The game is a top-down arcade shooter that features waves consisting of four types of regular enemies and 11 different bosses. I strove to fill the game with unique and deep features—the map is randomly generated each time the game is played, the player's ship handles differently depending on the direction the wind is coming from, the player's health is reflected in the color of the ocean, and much more. This was my first time ever making a video game, and it took me roughly eight months to complete. All of the source files are on my GitHub profile at github.com/cberquiaga/BootyHunter, where you can also see the contributions of some of the people who helped me. The game is hosted online at bootyhuntergame.com.

SENIOR ART SHOW

10:45 a.m.–12:45 p.m.

AUGUSTANA TEACHING MUSEUM OF ART

Featured Artist Presentations: 10:45–11:15 a.m.

Senior Student Artist Shows and Discussions:

11:15 a.m.–12:45 p.m.

SENIOR ART SHOW: PRESENTATIONS

Augustana Teaching Museum of Art, Centennial Hall

[10:45–11:15 a.m.]

Brianna Jepson and **Christine Marchi**, the 2018 featured artists, will introduce the Senior Art Inquiry session of the Department of Art's Celebration of Learning. Following the featured speakers, all seniors completing Senior Inquiry this year in art and graphic design will be present to discuss their process and results in poster-like sessions.

ARTIST STATEMENTS

Augustana Teaching Museum of Art, Centennial Hall

[11:15 a.m.–12:45 p.m.]

Comet J. Blecha

Project advisor: Vickie Phipps, art

The Audience

The inspiration of this project came from Japanese Kabuki theater, where the audience draws from the live action in front of them. In Kabuki theater, there is a fluidity between the audience and actors through the experience they share. I wanted to achieve a similar outcome by drawing my experiences at concerts and events that I attended and produced them as future posters. I was also influenced by the work of Henri de Toulouse-Lautrec, who is known for his posters of Can-Can dancers. He created posters to advertise upcoming events and his work shared many similarities with Japanese ukiyo-e prints. These shared elements—flat color, tilted perspective, outlines and everyday subject matter—interested me and my love for graphic design. This project was a way for me to get back to my roots of drawing and working slowly, while also being able to utilize my graphic design skills. Half of the posters you see here are the original works in black and white and the other

half consist of posters that were cleaned up and colored digitally.

This investigation was about the value of human experience and hand-drawn works. In John Maeda's book, *The Laws of Simplicity*, he states "some things can never be made simple," and you fail, but failure is a part of learning. In our society we are taught that value is placed on time, and that time is money. However, we are not taught to value human interaction in the same way. Instead we learn that in the workplace, human interaction is a distraction. I believe there is a notion of the subjective that should be valued. Therefore, I created a series of hand-drawn works that represents some of my own experiences of working slowly.

Grace Iaquinta

Project advisor: Vickie Phipps, art

Here

Each generation has brought a new, more complex response to the question: What does it mean to be here? The implications of being present have evolved with the intensification of technology and our attachment, even dependence, on it. This piece investigates the dynamism of what it means to be present, to be still, and to be engaged.

Brianna Jepson

Project advisor: Megan Quinn, art

Movements

My work consists of five ceramic pieces that each represent a human torso and that follow the movement and texture of nature. The pieces are inspired by the natural movement found in nature, valleys, canyons and rivers. Each piece has unique textures and movements carved into the clay. The pieces fit together to represent the course of a river or a crevice in a canyon. As one, the pieces create their own movement and texture to represent a landscape. Inspiration for my work comes from my connection with nature through running and spending time outside. I have been a long-distance runner for eight years and learned to appreciate the beauty of nature. Running has taught me to find beauty in the movements of running through various landscapes and seasons. I feel the most connected to nature when I am running outside and experiencing the movement of my body and the movements of the elements around me. My work was influenced by the ceramicist Adriane Arleo and her work with nature and human figures. Arleo's work exemplifies a visual relationship between humans and nature. I aim to create the essence of my feeling for the unity I find between nature and humans.

Rebecca Kelly

Project advisors: Megan Quinn, Peter Xiao and Vickie Phipps, art

Senior Art Show

Art is intimate and involves closeness and understanding with one's self, as well as the materials. As a ceramic artist, I aim to capture emotions and experiences that are personal yet universal, and beckon the viewer to come closer. I combine wheel-throwing with hand-building aspects to create something unique and showcase the skills I have developed. Wheel-thrown pieces have a symmetrical beauty to them that is difficult to achieve with hand building. Hand construction has a complex nature that allows the maker to improvise and change over a series of days rather than mere minutes at a wheel. Because of the combination of these practices, I am able to capture a particular style of form that expresses variation with static tension in an aesthetically pleasing way. The forms I have created provide a range of visual representations focusing on the idea of circulating motion. I could not resist the urge to make smaller, more compact forms when wheel throwing, as they require one to engage in close proximity. My goal is to capture the contradictory aspects of fluid and finite clay. As humans, we

are always balancing constant change with the permanence of our decisions. I hope to spark a sense of new experience and interest in viewers while also holding a sense of familiarity through human experiences.

William Lawrence

Project advisors: Vickie Phipps and Peter Xiao, art; Claire Kovacs, Augustana Teaching Museum of Art

What is a Transistor?

This fall, I took the challenge of creating a series of infographic posters for a difficult physics topic: transistors. I took on this task because, being a double major in engineering and graphic design, I understand the difficulties students have with the topic, and the positive aspects that visual learning brings to the table. Each poster contains a dynamic color palette with varying balances of the objects shown. The point of this piece is to express a topic that is usually taught analytically, in a more visual way. Being a visual learner myself, I understand how hard comprehending certain topics in an analytical way can be. Certain physics topics have thus flown over my head because I just could not grasp the concept without seeing a physical representation of it. My hope is to create a series for a topic where I can now see a physical example of what it is able to create to try and get a better understanding. The work itself is a series of three posters, each representing different forms of electronics and the power that transistors hold. Each separate poster has a varying color palette, main subject, and balance within each separate element. The main text explains how each poster can function by transistors. Combining these three elements is what allows me to get across a message on what these transistors can do.

Christine Marchi

Project advisors: Peter Xiao and Vickie Phipps, art

Of Dragons and Daydreams

Have you ever gotten caught in a daydream? One that flows through your mind on a whim, taking your stream of conscious hostage? Have you ever run along with that dream? Let it grow and blossom into a network as your mind passes through colors and feelings beyond what any reality could give you, only to be brought back by a sharp slap on your desk as your professor snaps you out of this enticing realm of thought? These thoughts and feelings are how my art comes to be. Some rogue emotion gone wild with a mind of its own, until it's just too big to keep contained any longer, so the idea gets rendered on paper. Physical images of how I have felt or depictions of characters that had decided to take my mind for a ride. These characters are the main drive of my artistic process, inspired by dragons, epic fantasy, and the beauty I find in the vast unknown reaches of outer space. Each character is unique and comes with its own story. I favor some over others, but when it comes down to it each one represents a piece of who I am, hidden or visible to a stranger's eye. Graphite has always been my preferred medium, however its monochrome tendencies failed to show how my thoughts tend to come in bursts of color. So why not let your mind wander amongst the colors for a time, and come explore the realm of dragons and daydreams.

Brock McNinch

Project advisors: Vickie Phipps, Peter Xiao and Megan Quinn, art

Bottled Up: Explorations in Permanence

As a colorblind artist, what I appreciate about my art is its form over color. This drew my eye to ceramics and specifically pottery. For me, form is key when it comes to my work, and everything else from texture to glaze is secondary. The fact that a form needs to be created first before any other detail really allows me to focus on what I appreciate most. The body of work I created for this exhibition explores one of my favorite forms in the bottle. The five

groupings of three show a variety of size, shape, glaze, clay and technique, all while relating to each other through the bottle form. I used three clay bodies, six glazes, multiple textures, and two firing methods to create variety. The subtleties in the wood-fired pieces make them my favorite of the exhibition followed by the pierced pieces. Something I find interesting about pottery is its role throughout the course of history as work with purpose and function. Rarely has pottery been considered fine art, as would paintings or sculpture, because of its functionality. Pottery was used for storage, transportation, eating and drinking. Its appearance in history can be matched with the beginnings of civilization and continue to be present in relatively similar functions. I've also been intrigued by the permanence of ceramics. Since my pieces are essentially stone, they will outlive myself and leave a piece of me for the future to see.

Madalynne Russell

Project advisor: Megan Quinn, art

Matyox

Matyox means "Thank You" in the Kaqchikel Mayan language. My work is an expression of gratitude to those in my life who have supported me. It portrays the people in my life who have helped me get where I am today. My parents, in particular, have worked very hard to give me the opportunity to attend college and receive an education from an incredible institution. They continue to support me through my career and personal decisions, and do all they can to lift me up. I recently had the opportunity to participate in a study-abroad program in Guatemala—an experience that could be summed up with the word "Maytox," or "Thank You." This experience allowed for me to be educated on many important issues, and opened my eyes to just how blessed I have been throughout my lifetime. Just as these pieces lift one another up and support each other, I have been blessed with many individuals in my life who have done the same for me. I am tremendously thankful for my friends, and especially my family, who have been my lifelong support system. Matyox is my way of saying "Thank You" to all of those individuals who provided the support that has allowed me to grow into the woman I am today.

Kate Schreder

Project advisors: Vickie Phipps and Peter Xiao, art

Reimagined

I remember when I was a little girl, I loved playing in the backyard and letting my imagination run wild. In my mind, I would be able to create a fantasy world. I could come up with the craziest adventures in my make-believe world. My imagination allowed me to go to places where I didn't have to worry. It was my happy place. Looking back on these memories now, I realize that during the process of growing up, people start to lose their creative imagination. When people start to get older, they are faced with a harsh reality and get caught up in life. They lose time only focusing on their daily tasks and assignments. Sure, adults still do like to imagine things, but it's never quite as playful. I think imagination is important to have because it allows a person to escape from the stresses of reality. For my Senior Inquiry project, I wanted to reexamine the idea of imagination and relive my childhood fantasies. Perhaps we all can see a little of our childhood dreams in these images displayed. The artist Salvador Dali inspired this project. Most of Dali's paintings fall into the idea of surrealism, and he liked to focus on the subconscious mind. Being able to see things in a different way helps form creative ideas, and makes it easier for someone to use their imagination. This project allowed me to think outside the box and create new worlds out of ordinary objects.

ORAL PRESENTATIONS & PERFORMANCES

10:45 a.m.–3:30 p.m.

A—Olin Auditorium (Featured Presentations I, II, III, IV)

B—Olin 305

C—Olin 209

D—Hanson 102

E—Hanson 115

F—Hanson 304

G—Hanson 305

H—Wallenberg Hall, Denkmann Memorial Building

I—Old Main 132

J—Old Main 005, 021, 022, 028

K—Carlsson Evald Great Hall

L—Carlsson Evald 017 and 018

M—Larson Hall, Bergendoff, Bergendoff Hall of Fine Arts

N—Augustana Teaching Museum of Art, Centennial Hall

O—Honkamp Myre Black Box, Brunner Theatre Center

P—Wilson Center

Q—The Gerber Center 4th Floor

R—Various locations on campus

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; three presenters have 20 minutes total). 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 [OLIN AUDITORIUM]

10:45-11:45 a.m.



FEATURED FACULTY PRESENTATION

Dr. Nathan Frank

Physics

What Happens on a Research Sabbatical in Nuclear Physics?

SESSION I-A: Olin Auditorium [10:45-11:45 a.m.]

Dr. Nathan Frank leads a local research effort to understand atomic nuclei far from stability, concentrating on nuclides that

emit neutrons due to their instability. A sabbatical during fall and winter terms (August 22, 2016 – February 20, 2017) was taken to strengthen this research program associated with the National Superconducting Cyclotron Laboratory (NSCL) on the campus of Michigan State University (MSU). The NSCL was the natural location for this work, since it is the facility that produces radioactive beams of neutron-rich nuclides for study by colliding nuclides into other nuclides. The goals of the sabbatical included writing a new National Science Foundation (NSF) grant, a letter of intent to perform experiments at a different experimental setup at the NSCL, continuing analysis work of existing data and participating in the development of new equipment for a future facility on the campus of MSU. This presentation will report the results of the sabbatical in the context of the overall research program and future plans.

SESSION I-B [OLIN 305]

10:45-11:45 a.m.

Nicole Montgomery

Project advisor: Dr. Adam Kaul, anthropology, sociology and social welfare

Exploring Nursing Identities and Relationships at UnityPoint Health Trinity Medical Center in Rock Island

SESSION I-B-1: Olin 305 [10:45-11 a.m.]

With changes to the structure of healthcare in America, nursing has increasingly become a more complex role. The purpose of this project is to examine the identities and relationships among nurses at UnityPoint Health Trinity Medical Center in Rock Island within this context. Data was collected through a combination of participant observation and interviews. Nursing identities, roles and leadership are examined and explained using anthropological theory. The nurse is bound to a specific identity within the hospital setting that dictates interaction with other healthcare workers. Nursing identities must be redefined in order to fit the cultural shift from a medical hierarchy to a healthcare team.

Grace Holmes

Project advisors: Dr. Adam Kaul and Dr. Carrie Hough, anthropology, sociology and social welfare

Effects of Working with Human Remains and Coping Mechanisms Over Time

SESSION I-B-2: Olin 305 [11-11:15 a.m.]

Human remains are used in many different professional fields: coroners with pathologists work in solving the cause of death, funeral directors work in embalming and cremating bodies for burial, and professors and students work by learning and teaching. Interviews and participant observations were conducted with all these groups. The focus of this paper is on coping mechanisms used in the United States, with a particular focus on the Augustana College community. I found that there are generally three responses to working with cadavers on a regular basis: People will try to dehumanize the body by saying that it is just the shell of a person, they will humanize the body by acknowledging that they were a person and associating that they were a human with a life, or they will use a combination of the two. Personal backgrounds and beliefs shape individual responses.

Ella Iacoviello

Dr. Adam Kaul and Dr. Carrie Hough, anthropology, sociology and social welfare

The Transaction between 'Irishness' and 'Polishness' in a Multicultural Context

SESSION I-B-3: Olin 305 [11:15-11:30 a.m.]

In this paper I address the idea of a changing cultural identity among the Polish communities in Ireland. Though quantitative demographic data as well as qualitative data before 2008 exists, there is little written about how the Polish population exist today, years after Ireland's economic downturn. The research presented in this paper offers a look into contemporary Ireland through the eyes of current Polish immigrants. During the summer of 2017, I spent three-and-a-half weeks conducting ethnographic fieldwork in Dublin and Cork through the use of interviewing and participant observation. From living with first-generation families, to interviewing the people in charge of Polish organizations, to observing families with inter-generational conflicts, I discovered the complications of what it is like to inhabit two cultures at once. My data suggests that there is a spectrum of assimilation techniques that is dependent on the individual's cultural involvement: from feeling fully Polish and treating Ireland like just a place to work to feeling fully cosmopolitan

and treating Ireland like a trampoline to the “rest of the West,” a colorful range of multicultural identity presented itself that both answered and questioned the ideas of “Irishness,” “Polishness,” and what it means to be wholly European in the era of Europeanization and the European Union.

Abigail Buchanan

Dr. Adam Kaul and Dr. Carrie Hough, anthropology, sociology and social welfare

The Things We Still Carry: Agent Orange Sick Claims and Veteran Identity

SESSION I-B-4: Olin 305 [11:30-11:45 a.m.]

During the Vietnam War, 20 million gallons of an herbicidal defoliant, codenamed “Agent Orange,” devastated the Vietnamese landscape and injured thousands of soldiers and civilians. The potential of Agent Orange exposure placed an additional burden on Vietnam-era veterans, particularly on their physical and social health. Rejection and denial of health services and benefits changed veterans’ understanding of their own health and health-seeking behaviors. Through interviews with several Vietnam combat veterans and an Agent Orange National Chairperson, I unpack the layers of complex reactions, such as frustration and emotional isolation, attached to Agent Orange, illness, and the obstacles veterans face when seeking compensation and treatment. Illness narratives also expound how Agent Orange exposure and denial affected their veteran identity. Despite hardships, these veterans create their own explanation of health problems, redefine their relationship to the VA clinics, and connect their health to broader Vietnam-era veteran issues.

SESSION I-D [HANSON 102] 10:45-11:45 a.m.

Dr. Hyeong-Gyu Choi

Business administration

The Weaponized Illusory Truth: The Lessons from Fake News

SESSION I-D-1: Hanson 102 [10:45-11:05 a.m.]

The rise of “fake news” undoubtedly has attracted our attention recently throughout social and political arenas. Although there is much to be alarmed about, the term not only warrants in-depth research, but also challenges our core intellectual foundations. One of the most disturbing influence of fake news is its ability to challenge our information literacy, which is the foundation of our critical thinking. In other words, we are now facing the utmost challenge, requiring us to exercise a much more sophisticated and higher-level of comprehension to simply distinguish fake news from credible news. To make matters worse, when fake news is transmitted and repeated within social media—Facebook, Twitter, YouTube, Snapchat, etc.—where an increasing number of people often perceive it as more credible and trustworthy than existing traditional media, such as news agencies, it hinders our ability to think critically even more because of the younger population’s growing tendency to rely on social media as a trustful and credible information source and social media’s core strengths—unlimited and targeted repetition and its disguise as a friendly source of information. In this presentation, the ramification of fake news and social media in our society will be discussed.

Dr. Carolyn Yaschur

Communication studies

Shoot Like a Lady: How Gender Stereotypes Affect the Role of Sports Photojournalists

SESSION I-D-2: Hanson 102 [11:05-11:25 a.m.]

Photojournalism historically is a male-dominated field, with women representing fewer than a third of photojournalists. Sports photojournalism is even less gender balanced. Using in-depth interviews of eight photojournalists, this research examines the difference gender makes in this field. Guided by social role theory, it studies how gender stereotypes impact the work of men and women sports photojournalists.

Dr. Xiaowen Zhang

Political science

The Reemerging Concern Over Air Pollution in China: The Smog of the State’s Efforts to Guide Public Opinion

SESSION I-D-3: Hanson 102 [11:25-11:45 a.m.]

In January 2012, Beijing began releasing air quality reports of PM 2.5. The move has been credited as a major breakthrough in China’s environmental governance as it is argued that online environmental activists in China were the major driving force behind it. Since then, the issue of air pollution has reemerged as one of the hottest issues, and a series of new policies addressing air pollution have been adopted. Facing a relatively new phenomenon (wumai) and heightened public concerns, to what extent is the state still capable of guiding the public perception and opinions about the issue? By analyzing the discourse of air pollution in People’s Daily and comparing it with public opinion survey data, the newspaper finds that the state’s ability to guide public opinion is rather limited, indicating that opportunities do exist for civil society to play a bigger role in China’s environmental governance.

SESSION I-E [HANSON 115] 10:45-11:45 a.m.

Dr. Michael Wolf

Geology

Augustana’s New Scanning Electron Microscope (SEM)

SESSION I & III-E-1: Hanson 115 [10:45-11:45 a.m. and 1:15-2:15 p.m.]

Augustana now has a new benchtop Scanning Electron Microscope (SEM) capable of seeing objects a few micrometers small [a thousandth of a millimeter!] and analyzing their elemental compositions. Learn about this technology, see the instrument in action and bring a tiny sample for viewing and analyzing.

SESSION I-F [HANSON 304] 10:45-11:45 a.m.

Jennifer Darby

Project advisor: Dr. Amanda Baugous, business administration

Why Employees Stay: The Study of Person-Organization Fit, Intent to Turnover and Commitment

SESSION I-F-1: Hanson 304 [10:45-11 a.m.]

Have you ever wondered why employees stay with organizations where they are clearly unhappy? This Senior Inquiry research project considers why employees stay with an organization, despite it not being the perfect fit. The relationship between a person’s fit with an organization and that person’s desire to leave should be clear: if you fit, you want to stay; if you don’t, you want

to leave. However, research has found that this relationship is not very strong. To attempt to strengthen this relationship, we will consider how commitment can affect one's desire to stay with an organization, despite the lack of fit.

Andrew Kladiva

Project advisor: Dr. Ann Ericson, business administration

Advertising Within the Video Game Industry

SESSION I-F-2: Hanson 304 [11-11:15 a.m.]

One of the largest and fastest growing industries is the video game industry, which is expected to be worth nearly \$230 billion by 2022. I was looking to combine my deep interests in the video game industry and in advertising to study the current advertising trends in industry, and through research, determine if I can better the advertising trends and techniques in the video game industry. I developed and distributed two surveys, one to identify buying habits, decision habits and preferences held by gamers in the video game industry. The other focused on conventions held for gamers in the industry. This data has helped me to identify what advertisers in the video game industry are doing correctly and what they should be doing differently.

Mitchell Johnson

Project advisors: Imran Farooqi and Dr. Ann Ericson, business administration

Big Brother Is Watching: Facebook and Big Data Ethics

SESSION I-F-3: Hanson 304 [11:15-11:30 a.m.]

Just as George Orwell's classic novel 1984 portrays a world in which Big Brother is always watching, the recent data breach at Facebook shows that we are not as in control of our data as we like to think. In a society relying increasingly on Big Data to make decisions, it is imperative that we understand the consequences of this technology for individual privacy. In this presentation, I will first define Big Data and individual privacy and discuss why privacy is in need of protection. I will then draw upon the approach of situationism to develop a framework for the ethical analysis of Big Data and conclude by discussing the recent Facebook data breach, analyzing what went wrong and how it could have been avoided by adhering to this ethical framework.

Shannon Maura Domski

Project advisors: Dr. Jennifer Palar and Dr. Ann Ericson, business administration

Pipeline or Waterslide: Advancing Women into Executive Positions in Business and Financial Planning

SESSION I-F-4: Hanson 304 [11:30-11:45 a.m.]

We seek to understand the continued lack of females in upper management or "C-Suite" positions in business and more specifically, the continued lack of female planners in the financial planning industry. We hypothesize that although great strides are being made to foster inclusion, these changes are stalled by not only unconscious prejudices against women, but also a lack of confidence by women themselves. By conducting interviews with more than a dozen women in a variety of executive and planning positions, we attempted to bring a consensus of some of the root causes of this imbalance as well as what changes need to be made within corporate culture and by women seeking these positions, based on these interviews and secondary data collected from previously conducted research.

SESSION I-G [HANSON 305]

10:45-11:45 a.m.

Shayla Conrad

Project advisors: Dr. Gregory Domski and Dr. Dell Jensen, chemistry

A Review of Novel Chiral N-Heterocyclic Carbene Ligands as Transition Metal-Complex Catalyst Systems in Enantioselective Catalytic Reactions

SESSION I-G-1: Hanson 305 [10:45-11:15 a.m.]

The development of chiral catalysts is critical to the synthesis of pharmaceutically active compounds and industrial chemical production. Typical chemical reactions do not confer any stereoselectivity and thus require complicated, expensive techniques to isolate enantiomeric products. The development of chiral organometallic catalysts supported by N-heterocyclic carbene (NHC) ligands provides improved air and thermal stability compared to currently available chiral catalysts using phosphines. Though chiral organometallic catalysts have the potential to transform the pharmaceutical and chemical production industrial, the continued development of novel catalysis is of critical importance. This presentation aims to provide a comprehensive understanding of current NHC ligands employed in the development of chiral catalyst, the limitations of these ligands/catalysts and the potential future directive of this research to facilitate novel NHC ligands and catalyst.

Austynn Eubank

Project advisors: Dr. Gregory Domski and Dr. Todd Miller, chemistry

C-H Bond Functionalization: A Promising Path in Synthetic Chemistry

SESSION I-G-2: Hanson 305 [11:15-11:45 a.m.]

Carbon-hydrogen (C-H) bonds are fairly unreactive and have not been utilized frequently in synthetic pathways, so research into the activation of carbon-hydrogen bonds would offer novel solutions to current synthetic dilemmas. C-H bond functionalization is a fairly new technique that would allow for a carbon-hydrogen bond to be broken and replaced with a bond between carbon and another atom. This type of reaction can be used in fields such as pharmaceutical research. These reactions are environmentally friendly and economical, and they have high atom efficiency. Current discussion is focused on finding synthetic pathways that do not use metal catalysts due to the potential negative environmental effects and dwindling resources associated with metals.

SESSION I-H [WALLENBERG HALL]

10:45-11:45 a.m.

Filip Kuzmanovic

Project advisor: Dr. Taddy Kalas, WLLC-French

Le Machiavel in the Tragedies of Jean Racine

SESSION I-H-1: Wallenberg Hall, Denkmann [10:45-11:05 a.m.]

The main goal of this dissertation is to examine the presence of le machiavel in the 17th-century tragedies of Jean Racine. It focuses on all of his tragedies and closely examines what characters have the traits of le machiavel. Furthermore, it examines how le machiavel influences the outcome of the tragedy at the end.

Rachel Kammerzell

Project advisor: Dr. Taddy Kalas, WLLC-French

Queens in the Works of Jean Racine

SESSION I-H-2: Wallenberg Hall, Denkmann [11:05-11:25 a.m.]

In the works of Jean Racine, royalty plays a huge role, especially for the women who are royal. However, many of the women are not royal, but have equal or more power and influence over the ones who are royal or over the state. I will analyze queenship and the types of queens and non-queens in the works of Jean Racine that reveal the importance of power and influence in women in 17th-century French theatre.

Davis Baxter

Project advisor: Dr. Taddy Kalas, WLLC-French

An Exploration of Morality in the Tragedies of Racine

SESSION I-H-3: Wallenberg Hall, Denkmann [11:25-11:45 a.m.]

I seek to determine, or at least explore, the ways in which Jean Racine presents morality. Furthermore, I hope to make clear the importance of morality to Racine's tragic vision as well as identify Racine's contribution to our understanding of moral concepts through his use of different character roles that often are shared across different works. Often the role of a character contributes to what is morally expected of the character, and certainly influences how the character can be evaluated in terms of moral goodness. Given the subjective nature of morality, it is beneficial to formulate moral evaluations in relation to the particular role of each character. It is essential to draw similarities and distinctions between character roles as they develop and differ across Racine's works. In general, one finds in the tragedies of Racine that, as is the case in the reality of the human experience, good and bad are not absolute.

SESSION I-I [OLD MAIN 132]

10:45-11:45 a.m.

Julia Meyer

Project advisor: Dr. Lendol Calder, history

A Place of Gemütlichkeit: The Holden Village of Augustana German Professor Erwin Weber

SESSION I-I-1: Old Main 132 [10:45-11:05 a.m.]

Lying in Augustana's Special Collections are three insignificant-looking items: two 3-inch black binders with white labels that read "Holden I Copy" and "Holden II Copy" in red ink and a plastic spiral-bound paper compilation with photographs and memories of former Augustana German professor Erwin Weber's summer at Holden Village in 1977. Titled "My Days at Holden," this compilation is an unpublished photo book detailing the wilderness and the people of the community of Holden Village. This isolated village situated in the Cascade Mountains of Washington State draws many individuals, including Erwin Weber who came to lecture on the life of Martin Luther. However, what he came away with were photographs, poems, songs and memories that he made into a 200-plus page book. After uncovering these items, I had a desire to learn more about the man who took such beautiful photographs and made quite a remarkable compilation of a summer at Holden Village. To my dismay, I learned Erwin Weber passed away only a few years ago. My questions could not be answered by the man himself. Instead I turned to what was left—his books, artifacts and the people who knew him to help me understand Erwin Weber's relation to Holden Village. By turning to these items and people and by viewing Holden Village as a place, I worked to interpret the significance of Holden Village to the former Augustana professor.

Conner Brown

Project advisor: Dr. Lendol Calder, history

The Day George Wallace Came to Town

SESSION I-I-2: Old Main 132 [11:05-11:25 a.m.]

In 1968, when former Alabama governor George Wallace visited Wharton Field House in Moline, Ill., to give a routine speech on farm policy leading up to the 1968 presidential election, a riot occurred. My Senior Inquiry uncovers what happened during this tumultuous event and aims to explain why, by examining George Wallace and 1960s student and youth activism. The riot at Wharton encapsulates the fervor, and sometimes violence, which marked New Left activism at the dusk of the 1960s. I hope my presentation not only will explain my work, but the research process as well.

Benjamin E. Bruster

Project advisors: Dr. Matthew Fockler and Dr. Christopher Strunk, geography; Dr. Lendol Calder, history

Making a German-American Place: Davenport, Iowa, 1836-1918

SESSION I-I-3: Old Main 132 [11:25-11:45 a.m.]

This study examines the impact of German-Americans in the creation of Davenport and Scott County, Iowa, from 1836 through 1918. Like cities in many other 19th-century places in the American interior, Davenport and Scott County direly needed people to settle it, build its infrastructure, develop its economy, and contribute to a growing social and political life. Conveniently, Davenport and Scott County boosters' desires occurred simultaneously with rampant pauperism; political, ideological and religious revolutions; economic redundancy; and widespread dreams of rebirth in Germany. These conditions produced an unprecedented migration from Germany to Davenport and Scott County in the second-half of the 19th century. As Germans settled, they shaped their places to reflect aspects of their homelands, local geographic characteristics, national trends of industrialization and urbanization, and their evolving German-American identities. During the Germans' first two decades, they largely lived and acted apart from their American counterparts. With time, German-Americans progressively were incorporated into larger, more inclusive political, educational, economic and social systems. They fought and earned their Stars and Stripes on Civil War battlefields, as well as in shoe factories, law offices and classrooms. Due to their hard work and public spirit, Davenport and Scott County's Germans quickly became revered for their heavy contributions to this evolving place. Nevertheless, the story of German-American Davenport—and German-America, for that matter—concluded in tragedy. Amidst struggles for statewide prohibition, assimilative processes and WWI-era anti-German hysteria, the German-American legacy was marred, erased and ultimately all but forgotten.

SESSION I-K [EVALD GREAT HALL]

10:45-11:45 a.m.

Lindsay Todd

Project advisor: Dr. Jane Simonsen, history and women & gender studies

Opinions on Hair

SESSION I-K-1: Evald Great Hall [10:45-11:45 a.m.]

This poster presentation features my work completed from Women's and Gender Studies 420. It is about hair and how it intersects with race, gender, class, beauty standards and more. The presentation and discussion will be from 10:45-11:45 a.m.; the pictures will be on display throughout the day.

Natalie Trujillo

Project advisor: Dr. Jane Simonsen, history and women & gender studies

Inside the Lives of Student Activists

SESSION I-K-2: Evald Great Hall [10:45-11:45 a.m.]

This photo series looks into four Augustana student activists' lives to identify the effects and toll this work takes on individuals. These students have been at the frontlines of the fight to end sexual assault on campus. These are their stories. The presentation and discussion will be from 10:45-11:45 a.m.; the pictures will be on display throughout the day.

**SESSION I-M [LARSON HALL, BERGENDOFF]
10:45-11:45 a.m.**
Caitlin A. Thom

Project advisor: Dr. Erin Freund, music

Transformations of Chant in Marcel Grandjany's Rhapsody for Harp

SESSION I-M-1: Larson Hall, Bergendoff [10:45-11:05 a.m.]

Marcel Grandjany's Rhapsodie pour la Harpe is a standard in pedal harp literature. This presentation will explore Grandjany's use of the Gregorian Easter Chant Salve Festa Dies and conclude with a full performance of the work.

Kathryn E. Krajewski

Project advisor: Dr. Robert Elflin, music

Newfoundland and Irish Music: Synonymous or Similar?

SESSION I-M-2: Larson Hall, Bergendoff [11:05-11:25 a.m.]

This session explores how Newfoundland music was influenced by not only Irish music, but also English music. Some background on the connections and relationship Newfoundland had with England and Ireland is provided before delving into the influence these countries had on Newfoundland music. Musical examples are included to illustrate how the songs of Newfoundland have both similarities and differences compared to the music of Ireland and England.

Kate Pisarczyk, Sean Harty, Victoria R. Kleeman

Project advisor: Dr. Sangeetha Rayapati, music

Music Therapy in the Modern Era: Three Discussions

SESSION I-M-3: Larson Hall, Bergendoff [11:25-11:45 a.m.]

This Senior Inquiry presentation includes the findings of three pre-music therapy seniors' research. The three projects delve into very different, but important aspects of music therapy in our modern era. Sean Harty's "Memory and Music" explores the impact of music on different parts of the aging brain in regards to memory recall. Music therapy is one avenue to assist this type of clientele. Victoria R. Kleeman's "Synergy Should Tell the Story in Music Therapy" looks into creating synergy within the world of music therapy. Her discussion leads with the idea that the creation of synergy comes with better exposure to the field to the public and more abundant research, and having licensure becoming available in all 50 states. Kate Pisarczyk's "Music's Effect on Stress" details the role that stress plays on college students, and how music can act as a coping mechanism. Details of a study that was conducted in which the effects of music listening on college students' stress levels also will be discussed.

**SESSION I-O [HONKAMP MHYRE BLACK BOX,
BRUNNER THEATRE CENTER]**

10:45-11:45 a.m.

Matthew Koch

Project advisor: Dr. Heidi Storl, philosophy

The Ethics and Economics of Pre-Hospital Emergency Care: How Mobile Integrated Healthcare/Community Paramedicine and Practical Wisdom Can Help Solve the Ethical, Economic and Operational Challenges of America's Emergency Medical Care Providers

SESSION I-O-1: Honkamp Myhre Black Box, Brunner Theatre Center [10:45-11 a.m.]

This session identifies some of the critical economic, ethical and operational issues inherent in the current modus operandi for American Emergency Medical Services (EMS) providers. At a time when the United States eclipses all other nations in terms of health care spending, but significantly lags behind other developed countries in almost every conceivable health outcome, legislators, administrators, providers and patients are seeking relief from an unjust, bloated, expensive and error-prone system. Mobile Integrated Healthcare/Community Paramedicine (MIH/CP) represents a significant leap forward in how pre-hospital care is delivered to patients with chronic diseases and other low-acuity medical issues. By providing care across the continuum, eliminating costly transport fees and ensuring patients get a say in the care that they receive, MIH/CP helps set a new standard for the role of EMS providers. MIH/CP not only mitigates the economic and operational issues inherent with the current modus operandi of the nation's EMS providers, but also MIH/CP, when applied in conjunction with Lauris Kaldjian's phronesis-based ethical framework, helps mitigate the ethical issues that have arisen and in doing so, paves the way for a new, more efficient, cost-effective and ethical system of care.

Kayli Ahuja

Project advisor: Dr. Sharon Varallo, communication studies

Wrongful Convictions by Police-Induced False Confessions

SESSION I-O-2: Honkamp Myhre Black Box, Brunner Theatre Center [11-11:15 a.m.]

Wrongful convictions have two main negative effects on society: (1) innocent people are imprisoned, and (2) the real perpetrators are allowed to wander the streets. To analyze this issue, this presentation discusses police interrogation tactics (specifically when using the Reid Technique), the association between police interrogation tactics and false confessions, the association between false confessions and wrongful convictions, ways in which wrongful convictions affect communities and their members, and possible ways to mitigate this problem. Although current police interrogation tactics can be useful at eliciting confessions, interrogation methods must be reformed in light of evidence that police-induced false confessions occur and result in wrongful convictions.

Taylor Belo, Marissa Catalano

Project advisor: Dr. Kimberly Murphy, biology

Augustana Softball as a Means to Connect People from Different Cultures

SESSION I-O-3: Honkamp Myhre Black Box, Brunner Theatre Center [11:15-11:30 a.m.]

In December 2016, the Augustana softball team traveled to Capetown, South Africa, to share their love for the game of softball with developing communities. While there, the team met Noel Soko, one of South Africa's youth ministry directors. Soko guides troubled children to follow their faith through involvement in sports. Augustana softball continues to help advance this program through donations and support from across the globe.

Victoria A. Karnes

Project advisor: Dr. Kirsten Day, Classics

Wonder Woman: Classical Hero, Modern Superheroine and Feminist Figure

SESSION I-0-4: Honkamp Mhyre Black Box, Brunner Theatre Center [11:30-11:45 a.m.]

Wonder Woman is an Amazonian princess and superheroine who has been inspiring women since her comic debut in 1941. From her origins to the villains she faces, Wonder Woman's stories and character are wrapped in allusions to famous myths and figures of Greek and Roman literature. In my Senior Inquiry, I investigate Wonder Woman's Classical connections and compare the ancient portrayal of Amazonian women to their portrayal in the comics and the recent films Wonder Woman (2017) and Justice League (2017). I also analyze Dr. William Marston's complicated and problematic feminist views that inspired his creation of Wonder Woman.

SESSION I-P [WILSON CENTER]

10:45 a.m.-12:15 p.m. – NOTE EXTENDED TIME

Aliyah Bailey, Samantha Creech, Sydney Gilbert, Nicolette Hampton, Michele Hill, Ryan Holman, Allyson Jesse, Samantha Johnson, Alina Lundholm, Cameron MacKenzie, Maissie Musick, Gabriella Peters, Uxmar Torres, Tyler Valentine

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

'But Again the End Begins'

Augustana College's creative writing students present a group reading of poetry, fiction and creative nonfiction from their final Senior Inquiry manuscripts/projects. Each will read for approximately five minutes and, if they wish, briefly introduce their project and genre.

SESSION II-A [OLIN AUDITORIUM]

Noon-1 p.m.



FEATURED ALUMNI PRESENTATION

Erin Blecha-Ward '07

Founder & President, Evolved Experience Solutions and Executive Director, Fresno Football Club

The Road Less Taken...

SESSION II-A: Olin Auditorium [Noon-1 p.m.]

It's one thing to sit and identify "what you want to do when you graduate," but it's

another thing entirely to design a roadmap to reach that goal. Experiences and opportunities often come at unexpected times, or in forms that don't look exactly as you may expect, but having the ability to recognize and embrace opportunity, paired with the drive and work ethic to excel, can lead you places you never imagined. Hear from Erin Blecha-Ward '07, a sports business executive, as she discusses her experience working for major sports organizations across the country and ultimately using that to launch her own business endeavor. A founding member of Athletes Giving Back and active in athletics and service across campus, Blecha-Ward turned her passion for sports into a thriving career focused on creating opportunities to give back and optimize the fan experience.

SESSION II-B [OLIN 305]

Noon-1 p.m.

Gabriel A. Tucker

Project advisors: Dr. Mariano Magalhães and Dr. Xiaowen Zhang, political science

MAGA, Memes and Magnificent Hair: How White Nationalism Became Rooted in American History

SESSION II-B-1: Olin 305 [Noon-12:15 p.m.]

This session seeks to analyze the history of white nationalist ideologies in American political history and compare them to the current political environment today. The primary analysis rests on the rhetoric used, clothing chosen and cultural artifacts that have been appropriated by white nationalists in attempts to further their cause.

Cassidy Foley

Project advisor: Dr. Xiaowen Zhang, political science

School Segregation: A Modern Issue

SESSION II-B-2: Olin 305 [12:15-12:30 p.m.]

This session examines modern-day school segregation and the influence that this segregation has on society. School segregation is seen to be created and maintained by the intersection and mutual reinforcement of a number of factors. The four factors examined in this project are school secessions, funding, private school enrollment and residential segregation. Each of these factors is seen to influence school segregation in the modern day and reinforce one another in creating a permanence of segregation within education.

Anna Tegge

Project advisors: Dr. Xiaowen Zhang and Dr. Mariano Magalhães, political science

Refugees' Threats of Terrorism: Securitization By Means of Social Integration

SESSION II-B-3: Olin 305 [12:30-12:45 p.m.]

This research analyzes factors that affect the number of terrorist incidents in Europe with large numbers of refugees. My research intends to explore the correlation between refugees and terrorist incidents and to identify if social integration and immigration policies can have an effect on the volume of attacks. My independent variables of social policies in addition to immigration policies confirm my hypothesis that certain factors within these policies affect terrorism in Spain, the United Kingdom, Sweden and Germany. The answer to this question will aid in the creation of stability, prosperity and justice within Europe and provide a model for the rest of the international community. Initiating studies on this political phenomenon is crucial to reducing European terrorism, explaining some of its causes, preventing future conflict and ultimately increasing the security of Europe's citizens and noncitizens alike.

Grant McFadden

Project advisor: Dr. David Schwartz, communication studies, multimedia journalism and mass communication

Playing the Field – Effects of NCAA Athletics on Student Involvement on Campus

SESSION II-B-4: Olin 305 [12:45-1 p.m.]

I've played sports all my life. The lessons I've learned through collegiate athletics have propelled me to become more involved on campus. I wanted to figure out how other Augustana students' athletic involvement affected their decisions to join other organizations. And for those who don't play sports, what are their motivations? Are athletics a highly positive inspiration, or do the

stresses of collegiate athletics generate the opposite effect? My written and video stories dive into student life at Augustana and investigate how all students carry their own motivations for involvement, whether good or bad.

SESSION II-D [HANSON 102] **Noon-1 p.m.**

Dr. Jayne Rose

Psychology

Incorporating Local Service Learning to Enhance Global Study

SESSION II-D-1: Hanson 102 [Noon-12:20 p.m.]

Service learning (SL), learning communities (LC) and study abroad are all identified as high-impact educational experiences. However, there are some barriers and concerns related to these. While longer study abroad experiences are recommended, they are impractical for some students due to cost and time commitment. Engaging in service learning while studying abroad carries the risk of “voluntourism” and unintended negative outcomes for the people being “served.” To address these issues while still capitalizing on the benefits of service learning and study abroad, a learning community was developed that paired a local SL experience with a globally focused course that included a 10-day study abroad trip. Students completed the Global Perspectives Inventory and the Public Affairs Scale at the beginning of the LC, prior to the trip abroad, and at the end of the LC. This presentation will report on data gathered from three cohorts of students who enrolled in this learning community.

Dr. Brian P. Katz

Mathematics

From Inquiry to Critical Inquiry

SESSION II-D-2: Hanson 102 [12:20-12:40 p.m.]

Wenger (1998) introduced the idea of a community of practice to describe a group of people mutually engaged in a joint enterprise through a shared repertoire. Many scholars have applied this concept to understand patterns of interaction in inquiry-based mathematics classrooms. Jaworski (2006) extended this idea by observing that in some communities of practice, participants develop an “awareness of states of practice, a recognition that actions and their consequences are not always easy to rationalize, and a position of inquiring into relationships between action and outcome” that could be called a critical stance toward the community of practice. Our research group has a collection of final projects and presentations from a Differential Equations course specifically for undergraduate pre-service teachers, a group for whom a critical stance toward practice is important. The assignments that generated our data prompted students to focus on conceptual understanding, so we see their spontaneous comments that show critical stances to be compelling evidence of a community of inquiry in the course. We are trying to understand the nature of the stances these students took to teaching, learning and understanding, and mathematics in this community.

Dr. Lisa Seidlitz

WLLC-German studies

Learning from Each Other: Articulation Between High School and College German Programs

SESSION II-D-3: Hanson 102 [12:40-1 p.m.]

During my sabbatical, I visited 10 high school German programs to better understand how my colleagues at those schools teach and what their students can do and expect to learn when they come to college. I will share observations that I hope will be useful to instructors of many disciplines, not just languages. Bring a smart phone or other device so that we can try out some of the techniques I observed.

SESSION II-F [HANSON 304] **Noon-1 p.m.**

Mackenzie Ryan, Francesca Scribano, Dr. Kimberly Murphy

Project advisor: Dr. Kimberly Murphy, biology

Effects of Evolution on Laboratory Sublines of Myxococcus xanthus DK1622

SESSION II-F-1: Hanson 304 [Noon-12:15 p.m.]

Microbes have served as effective models for studying evolution because of their ability to be easily replicated, stored and manipulated. *Myxococcus xanthus* is a soil bacterium that has served as a model organism in many laboratories. The unique social and motile behaviors exhibited by this bacterium make it ideal for phenotypic assays. A wild-type strain of *M. xanthus*, DK1622, has been distributed to laboratories across the United States and therefore we now have DK1622 sublines. The genomes of a number of these sublines have been sequenced, and their social and motile phenotypes have been analyzed. When nine of these sublines were compared, slight differences in their genomes were detected as well as differences in phenotype. Our study aims to determine the changes in phenotype that occur when the same gene is disrupted in three of the sublines of *M. xanthus* DK1622. To this end, we have created new *M. xanthus* mutant strains with a single gene disrupted and tested the resulting strains for motility. Results from motility assays have shown differences in the appearance of the swarms as well as differences in swarm diameter. The results obtained in this experiment suggest that further studies should be performed on the phenotypic differences between sublines of the DK1622 wild-type strain of *M. xanthus*. The differences noted between the wild-type sublines as well as between the mutant strains warrant the need to disrupt more genes and test the resulting mutant strains for motility and fruiting body development. If significant differences are identified between new mutant strains of *M. xanthus*, this opens the door for moving this type of study into other bacteria.

Ravi M. Patel

Project advisor: Dr. Joseph Hyser, biochemistry (Baylor College of Medicine)

Tulane Virus as a Surrogate Model to Study Human Norovirus

SESSION II-F-2: Hanson 304 [12:15-12:30 p.m.]

Human Norovirus is the second highest cause of death in developing nations. However, as of today, there are no effective means of studying the virus. During the summer, I used Tulane virus, a close relative, as a surrogate model to study Human Norovirus.

Briana Lee

Project advisors: Dr. Rafael Medina and Dr. Bob Tallitsch, biology

Remember the Important Things in Life: My Mother's Story and Brain Aneurysm Awareness

SESSION II-F-3: Hanson 304 [12:30-12:45 p.m.]

According to the Brain Aneurysm Foundation, more than 30,000 people suffer a brain aneurysm rupture every year in the United States. On Sept. 1, 2015, my mother became one of the 30,000 when she suffered from a ruptured brain aneurysm at the age of 46. The purpose of this presentation is to share my mother's story, but to also bring more awareness to brain aneurysms and their catastrophic effects when they rupture. Topics that will be discussed include what brain aneurysms are, the symptoms that develop, the risk factors that increase the chances of aneurysms developing and rupturing, as well as treatment options.

Joel Nelson

Project advisors: Dr. Michael Galko and Dr. Heidi Storl, philosophy

Drosophila TRP Channels: Role in Chemical Nociception

SESSION II-F-4: Hanson 304 [12:45-1 p.m.]

Nociception is an organism's response to harmful stimuli. There are a variety of modalities of nociception that can occur, each with its own mechanism. Chemical nociception occurs when the sensory nervous system interacts with harmful chemicals, such as acidic or basic solutions. Chemical nociception is currently not well understood. Through a previously created chemical nociceptive assay, we tested the model organism *Drosophila melanogaster* larval response to varying concentrations of hydrochloric acid. Transient receptor potential (TRP) channels have previously been shown to mediate a response to thermal and mechanical stimuli, due to their presence in multidendritic (MD) sensory neurons. Therefore, we asked whether TRP channels played a role in chemical nociception. Genetic manipulation of *Drosophila* larvae allowed for fly stocks to be created that contained mutated TRP channels. A number of TRP channels surfaced as channels that may play a role in the organism's response to noxious chemical stimuli; this connection was found due to the phenotypic differences in the response of the genetically modified larvae compared to the wild type. These channels include the TRPA channels *Pyrexia* (*Pyx*) and *Painless* (*Pain*), and the channel *TRPML*. Further tests were performed using the UAS-Gal4 binary system to suppress the formation of the *TRPML* channel specifically in the MD sensory neurons. A significant phenotypic difference was seen in the suppressed channel fly stock compared to the controls. Continued research on these TRP channels, and chemical nociception in general, can greatly advance the understanding of how certain chemicals affect the human body.

SESSION II-G [HANSON 305]

Noon-1 p.m.

Alfred Dei-Ampeh

Project advisor: Dr. Mary Ellen Biggin, chemistry

Proposal of a More Efficient and Accurate Analytical Method for Lipidome Analysis.

SESSION II-G-1: Hanson 305 [Noon-12:30 p.m.]

Over the years, scientists have analyzed lipidomes by using a classical method that involves Thin Layer Chromatography (TLC) and Gas Chromatography coupled to Flame Ionization Detector (GC/FID). Lipid metabolism is essential in diverse sectors such as health, the food industry and biofuels. These sectors require a well resolved analytical method that provides a robust quantitative and qualitative data for a lipidome. Working with accurate data ensures that procedures performed in these sectors are not

negatively influenced. Hence, a pharmacologist in the health sector can confidently use the quantified blood lipid level of a patient to regulate and to administer the right dosage of an anticancer drug that has minimal toxicity, but higher efficacy. This presentation focuses on a modified version of the classical method that is currently being used in the Augustana biochemistry/chemistry department. This method will be compared to novel analytical techniques, such as Electron Spray Ionization Tandem Mass Spectrometry (ESI-MS/MS) and Liquid Chromatography coupled to Mass Spectrometry (LC-MS), that are indicated in recent studies. The outcomes of the comparison will be used to propose an analytical method that efficiently provides more accurate quantitative and qualitative data for a lipidome.

Danielle Christine Alfrey

Project advisors: Dr. Dell Jensen and Dr. Gregory Domski, chemistry

Nanoparticles, a Novel Delivery System for siRNA in Major Disease Treatment

SESSION II-G-2: Hanson 305 [12:30-1 p.m.]

This presentation consists of a review of a common, versatile nanoparticle, Chitosan, as an example of how different nanoparticles are used as siRNA delivery systems. siRNA is used in RNA interference, RNAi, which is a defense mechanism cells have against virus infections. Cells react to invading viral RNA strongly by silencing all of that specific RNA gene function in the cell. For example, if an siRNA encoding for a green protein was introduced in a cell, the cell would recognize the unique double stranded RNA, because double stranded RNA is uncommon, and destroy the RNA's meaning of producing the green protein. The result is that the cell no longer makes any green protein, meaning if this was a plant cell, this would appear very oddly in a different color than green, as the gene function has been silenced by various pathways in order to save the cell. This is very advantageous as many diseases function by unregulated gene expression, so RNAi can be a precise, stable and efficient way to treat many diseases. So why is this not the biggest thing on the market right now? siRNA still needs a way to be delivered to target locations amongst living organisms. This is where nanoparticles come in as a safe, side effect-less means to get treatments where they need to go.

SESSION II-H [WALLENBERG HALL, DENKMANN]

Noon-1 p.m.

Allison Arvia

Project advisor: Dr. Taddy Kalas, WLLC-French

Forbidden Love in the Plays of Jean Racine

SESSION II-H-1: Wallenberg Hall, Denkmann [Noon-12:20 p.m.]

This Senior Inquiry presentation analyzes the different types of amour interdit (forbidden love) in the works of 17th-century playwright Jean Racine.

John Hallmark

Project advisor: Dr. Taddy Kalas, WLLC-French

Captivity in the Works of Jean Racine

SESSION II-H-2: Wallenberg Hall, Denkmann [12:20-12:40 p.m.]

This presentation deals with the role of captivity in the works of Jean Racine's complete works. Through analytical literary critique, this project covers physical captivity and metaphysical captivity and how these two ideas are presented through Racine's theatrical plays. The physical space represents the psychological boundaries between the id, ego and super-ego that are described by Freud. In this project, the aim is to make the argument that physical boundaries bring order into one's life while complete physical free will introduces

disorder. Through this idea, we examine how virtue and self control are propagated through forms of physical captivity, while pure metaphysical captivity is not comprehensible and lets the id take over and lets passion dictate one's life.

Brisa Almanza

Project advisor: Dr. Taddy Kalas, WLLC-French

Le rôle de la mère

SESSION II-H-3: Wallenberg Hall, Denkmann [12:40-1 p.m.]

This session is an analysis of the maternal role in the plays of Jean Racine, a 17th-century writer. The character of the mother plays different roles throughout the plays.

SESSION II-I [OLD MAIN 132]

Noon-1 p.m.

Clarissa A. Stephenson

Project advisor: Dr. Cyrus Zargar, religion

Rhetoric, Authority and Children of God: Charismatic Authority and Ecstasy in American Religions

SESSION II-I-1: Old Main 132 [Noon-12:20 p.m.]

As new religious movements have flooded the social landscape of the United States, they have inspired large counter-movements. These counter-movements assumed a category of accepted religions that excluded religious movements that challenged the hegemonic way of life in the United States. Some of these new religions—deemed “cults” by outsider groups—were seemingly able to exert total control over the actions of their followers, especially in relation to their physical and sexual relationships. Movements like Children of God place a focus on the physical body as the road to spiritual salvation. The charismatic authority present in this new religious “cult” creates a body of doctrine that requires complete dedication of both the physical and spiritual bodies of its followers. Rhetorical tools, such as repetition, thematic consistency and exclusivist rhetoric, are used to emphasize this inseparable connection. Using Weber's understanding of charismatic authority and the use of ecstasy in religion, this session will discuss the rhetoric of Children of God to find a model of charismatic authority in new religious movements.

Ethan Doan

Project advisor: Dr. Dan Lee, religion

Finding Our Lutheran Identity: A Search for Lutheranism

SESSION II-I-2: Old Main 132 [12:20-12:40 p.m.]

This project's main focus is to explore what it means to be Lutheran in the United States in today's world. Its main purpose is to help Lutherans form their own Lutheran Identity and to help non-Lutherans learn about the main ideas and traditions in Lutheran theology. In this project, I interviewed seven ordained ministers in the Lutheran tradition. Four were ordained in the Evangelical Lutheran Church in America (ELCA), and three were ordained in the Lutheran Church Missouri Synod (LC-MS). Each pastor was asked a series of questions regarding what Lutheranism means to them. Their answers and my observations are discussed in my project.

Eileen A. Ruppel

Project advisor: Dr. Eric Stewart, religion

Creating Genderless God-language Through Lutheran Liturgy

SESSION II-I-3: Old Main 132 [12:40-1 p.m.]

Drawing on the work of feminist and queer theologies, this session examines and challenges traditional God-language, proposing the implementation of genderless language in Christian worship liturgies. The Evangelical Lutheran Church in America (ELCA) is

used as a model for potential methods of shifting God-language.

This work focuses on God-language in Lutheran liturgy, focusing on Scripture, hymns, doctrine and prayer. This work seeks to prove that implementing genderless God-language throughout the liturgy will provide ELCA leaders the opportunity to be more inclusive, while representing God's transcendence beyond human conceptions such as gender.

SESSION II-J [OLD MAIN 005, 021, 022, 028]

Noon-1 p.m.

Abby Benson, Robert Burke, Kaitlyn Cline, Kelcie Fredrickson, Hannah Griggs, Alondra Hernandez, Audrey Hogenkamp, Adam Huffstutler, Ryan Jenkins, Hayden Karrick, Hannah Kiel, Artemis Kornoski, Haley Madura, Bridget Quinn, Casandra Romero Rarmirez, Carli Schwanebeck, Darielle Sherrod, Connor Swiat, Anna Thoma, Jamie Thulin, Alana Webster, Caleb Westerman

Project advisor: Dr. Eric Stewart, religion

Museums of Masculinity

SESSION II-J-1: Old Main 005, 021, 022, 028 [Noon-1 p.m.]

Students from Women's and Gender Studies 302: Masculinity in American Culture will provide audio-visual presentations related to the various ways masculinity is performed, displayed and recognized in various pop culture media.

SESSION II-L [EVALD 17 & 18]

Noon-1:30 p.m. – NOTE EXTENDED TIME

Yen Dao, Chris Beyer, Dr. Deke Gould, Dr. Jennifer Palar, Michael Salamone, Mary Windeknecht

Residential Life, Learning Commons, philosophy, business administration, CORE-advising

How Do We Engage Opinions We Don't Agree With?

Panel members will discuss what it means to be civil, demonstrate civility by debating a topic that received the most votes from the Augie community, and invite the audience to practice civil discourse. The three possible debate topics include “Is higher education a right or privilege? Should college be free?” and “Should students be able to grade their teachers?” and “Should we eliminate sororities and fraternities?” Join us to find out which topic received the most votes!

SESSION II-M [LARSON HALL, BERGENDOFF]

Noon-1 p.m.

Dr. Michelle Crouch, Lauren Hagedorn, Claire Herdegen, Rebecca Hobson, Chelsea Crumbleholme, Shannon Ryan, Katie Kleve, Moira Dunn, Phung (Aileen) Nguyen, Philip Tunnicliff, Tyler Berger, Zoë Haenisch, Madeleine Cusay, Dana Burhorn; pianist: Dr. Charles Schmidt

Project advisor: Dr. Michelle Crouch, music

Schubertiade: Art Song Theatre

SESSION II-M-1: Larson Hall, Bergendoff [Noon-1 p.m.]

Just as grand opera is beginning to dominate the cultural landscape in Europe at the beginning of the 19th century, Franz Schubert (1797-1828) is writing myriads of intimate art songs. The intensity and diversity of these poetic works is amazing, and has enticed us to explore various modes of theatricalization as an alternative way of presenting them.

SESSION II-O [HONKAMP MHYRE BLACK BOX, BRUNNER THEATRE CENTER]

Noon-1 p.m.

Abigail Rogers

Project advisor: Dr. Jane Simonsen; history, women's and gender studies

'Defund Planned Parenthood!' – Examining Consequences of Lack of Access to Reproductive Healthcare

SESSION II-O-1: Honkamp Mhyre Black Box, Brunner Theatre Center [Noon-12:15 p.m.]

For my Senior Inquiry, I researched access to women's reproductive healthcare and examined it through an intersectional lens. I will use personal narratives of women's experiences to show how accessibility to healthcare or lack of affects everyone differently. The argument here is that while access to reproductive healthcare is very important, there are barriers to access, which in turn, can have negative outcomes and consequences.

Jaime McLean

Project advisor: Dr. Jane Simonsen; history, women's and gender studies

Excusing Ignorance: Title IX on College Campuses

SESSION II-O-2: Honkamp Mhyre Black Box, Brunner Theatre Center [12:15-12:30 p.m.]

This session investigates ignorance as a defining feature in rape culture, masculinity, power and privilege, and suggests that these are all integral parts of why Title IX is failing survivors. This research was gathered as part of my Senior Inquiry on "Ignorance and Title IX Policy." This session is designed to engage the audience in discussion of these issues.

Aliyah Bailey

Project advisor: Dr. Jane Simonsen; history, women's and gender studies

Just Smile: Using Women's Narratives to Explore Public Harassment

SESSION II-O-3: Honkamp Mhyre Black Box, Brunner Theatre Center [12:30-12:45 p.m.]

For my Senior Inquiry, I wrote a collection of narratives on boundary crossing and harassment. I will give a short description of my project and read one of the short stories from the collection.

Elizabeth L. Warkocki

Project advisor: Dr. Jane Simonsen; history, women's and gender studies

'Dirty, dark, filthy traps': Post-WWII Housing Security in Ann Petry's The Street

SESSION II-O-4: Honkamp Mhyre Black Box, Brunner Theatre Center [12:45-1 p.m.]

Ann Petry's *The Street* follows the story of Lutie Johnson, an African American single mother struggling to advance in a world of systemic barriers. My analysis seeks to place her story in the historical context of post-WWII housing security in New York City; Petry herself admits definitive interest in how environmental factors impact a person's opportunities. Looking at the novel through this historical lens provides a deeper understanding of the barriers facing African American women like Lutie being blocked from the American Dream.

SESSION II-P [WILSON CENTER]

12:15-12:35 p.m.

Brianna M. Pickering

Project advisor: Dr. Meg Gillette, English

Let's Get Motivated: A Reflection on Tony Robbin's 'Unleash the Power Within'

SESSION II-P-2: Brunner Theatre Center Wilson Center [12:15-12:35 p.m.]

After attending Tony Robbin's "Unleash the Power Within" conference, I had an enormous shift in my attitudes, behaviors and beliefs, a transformation purely for the better. I now want to help and inspire others to create similar lasting change in their lives. So join me in finding motivation to inspire not only yourself, but also those around you. Do not simply wait around for life to rise to your standards, but rather make the changes necessary to your everyday life that will create that feeling of fulfillment you have been craving.

SESSION III-A [OLIN AUDITORIUM]

1:15-2:15 p.m.



J. Popple



M. Herman



A. Downey

FEATURED FACULTY-STUDENT COLLABORATION

Dr. Jennifer Popple, Melina Herman, Alexis R. Downey

Theatre arts

Using Theatre to Develop Clinical Empathy: Working with Pre-professional Majors

SESSION III-A: Olin Auditorium [1:15-2:15 p.m.]

Presenters will discuss cutting-edge research in the medical and theatre fields that the most successful doctors, businesspeople and leaders are those who have learned and show empathy to others. The group will talk about its work, funded through Augustana's Faculty-Student Partnership grants, which culminated in a workshop for pre-professional majors this academic year. Melina Herman and Alexis R. Downey, double majors in theatre and biology, will present on research and the practice of teaching empathy to pre-professional students. Dr. Jennifer Popple will discuss how empathy can be used to ensure success in business, leadership and learning oneself. The workshop will include one interactive portion and showcase photographs and videos from previous workshops.

SESSION III-B [OLIN 305] 1:15-2:15 p.m.

John Hallmark

Project advisor: Stephanie Fuhr, biology

Determining the Efficacy of Fifa 11+ in Reducing ACL Injury in Female Soccer Players

SESSION III-B-1: Olin 305 [1:15-1:30 p.m.]

My study aimed to identify the relationship between the Fifa 11+ program and the angle of valgus deformity at the knee. Nearly 200,000 ACL tears are reported each year. Previous studies have linked valgus motion of the knee to an increased rate of ACL injury, and females exhibit a 4-6x increased risk for ACL injury. Fifa 11+ has shown promise in studies done on professional soccer teams, yet remains untested in a younger population. This prospective cohort study of 300 consented female soccer players used Noraxon as a tool for the measurement of valgus angle at the knee. The 300 soccer players in the study belong to 20 teams in the St. Louis area and are 14-16 years old (freshmen in high school). Analysis of the motion was performed before implementation of the program in a control group and intervention group and at the six-month time point. Efficacy of the program was determined by the program's ability to change the natural motion of the knee. The difference in the beginning valgus angle and the end valgus angle was measured to evaluate if the program is effective. The number of ACL injuries also were used to determine if there were fewer injuries in the intervention group than in the control group. Three physical therapy tests were used to take measurements of factors that may introduce confounders.

Baillie Brooks, Lauren Clapp

Project advisor: Keri Bass, community service

Augustana College Campus Kitchen: Food Friends

SESSION III-B-2: Olin 305 [1:30-1:45 p.m.]

Faculty, staff and students are highly encouraged to attend this session. We will explore what food insecurity is, what it looks like on campus and how faculty and staff can be resources to students. Faculty and staff who attend will receive a sticker to put outside their office, demonstrating they have participated in the discussion to combat food insecurity on campus.

Christian Elliott, Thea Gonzales, Kathryn Evans, Hunter Colleen Ridley, Erin Cygan

Project advisors: Dr. Olivia Williams and Dr. Michael Reisner, environmental studies

Introducing Environmental Policy at Augustana: A Comparative Study of Sustainability Practices at Small Liberal Arts Colleges

SESSION III-B-3: Olin 305 [1:45-2 p.m.]

This session analyzes environmental practices and policy at higher education institutions and examines the process it takes to implement them from student advocacy to administrative recognition that results in the implementation of sustainable plans, programs, and structures for the college in order to produce a feasible proposal for sustainable development at Augustana. The study's authors conducted interviews with five colleges that have achieved sustainability in various ways and are largely similar to Augustana in religious affiliation, cultural background and location: Kenyon, Knox, Luther, Moraine Valley Community College and Oberlin. The goal from these interviews was to generate ideas from colleges like Augustana to show that Augustana is also capable of sustainable change. At the end of the study, the authors developed a sustainable policy proposal tailored for Augustana that was based on common trends identified from the five colleges, including college sustainability programs, informal and formal organization, ratings and certifications, and sustainable structures.

Dr. Tim Muir, Dat Tran, Lawrence Catalan, Maggie Bednarek, Dr. Andrew Sward

Project advisor: Dr. Tim Muir, biology

Modeling Energy Use of Overwintering Hatchling Turtles Over a Decade of Nest Monitoring

SESSION III-B-4: Olin 305 [2-2:15 p.m.]

Many animals across diverse taxa endure extended bouts of dormancy during which they are aphagic and thus, must rely on endogenous energy stores to survive long-term dormancy and, when food is not immediately available, fuel post-arousal activities. Because temperature directly influences metabolic rate in ectothermic animals, the thermal environment during dormancy has profound effects on energy use and conservation by dormant ectotherms. Moreover, the thermal environment among microhabitats varies spatially and temporally such that dormant animals inhabiting different microhabitats may incur very different energy costs. We investigated the potential variation in energy costs among hatchling painted turtles (*Chrysemys picta*) that overwinter in their natal nests. First, we measured rates of oxygen consumption (VO_2) for individual turtles at varying temperatures (-1.5 – 25°C) at different times during a multi-month acclimation to winter. We then used those data to generate a predictive model of VO_2 as a function of temperature and fit that model to the thermal profiles of 152 natural nests collected from 2001 to 2013. Hatchling turtle VO_2 was extremely sensitive to temperature, and was also characteristic of reverse metabolic compensation as the turtles were acclimated to lower temperature. Predicted rates of energy consumption varied widely among nests both within and among years suggesting the thermal environment of the natal nest has implications for post-arousal fitness. Further investigation of those implications is needed to better understand their magnitude.

SESSION III-C [OLIN 209] 1:15-2:15 p.m.

William Stowe

Project advisor: Dr. Tom Bengtson, mathematics and computer science

On the Subsets of Spreads

SESSION III-C-1: Olin 209 [1:15-1:35 p.m.]

A spread is a discrete set of points such that no three are in a straight line. We will define a function that generates the centers of subsets of spreads. We will see a pattern involving Pascal's Triangle that emerges when counting necessarily similar subsets in the domain and range of this function.

Kyle Workman, Jacob Knox, Ben Groselak

Project advisor: Dr. Tom Bengtson, mathematics and computer science

Optimizing Edge Additions to a Graph

SESSION III-C-2: Olin 209 [1:35-1:55 p.m.]

We consider a simple graph G . For each pair of distinct vertices v and u , we take $d(v, u)$ to be the minimum path length from v to u . We take $W(v)$ to be the maximum of all $d(v, u)$ where u is a vertex of G . Let $S(G)$ be the sum of $W(v)$ for all v in G . We consider ways to add an edge to G forming a new graph H , in order to minimize $S(H)$.

Gabrielle Gambino Lyon

Project advisor: Dr. Lee Carkner, physics

My Catalyst

SESSION III-C-3: Olin 209 [1:55-2:15 p.m.]

During my internship and shadow program with Pepper Lawson Construction and Ziegler Cooper Architects, I explored the various career paths involved in the design, construction and civil engineering fields. My work on the construction site of a high-rise apartment building located in the heart of Houston, Texas, gave me firsthand experience working and learning alongside project engineers, contractors, building developers and the construction team. This project was the perfect confluence of my main areas of interest: structural, mechanical, civil and environmental engineering, as well as architecture. My daily work consisted of on-site walkthroughs, studying project-specific drawings, and meetings with project executives and project management. Join me as I discuss my time spent on-site of The Catalyst and showcase the transformation between in-progress project and finished product.

SESSION III-D [HANSON 102]

1:15-1:55 p.m.

Dr. Jamie Nordling

Psychology

Success in College: Relations Among Parent-Child Trust, Emotional Autonomy, Emotion Regulation, and Social and Academic Competence

SESSION III-D-1: Hanson 102 [1:15-1:35 p.m.]

This research extends our current understanding of parent-child relationships by examining how the quality of those relationships can affect success in college. "Success in college" is operationally defined as competence in academic and social domains, both of which are inherently part of college life. Previous research has found that parental relationships play a large role in the development of academic and social competence early in life [e.g., Leung, Lau, & Lam, 1998]; thus, it was hypothesized that an established sense of trust between parent and child would also predict social and academic competence in late adolescence. Emotion regulation and emotional autonomy were also hypothesized to influence success in college. In general, people with greater emotion regulation are well-liked by others and more likely to achieve academic success [e.g., Tyson, Linnenbrink-Garcia, Hill, 2009], and greater autonomy in adolescents has been linked to scholastic competence and less relationship insecurity [e.g., Hafen et al., 2012; Levesque, 2012]. It was hypothesized that greater emotional autonomy and emotion regulation would predict academic and social competence. Interactions were also explored given the possibility of additive effects [e.g., low trust coupled with less emotion regulation might lead to less competence than just low trust alone]. College-aged participants completed questionnaires on their parent trust, emotional autonomy, emotion regulation skills, and academic and social competence. Father-child trust and emotion regulation predicted social competence; father-child trust, emotional autonomy and emotion regulation predicted academic competence. The father-child relationship plays a key role in developing competencies, affecting one even into late adolescence.

Dr. J. Austin Williamson

Psychology

Giving and Getting the Right Kind of Social Support

SESSION III-D-2: Hanson 102 [1:35-1:55 p.m.]

In romantic couples, receiving too little or too much social support is associated with negative personal and relationship outcomes. Understanding how much support an individual desires is essential to ensuring that the preferred amount of support is provided. In samples of community members (n = 430) and students (n = 755), we observed several sources of variability in desires for support. Some recipients wanted more support than other recipients. Recipients wanted more support from some providers than other providers. Recipients wanted more of some types of support than other types. The types of support that recipients desired most varied from recipient to recipient. Recipients also desired different types of support from different providers. These differences were partly explained by characteristics of recipients and providers. When recipients got the amount and type of support they desired, they experienced greater relationship satisfaction, less relationship dissatisfaction, fewer depressive symptoms, and greater psychological well-being. Strategies for eliciting and providing preferred support are discussed.

SESSION III-E [HANSON 115]

1:15-2:15 p.m.

Dr. Michael Wolf

Geology

Augustana's New Scanning Electron Microscope (SEM)

SESSION I & III-E-1: Hanson 115 [10:45-11:45 a.m. and 1:15-2:15 p.m.]

Augustana now has a new benchtop Scanning Electron Microscope (SEM) capable of seeing objects a few micrometers small (a thousandth of a millimeter!) and analyzing their elemental compositions. Learn about this technology, see the instrument in action, and bring a tiny sample for viewing and analyzing.

SESSION III-F [HANSON 304]

1:15-2:15 p.m.

Ninna Therese P. Mendoza

Project advisor: Dr. Heidi Storl, philosophy

Research, Review, Reach: Increasing Youth Physical Activity, Understanding Latino Parent Influences on Childhood Obesity, and Creating a Health Intervention Program

SESSION III-F-1: Hanson 304 [1:15-1:30 p.m.]

Obese children are more likely to become obese adults, and this health burden will only increase unless we find effective ways to promote healthful behaviors among youth. At the Children's Nutrition Research Center, I sought to answer health and nutrition-related research questions by conducting qualitative research, writing a literature review and creating a health intervention program. I worked in Dr. Deborah Thompson's lab, which incorporates behavioral theory with technology as an intervention to prevent childhood obesity. Youth physical activity (PA) levels have decreased, but video games are a popular activity that could be harnessed to promote PA. "Exergames" are video games that engage players in PA. Players often closely identify with their avatars in video games, so by combining these ideas, we hypothesized that if an avatar was highly self-representational of the player, then this would more greatly motivate the player to participate in the PA of the game. The childhood obesity epidemic

is a major public health issue to address, but it disproportionately affects certain populations such as Latinos. Through a literature review, I aimed to understand how Latino parents' culture and beliefs influence behaviors associated with childhood obesity during early childhood. Developing a greater understanding about Latino parent influences can have direct applications in creating more culturally sensitive obesity programs. Designing effective programs is essential to reaching health goals, so I also developed a text message intervention to promote healthy and sustainable behaviors among college students such as making healthy food choices and preventing food waste.

Allan Daly

Project advisor: Dr. Heidi Storl, philosophy

Cost-Effectiveness Analysis of Cell Phone Interventions for Smoking Cessation in a Low-Income Population

SESSION III-F-2: Hanson 304 [1:30-1:45 p.m.]

A cost-effectiveness analysis on smoking cessation programs to see if including cell phones provides extra support to smokers trying to quit smoking and is worth the cost.

Elizabeth Wieland, Eileen Shinn

Project advisor: Stephanie Fuhr, biology

Adherence to Oral Endocrine Treatment in Breast Cancer Survivors

SESSION III-F-3: Hanson 304 [1:45-2 p.m.]

My project was a pilot study to the Breast-061: Adherence to ET in Breast Cancer Survivors that was being conducted by Eileen Shinn's Lab at MD Anderson Cancer Research Center. This study was a behavioral science study centered around an electronic monitor device to see if survivors of breast cancer were consistently taking their anti-hormone pills. These pills greatly reduce the chance of recurrence and mortality and are essential to breast cancer survivors; however, they can often have debilitating side effects.

Adam Lydigsen-Grimes

Project advisors: Dr. Heidi Storl, philosophy; Dr. Juan Botas and Tarik Onur, Baylor College of Medicine

Screening Genes for Modifiers of Huntington's Disease

SESSION III-F-4: Hanson 304 [2-2:15 p.m.]

Huntington's disease (HD) is a neurodegenerative disease that is inherited genetically. It is often called a poly-glutamine disorder since it is caused by a repeat of the amino acid, glutamine (Q), in the first exon coding for the Huntingtin (Htt) protein. The number of codons, coding for glutamine (CAG) within the Htt mRNA, has been correlated with age of onset of HD within adulthood. A genetic screen was performed to identify which genes are involved in the progression of this disorder. With the use of a *Drosophila* model female virgin fruit flies were collected that had a short hairpin RNA (shRNA) incorporated into their genome. These shRNAs silenced certain genes activated within the striatum of the brain. Genes were selected with the use of WGCNA or Weighted Gene Co-Expression Network Analysis to map out how these genes interacted when fully expressing the Huntingtin (Htt) protein after transcription and translation. These female fruit flies were then mated or crossed with male *Drosophila* with HD, and tests were performed on their progeny to see how the concentration of protein was altered within their brains through the use of a western blot. The flies' motor skills were tested by measuring how much they stumbled as they climbed up a vial as a way to see if the silenced gene had any effect on the disease progression. From the results of the climbing data and western blot, gene products chosen from the WGCNA analysis were identified that either enhanced or suppressed the pathogenesis of HD.

SESSION III-G [HANSON 305]

1:15-2:15 p.m.

Josephine Anderson

Project advisors: Dr. Dell Jensen and Dr. Gregory Domski, chemistry

Exploring the Relationship Between Sickle Cell Trait and Malaria

SESSION III-G-1: Hanson 305 [1:15-1:45 p.m.]

Malaria, caused by the parasite *Plasmodium falciparum*, has long been causing severe illness and even death in people in sub-Saharan Africa and other tropical climates. However, the evolutionary mutation in the β -hemoglobin at the 6th position from a glutamic acid to a valine that is responsible for sickle cell trait and disease has been found to protect individuals with the mutation from the most severe forms of malaria. To understand the interaction between sickle cell disease and malaria, it is first necessary to look into each disease on its own before looking at the interactions between the two. Then, by looking at how sickle cell trait changes the body on both a biochemical and physiological level, the method of protection those with the trait receive can be best understood.

Joseph Kellen

Project advisors: Dr. Gregory Domski and Dr. Jose Boquin, chemistry

Review of Rotavirus Nonstructural Proteins and their Disruption of Cell Homeostasis

SESSION III-G-2: Hanson 305 [1:45-2:15 p.m.]

Rotavirus is the most common cause of severe gastroenteritis in infants and children. Rotavirus is known to contain a NSP4 viroporin domain that disrupts host cell calcium homeostasis that is critical for virus replication and pathogenesis. Recently, unpublished data has shown that the nucleoside ADP is secreted by rotavirus and is received by surrounding cells through the P2Y1 purinergic receptor in an ADP-mediated signaling pathway. Further data is needed to confirm this proposed mechanism in order to further understand the pathogenesis of Rotavirus.

SESSION III-H [WALLENBERG HALL, DENKMANN]

1:15-2:15 p.m.

Rachel Buenaobra

Project advisor: Dr. Taddy Kalas, WLLC-French

La Présence de la Mort dans les Pièces de Jean Racine

SESSION III-H-1: Wallenberg Hall, Denkmann [1:15-1:35 p.m.]

This work extensively studies the presentation of death across the 11 tragedies written by the 17th-century French playwright, Jean Racine.

John DeLorenzo

Project advisor: Dr. Douglas Parvin, philosophy

Dealing with the Wisdom of Silenus

SESSION III-H-2: Wallenberg Hall, Denkmann [1:35-1:55 p.m.]

An examination of various historic and contemporary reasons for continuing to live stemming from Friedrich Nietzsche's use of the "Wisdom of Silenus" in his book *The Birth of Tragedy*. The essential point of this Wisdom being that the best thing for a human would be to have never been born or, failing that, to die as soon as possible.

Biniam Anberber

Project advisor: Dr. Douglas Parvin, philosophy

Friedrich Nietzsche: Appropriate Distance and Society

SESSION III-H-3: Wallenberg Hall, Denkmann [1:55-2:15 p.m.]

Throughout his works, Friedrich Nietzsche gave his accounts on society in general, but I will focus more on his ideas regarding the differences between men and women. While many of Nietzsche's readers are quick to disapprove of his explanations, we should take a more meaningful and deeper approach. Taken out of context, his ideas may appear derogatory and sexist, but when viewed objectively and in the context of his complete philosophy, they offer an interesting perspective on the world. I will argue that Nietzsche is teaching us readers a powerful lesson regarding the harmony that we can achieve in society through the use of his concept of appropriate distance.

SESSION III-I [OLD MAIN 132]

1:15-2:15 p.m.

Sara Hovren

Project advisor: Dr. Eric Stewart, religion

'Coming Down the Mountain': An Expansion of Victor Turner's Theories on Liminoid

SESSION III-I-1: Old Main 132 [1:15-1:35 p.m.]

In the work titled "Coming Down the Mountain: an expansion of Victor Turner's theories on liminoid," I explore the issue of liminality/liminoid within rituals and, most importantly, what occurs after these "threshold" experiences to enable participants to process them. This session expands on Victor Turner and Van Gennep's concepts of liminality, liminoid and communitas. Through my own personal experiences as a summer camp counselor and a pilgrim on the Camino de Santiago, I recognize threshold experiences or "liminality" occurs in summer camps as well as study abroad trips. These experiences often share the various phases within initiatory rituals, such as separating from their society home communities, earn new and temporary statuses, end by returning to their home community with a new identity that is gained through their experience. Pre-modern theories state that the main purpose of reintegration is to offer the participant acceptance in the home community as a changed individual. Lack of recognizable markers of status change after modern examples of reintegration make it harder for individuals to re-enter their communities as transformed, and modern theories do not offer clarity on how re-entry looks after modern threshold experiences. I say that "reintegration" after modern examples must be expanded in that not all the time do these experiences create a status change for the participant within the subculture, but rather a personally transformational experience that the phase of "reintegration" plays an integral role in accepting the transformational experience.

Ranay Janssen

Project advisor: Dr. Jason Mahn, religion

Understanding Messiahship Through Anakin Skywalker

SESSION III-I-2: Old Main 132 [1:35-1:55 p.m.]

This paper/presentation critically looks at the Star Wars movies and the way these movies can affect the way Christians understand the role of Messiah as interpreted by popular culture.

Riley Ferguson

Project advisor: Dr. Jason Mahn, religion

Where Are We Going? A Critical Analysis of Millennials and the Traditional Church

SESSION III-I-3: Old Main 132 [1:55-2:15 p.m.]

Walk into any given Protestant church on any given Sunday morning, outside of Christmas and Easter; what you will most likely see is the pastor at the front of the congregation running through the week's prayers, a piano/organ playing, a cross somewhere at the front. What you will not see is a great multitude of young adults between the ages of 18-29 (Kinnaman). There is a problem with millennial church membership, and it is deeply impacting our congregations and how faith is being understood today. Pastors, church leaders and congregations have been trying to find ways to solve the issues of youth leaving the church by adapting to the most current context of culture within the United States. Churches over the past 40 years have begun to move away from older worship styles and start adapting "secular culture" (that which we understand to be outside of the confines of church teaching) into the church, changing how the church is now understood. Non-denominational churches and emerging churches have begun to take over the realm of church membership when it comes to young adults and young families. The formation of different types of church has been one attempt to fix the problem of millennial church membership. Many religious leaders and scholars alike (including myself) believe there are other means to bring young adults back into the traditional church. What I propose to bring back those that the church has lost is not to drastically change the church to meet the needs of each individual, but rather educate individuals on what it means to be a Christian.

SESSION III-M [LARSON HALL, BERGENDOFF]

1:15-2:15 p.m.

Dr. Paul Olsen

English

The Four Minute Mile—And the Entire Sport World Is Changed

SESSION III-M-1: Bergendoff, Larson Hall, Bergendoff [1:15-1:45 p.m.]

Roger Bannister died recently, and he should be remembered as the man who changed sport—as well as an understanding of human possibility—forever. In 1954, this medical student at Oxford University navigated a world full of both hope and fear, of perceived physical limitation, historical "proof," physical exhaustion, and naysayers from all angles, including the press, coaches and fellow athletes. Throughout that journey, Bannister grasped at what he called "rhythms arising from nerve impulses and contracting muscles which interact...with a feeling of beauty...which might otherwise remain locked away inside ourselves."

Allan Daly, Student Government Association (SGA) president; Courtney Kampert, SGA vice-president; Adam Gronewold, SGA president-elect; Kaitlyn Watkins, SGA first-year senator
Student Government Association: A Year in Review

SESSION III-M-2: Bergendoff Larson Hall, Bergendoff [1:45-2:15 p.m.]

Augustana's Student Government Association has worked diligently this past year to improve the campus and community for the students. As representatives of the student body, we believe it is important to inform the community of what we have accomplished. In this light, we will discuss the needs of the students and plan for future projects as we move toward a new academic year.

SESSION III-O [HONKAMP MHYRE BLACK BOX, BRUNNER THEATRE CENTER]

1:15-2:15 p.m.

Paul Lewellan, Kordell Benson, Baillie Brooks, Marissa Catalano, Sean Cavanaugh, Kelsi Clark, Alyssa D'Angelo, Ally Daniels, Samantha Fisher, Zachary Fuller, Jenna Hartman, Xavier Holley, Emily Johnson, Trung Le, Thomas Lunney, Ntita Mabanza, Yasmin Moreles, Marissa Neradt, Gena Pulla, Madalynne Russel, Kate Schreader, Nicholas Steichmann, Jessica Van Roeyen

Project advisor: Paul Lewellan, communication studies

More Than Thoughts and Prayers: Gun Violence in Schools

SESSION III-O-1: Honkamp Mhyre Black Box, Brunner Theatre Center [1:15-2:15 p.m.]

On Feb. 14, 2018, a single gunman, Nikolas Cruz, killed 17 students and teachers in Parkland, Fla. Following in the wake of other school shootings—Sandy Hook Elementary, Virginia Tech University and Columbine High School—the students at Marjory Stoneman Douglas High School told the world, “Thoughts and prayers are not enough.” This collection of performances recognizes the suffering of the victims while providing information on the causes of school violence and the hopes for its prevention. It gives voice to the survivors and calls for action. The primary texts for interpretation will be memoirs, blogs, 911 calls, political rhetoric, interviews and news reports. The program connects the lessons learned from these violent acts to this campus community, the audience, the broader society and the performers.

SESSION III-P [WILSON CENTER]

1:15-2:15 p.m.

Farah Marklevits, Astrid Tello-Rodriguez, Allyson Jesse, Uxmar Torres, Lydia Lara, Melissa Conway, Sam Wagner, Cassandra Guerrero, Ashanti Mobley

Project advisor: Farah Marklevits, English

Split This Augie Rock: Poetry & Social Justice

SESSION III-P-1: Wilson Center [1:15-2:15 p.m.]

For 10 years, the Split This Rock Poetry Festival has explored and celebrated poetry's power to engage with pressing social issues. This year, seven Augie students attended this year's festival in Washington, D.C. In this session, they will share their experiences and lead attendees in a poetry activity and/or discussion of poetry as a vehicle for social change.

SESSION IV-A [OLIN AUDITORIUM]

2:30-3:30 p.m.



FEATURED STUDENT PRESENTATION

Janelle Norden

Project advisor: Keri Bass, community service

Exploring Food Insecurity at Augustana

SESSION IV-A: Olin Auditorium [2:30-3:30 p.m.]

This presentation will detail how the study of food insecurity shaped my Augustana College experience. From the beginning of

my journey on the Campus Kitchen leadership team to establishing the Campus Cupboard and eventually focusing my Senior Inquiry on food insecurity at Augustana, this presentation will share what I have learned from this experience and how it has come to shape what I think it means to be an Augustana student.

SESSION IV-B [OLIN 305]

2:30-3:30 p.m.

Kathryn Gorzek

Project advisors: Dr. Catherine Goebel and Dr. Margaret Morse, art history

Blank Slate? Silhouette Imagery in African American Art

SESSION IV-B-1: Olin 305 [2:30-2:50 p.m.]

This presentation is a discussion on silhouette forms in the work of four black artists: Aaron Douglas, Jacob Lawrence, Kerry James Marshall and Kara Walker.

Elise Morgan

Project advisors: Dr. Catherine Goebel and Dr. Margaret Morse, art history

The Language of Delacroix: Defining Modern Art

SESSION IV-B-2: Olin 305 [2:50-3:10 p.m.]

Eugène Delacroix is arguably the most integral artist of the modern era. His avant-garde leadership and philosophy helped define Romanticism and influenced his contemporaries as well as future generations. Delacroix's consummate use of line and color immortalized passionate scenes in the early to mid-1800s that inspired notable artists, including Pierre-Auguste Renoir, Paul Cézanne and Vincent Van Gogh, during the following decades. This presentation will examine the defining characteristics of Delacroix's paintings and their impact, traced through the 19th century, to prove he was a catalyst for modern art.

Ashley Martin

Project advisors: Dr. Catherine Goebel and Dr. Margaret Morse, art history

Ghost Stories in Japanese Art: Yurei-zu

SESSION IV-B-3: Olin 305 [3:10-3:30 p.m.]

Yurei-zu (幽霊図) is a type of Japanese art that consists of ghosts, demons and other supernatural beings in woodblock prints and paintings. It is a form of art that has become increasingly more popular over the last few centuries, and has been influenced by things such as kabuki theater, ukiyo-e, and even Japanese politics and beliefs. In my previous senior research project, I studied five Japanese kaidan, or ghost stories, including The Yuki-onna (The Woman of the Snow), The Yotsuya Kaidan (The Tale of Oiwa and Iemon), Gashadokuro (Giant Skeletons), The Futakuchi-onna (The Two-Mouthed Woman) and Botan Doro (The Peony Lantern). For my second senior research project, I've shifted my focus of research to the artistic aspect of these five stories, which would be Yurei-zu.

Each of these kaidan have origins within Japanese paintings and woodblock prints ranging from the 15th century to the 19th century. This presentation will look at the beginnings of Yurei-zu and how a single frame or print can tell a ghost story with the use of icons. It also will look at how artists such as Katsushika Hokusai, Utagawa Kuniyoshi, Sawaki Suushi and Seikien Toriyama are able to recreate these stories using their own style and medium.

SESSION IV-C [OLIN 209]

2:30-2:50 p.m.

Zayne Blumberg

Project advisor: Dr. Lee Carkner, engineering physics
How My Internship at Mediacom Influenced My Views on Engineering
SESSION IV-C-1: Olin 209 [2:30-2:50 p.m.]

Want to learn more about internships? Or how to use your knowledge from Augustana to pursue your career? Or just curious about the engineering career field in general? Well, after my internship at Mediacom, I would like to share how this experience taught me about the real world and how it affected my views on the engineering career field.

SESSION IV-D [HANSON 102]

2:30-3:10 p.m.

Dr. Amanda Wilmsmeyer, Hayden Holland

Project advisor: Dr. Amanda Wilmsmeyer, chemistry
Adsorption of Volatile Organic Compounds to Amorphous Silica
SESSION IV-D-1: Hanson 102 [2:30-2:50 p.m.]

This work focused on the fundamental surface chemistry of volatile organic compounds as they adsorb to high-surface area materials. A series of small ketones have been chosen to investigate how small changes in molecular structure affect their adsorption properties.

Dr. Lori Scott

Biology
Using Funding from the National Science Foundation to Create an Authentic Research Program in Genome Analysis
SESSION IV-D-2: Hanson 102 [2:50-3:10 p.m.]

Prior to my sabbatical in the spring term of 2014-15, I received funding through the National Science Foundation to support the development of authentic research opportunities for students. The awards were called the NSF Research Coordination Network–Undergraduate Biology Education (RCN-UBE); the NSF Scholarships in Science, Technology, Engineering, and Mathematics (S-STEM); and the NSF Louis Stokes Alliances for Minority Participation (LSAMP). Two broad projects were funded by these awards. Project I developed and offered workshops that trained high school and undergraduate faculty, and graduate students (both nationally and internationally) in the use of bioinformatics tools for genome analysis projects. Project II enhanced the undergraduate experience of select STEM majors at Augustana by providing scholarships and/or financial support to participate in authentic research opportunities. During my sabbatical, I offered four workshops and mentored nine students in authentic research projects. This sabbatical significantly contributed to the development of my personal research program, called the *Meiothermus ruber* Genome Analysis Project.

SESSION IV-F [HANSON 304]

2:30-3:30 p.m.

Delaney N. Wresch, Justin E. Bird, Theresa J. Nalty

Project advisor: Dr. Heidi Storl, philosophy
Evaluating Changes in Physical Function of the Upper Extremity Using the MSTs UE, the TESS UE, and the QuickDASH
SESSION IV-F-1: Hanson 304 [2:30-2:45 p.m.]

The purpose of this study was to determine the responsiveness of several subjective functional measurements using Receiver Operating Characteristic (ROC) curves in orthopaedic oncology patients following upper extremity surgery.

Phoebe Strell

Project advisor: Dr. Heidi Storl, philosophy
Integrated Stress Response (ISR) Controls Translation of Proteins through the Eukaryotic Translation Initiation Factor 2
SESSION IV-F-2: Hanson 304 [2:45-3 p.m.]

One area of research in Dr. Mauro Costa-Mattioli's lab is the cellular and molecular mechanisms that underlie learning and memory and their neurological deficits. A biochemical mechanism explored in relation to memory is the Integrated Stress Response (ISR). The ISR contains multiple pathways that regulate protein translation through kinases. The three kinases the lab focuses on include: PKR, GCN2 and PERK. These kinases phosphorylate eIF2. Stressful stimuli can cause the activation of these kinases within the cells. PERK activates endoplasmic reticulum (ER) stress by misfolded proteins, causing an increase in PERK that then increases phosphorylation eIF2. More phosphorylated eIF2 leads to a decrease in general translation and an up-regulation in translation of specific mRNAs. The Integrated Stress Response Inhibitor (ISRIB) is a small molecule that can be used as a therapeutic drug to recover general translation, while decreasing translation of the specific mRNAs. My small project examined regulation of translation to determine how HEK293T cells behaved when exhibiting ER stress, and whether ISRIB could sustain or recover their general translation. The cells were treated with five conditions. A western blot was performed to look at overall translation and the proteins of interest. The results showed that Thapsigargin causes a significant increase in phosphorylation of eIF2 and a shift in PERK, indicating that stress was induced and that PERK phosphorylated eIF2. When the vehicle of ISRIB was added, it caused an increase in phosphorylation of eIF2, which means that the vehicle is working against the expected therapeutic effects of ISRIB.

Valeria Melo, Dr. Kjersti Aagaard, Derek O'Neil

Project advisors: Dr. Heidi Storl, philosophy; Dr. Kjersti Aagaard, Baylor College of Medicine, Texas Children's Hospital
The Role of Npas2 in Regulating the Hepatic Circadian Clock
SESSION IV-F-3: Hanson 304 [3-3:15 p.m.]

The circadian clock helps regulate our daily activities to adapt to environmental cues such as light and dark, food availability, nutrition and sleep. Previous studies in Dr. Aagaard's lab used a primate model to show that maternal high-fat diets (HFDs) alter fetal hepatic metabolism and are associated with epigenetic modifications in the *Npas2* circadian clock gene. *Npas2* serves as a critical transcriptional regulator of the circadian clock and regulates lipid and fatty acid metabolism pathways in the developing mouse liver. We hypothesized that the loss of *Npas2* in the liver alters the circadian molecular pathway. RNA extraction, cDNA synthesis and quantitative polymerase chain reaction (qPCR) were used to measure the expression of hepatic circadian genes (including *Bmal1*, *Clock*, *Per 1*, *Per 2*, *Cry 1* and *Cry 2*) in *Npas2* conditional knockout (cKO) mice over a 24-hour period. Due to time constraints, qPCR was not run on the complete set of 112 samples. Preliminary data representing one male WT and one male cKO sample from

each time point showed that Clock gene expression was shifted by four hours in Npas2 cKO mice while Per1, Per2 and Cry1 have increased gene expression. Future experiments will focus on completing the qPCR analysis to allow for definitive conclusions to be made. By understanding the metabolic pathway through which Npas2 regulates metabolism in the liver, we may better understand the maternal-fetal relationship—specifically, how maternal HFD exposure and the resulting epigenetic modifications to the Npas2 gene may contribute to metabolic disease of the child.

Kia Lechleitner

Project advisors: Dr. Shara Stough, psychology; Dr. Heidi Storl, philosophy

Role of the Thalamic Reticular Nucleus in Alzheimer's Disease

SESSION IV-F-4: Hanson 304 [3:15-3:30 p.m.]

Alzheimer's disease (AD) is characterized by loss of hippocampal memory. However, other symptoms of AD that often precede memory deficits include sleep fragmentation, attention deficits, epileptiform activity and decreased levels of slow wave sleep (SWS). SWS is critical for memory consolidation, and is the phase of sleep during which solutes such as amyloid beta (A β) are cleared from the brain. The Chin lab has been investigating network mechanisms that give rise to the diverse symptoms of AD and have identified the corticothalamic circuitry as a common denominator for many aspects of AD symptoms. Activity of neurons in the thalamic reticular nucleus (TRN), a major control nucleus in the corticothalamic network, is markedly reduced in an AD mouse model and could directly contribute both to memory deficits as well as A β accumulation, a pathological hallmark of AD. I was given the task of determining whether there exists a correlation between SWS and A β deposition, as well as whether the proportions of the subpopulations of neurons that compose the TRN differ in AD mice when compared to non-AD mice.

SESSION IV-G [HANSON 305]

2:30-3:30 p.m.

Francesca Scribano

Project advisors: Dr. Patrick Crawford and Dr. Gregory Domski, chemistry

Antibiotic Resistance Through Permeability and Proteins: A Critical Review

SESSION IV-G-1: Hanson 305 [2:30-3 p.m.]

Since the early 1900s, antibiotics have played a major role in the treatment of bacterial infections. The efficacy with which these therapies target microorganisms has resulted in them being characterized as one of the most successful forms of chemotherapy. While the development of antibiotics saw great initial success, the problem of resistance has again made the study of these treatments widely impactful. The focus of this review will be on bacterial resistance as it pertains to beta-lactam antibiotics such as penicillin and cephalosporin. In response to these medications, bacteria have developed certain defense mechanisms. These include changes in membrane permeability, characterized by porin concentration; penicillin binding proteins, which mediate the catalysis of these treatments; and enzymes, termed beta-lactamases, that compromise the integrity of the structure of antibiotics. To gain a broader understanding of the fight against antibiotic resistance, it is important to appreciate the recent research that has been conducted in these three areas.

Zachary D. Schrank

Project advisors: Dr. Patrick Crawford and Dr. Gregory Domski, chemistry

Mechanism of Action of T-oligo and its Implications in Telomere-Based Cancer Therapy

SESSION IV-G-2: Hanson 305 [3-3:30 p.m.]

Cancer has come a worldwide health concern, and the prevalence of cancer is only projected to increase. Conventional therapies are primarily used in the treatment of cancer, such as chemotherapy, radiation and surgical resection, but these therapies often elicit undesirable side effects. Thus, the development of molecularly-targeted therapies is of paramount importance, and the telomeres have become an attractive therapeutic target due to their involvement in the attainment of cancer cell immortality. T-oligo, a guanine-rich oligonucleotide homologous to the 3' telomeric overhang, has been shown to induce potent DNA damage responses (DDRs) in multiple cancer cell lines. Though the DDRs induced by T-oligo have been well-characterized, the initial events that initiate these DDRs remain unclear. Elucidation of the mechanistic action of T-oligo is required before it can be applied clinically. This presentation aims to provide a comprehensive understanding of the current research regarding the mechanism of action of T-oligo, as well as discuss what details remain poorly understood.

SESSION IV-H [WALLENBERG HALL, DENKMANN]

2:30-3:30 p.m.

Ryan Matthew Janusz

Project advisor: Dr. Douglas Parvin, philosophy

The Modern Ressentiment

SESSION IV-H-1: Wallenberg Hall, Denkmann [2:30-2:50 p.m.]

This session is an exploration of modern American society through the lens of a Nietzschean philosophy; topics such as political ideologies, social programs, legislation and general social issues will be discussed and analyzed using Nietzschean ideals. Special attention is paid to the impact these issues have on the Augustana community.

Megan McGivern

Project advisor: Dr. Douglas Parvin, philosophy

Hard Determinism: The Toughest Pill You're Destined to Swallow

SESSION IV-H-2: Wallenberg Hall, Denkmann [2:50-3:10 p.m.]

Perhaps one of the most overused and cliched expressions in modern discourse is "everything happens for a reason." While usually meant to be comforting or inspiring, those who use this phrase often do not understand its philosophical implications for determinism. If everything really does happen for a reason, we as humans surely are not in control of these reasons and therefore are not control of what happens for said reasons, including our own actions. To many, philosophers and non-philosophers alike, determinism is difficult to accept when applied to human action because it begs the question of free will and moral responsibility. Moreover, it is dissonant with an inherent feeling of free will. Libertarians and compatibilists have attempted to resolve this dissonance by arguing that free will and determinism are not necessarily logically contradictory. To do this, they must assume metaphysical dualism, or existence of the mind outside of the physical world. Advancements in neuroscience, however, have begun to question this assumption. Physicalism, originally coined materialism, is the metaphysical theory that everything that exists in the universe is solely physical. This distinction is crucial because if mental events are physical events, then they are subject to natural

laws and, in turn, physical determinism. Since the 1980s, a great deal of neuroscientific research has begun to indicate that mental events are, in fact, physical events. Given the truth of physicalism and causal determinism, moral responsibility is impossible.

Ethan Higginbotham

Project advisor: Dr. Roman Bonzon, philosophy

How People Make Words Make People Make Words

SESSION IV-H-3: Wallenberg Hall, Denkmann [3:10-3:30 p.m.]

Kripke purports to offer a Wittgensteinian solution to the skeptical problem of private language. Kripke's and Wittgenstein's views differ, however, in their characterization of the role of community in language use. In the Kripkean system, community plays a justificatory role in the speech of an individual. The utterances (and correspondingly the rule-following behaviors) of the individual are meaningful by their connection to the assent of the appropriate linguistic community. In the Wittgensteinian system, community plays a role in the training (and retraining) of speakers, and it plays a role in the setting of axioms for the language. The individual does not make reference to the community to justify their utterances as one does in the Kripkean system. Additionally, the community is partially responsible for the structure of language itself, which Kripke neglects to properly take into account.

SESSION IV-I [OLD MAIN 132]

2:30-3:10 p.m.

Hannah Kathleen Griggs

Project advisors: Dr. Jason Mahn and Dr. Eric Stewart, religion

Toward a Theology of Transformation: Destroying the Sycamore Tree of White Supremacy

SESSION IV-I-1: Old Main 132 [2:30-2:50 p.m.]

Black liberation theologians come to terms with white supremacy by collectively remembering the story of the Exodus and Jesus' crucifixion—affirming God's preference for freedom and in-the-world salvation. The particular history of white American Christianity requires a different story to provide the foundation for our social memory. As white American Christians, we have certain blind spots—blind spots created by historical and social privileges that have given white people unequal access to power and resources. The story of Zacchaeus has the potential to help reframe white Christianity's conception of race relations in the United States, shifting from a reconciliation paradigm to a reparations paradigm and beginning a theology of transformation. White American Christians can respond to black liberation theology by rejecting the collective narratives that sustain racism, white supremacy and other forms of oppression. Living a theology of transformation means that white American Christians will begin to tell new stories, stories that make Jesus' love for all people the central theme, and framing problems, solutions and moral norms accordingly.

Holly N. Grim

Project advisor: Dr. Jason Mahn, religion

Feminist Theology Within the Evangelical Lutheran Church in America: Worship, Leadership and Social Statements

SESSION IV-I-2: Old Main 132 [2:50-3:10 p.m.]

My Senior Inquiry is a reflection of how my education has shaped my interest in how the Evangelical Lutheran Church in America (ELCA) uses feminist theology in liturgy, social statements and leadership. I also looked at what the ELCA can do better and improve upon to strengthen its progressive stance on feminism. I did this by using an intersectional feminist lens.

SESSION IV-O [HONKAMP MHYRE BLACK BOX, BRUNNER THEATRE CENTER]

2:30-3:30 p.m.

Dr. Pat Shea, Desiree Hernandez, Kristoffer Kizer, Marley Marriott, Nicolette Hampton

Project advisor: Dr. Patricia Shea, education

Reflective Practitioner Senior Inquiry

SESSION IV-O: Honkamp Mhyre Black Box, Brunner Theatre Center [2:30-3:30 p.m.]

Using two frames—Augustana Student Learning Outcomes (2013) and the seminal work of Donald A. Schon, *The Reflective Practitioner* (1983)—RPSI (Reflective Practitioner Senior Inquiry) students explored, reflected, connected and responded to the multi-dimensional learning experiences of Augustana. This capstone project provided students the opportunity and tools to demonstrate their personal and professional abilities and talents that empower them to respond in service and leadership to the complexities of a diverse and ever-changing world. RPSI offered students an opportunity to creatively express the goal of Senior Inquiry: to integrate the many different courses into a capstone project. It provides a way for them to demonstrate to graduate schools and employers the range of their knowledge and abilities.

Nicolette Hampton

Project advisor: Dr. Pat Shea, communication studies

Headliners: How Chicago Is Framed in the News

SESSION IV-O-1: Honkamp Mhyre Black Box, Brunner Theatre Center [2:30-3:30 p.m.]

"Headliners" is a project focused on how the news has the ability to frame people, situations and even cities in a particular light. I believe Chicago especially is often shown in a negative manner, specifically through the news. Through interviews and separate research, I aim to discover views on this topic and to develop views on media literacy.

Desiree Hernandez

Project advisor: Dr. Pat Shea, communication studies

Challenging Gender Roles: Why Women Are the Future of the Car Industry

SESSION IV-O-2: Honkamp Mhyre Black Box, Brunner Theatre Center [2:30-3:30 p.m.]

I am presenting my Senior Inquiry on the research I conducted on the car industry. My goal is to raise awareness of the universal hierarchy of male dominance that exists in the car industry. The industry is changing, and this project celebrates the diversity among automotive professionals in the present and for the future.

Kristoffer Kizer

Project advisors: Dr. Pat Shea and Doug Tschopp, communication studies

Augustana's Entrepreneurial Ecosystem: How Augie Can Establish an Innovative and Entrepreneurial Campus Culture

SESSION IV-O-3: Honkamp Mhyre Black Box, Brunner Theatre Center [2:30-3:30 p.m.]

How prepared are you to thrive in our global high-skilled workforce? Do you possess the skills to solve the world's most complex social problems? Do you have a desire to launch your own venture one day? Regardless of your deepest dreams, goals, aspirations or ambitions, my Senior Inquiry is a living document on how Augustana can foster innovative and entrepreneurial thinking on campus to solve complex issues on the local, national and global levels. This project is an in-depth strategic proposal designed

to offer Augustana's senior leadership, administration, faculty and additional stakeholders cutting-edge insights and creative recommendations on how Augustana can foster entrepreneurial thinking and innovation on campus. Within this project, I address the following subtopics: the rise of entrepreneurship and innovation in higher education; entrepreneurial ecosystems within other higher education institutions; the emergence of Generation Z aka the iGen; how this proposal complements Augie's current 2020 strategic plan; the importance of entrepreneurial core competencies and how these competencies improve employment in the 21st-century workforce; the power of a design-centric curriculum and how students can apply entrepreneurial thinking by presenting sustainable solutions to address social issues; future recommendations and initiatives on how to strengthen entrepreneurial student leadership in and outside the classroom.

Marley Marriott, Kristoffer Kizer, Nicolette Hampton, Desiree Hernandez, Dr. Pat Shea

Project advisor: Dr. Pat Shea, communication studies

Message Behind the Music

SESSION IV-0-4: Honkamp Myhre Black Box, Brunner Theatre Center [2:30-3:30 p.m.]

In times of extraordinary political and social tension, we can often see issues reflected in the art and popular culture of the time period. Throughout history, artists and creators alike have infused the entertainment factor of music, art and film with a clear and sometimes controversial message. My Senior Inquiry deconstructs the rhetorical devices that artists use to influence the perspectives of their followers and the ways in which these artists choose to use their platform to give voice to others. This will be done through analysis of 10 songs from the last two years that I have identified as having specific social/cultural or political narratives. By placing these songs in proper historical context, explaining their significance and exploring their effects, I hope to encourage others to try listen for a message and not just for the beat.

SPECIAL PROJECTS

Anna Pfalzgraf

Project advisor: Dr. Lena Hann, public health

+IMPACT Table in the Brew

The Gerber Center, 4th Floor [10:45 a.m.-3:30 p.m.]

Table in the Brew is designed to create awareness about +IMPACT. +IMPACT encourages open dialogue among students regarding sexual health, sexual assault and healthy relationships through educational campaigns on campus. We utilize feminist perspectives, trauma-informed care and cultural diversity when discussing these topics. +IMPACT will always be a safe space for survivors and bystanders to be able to seek information, support and resources.

Creativity Pop-Ups

Various times and locations [9:30 a.m.-4:45 p.m.]

Various creative events and interactive possibilities will take place throughout the day and across campus.

Dr. Forrest Stonedahl

Mathematics and computer science

Augustana Invitational Robotics Challenge 2018

Hanson 102 [7:30-9:30 p.m.]

We will host the 3rd Annual Augustana Invitational Robotics Challenge. This competition involves student teams from Augustana and potentially several other schools in the region with robots they have designed, built and programmed. This year's challenge task involves the careful relocation of soda pop cans.

Dr. Danielle Beliveau-Derion, Berni Carmack, Anna Dispensa, Madeline Kohlbeck, Peyton Achs, Allison Brinker, Shelby, Garrin Jost, Sarah Menage, Gina Superczynski, Meg Klocke, Andrea Pardo, Emily Cassity

Project advisor: Dr. Danielle Beliveau-Derion, education

Earth Day Celebration of Learning

[NOT OPEN TO THE PUBLIC]

Augustana elementary education majors will host an Earth Day Celebration of Learning with Longfellow Liberal Arts School's kindergarten students. The education majors have planned literacy lessons around the Earth Day theme to teach Longfellow students about the importance of the three Rs: reduce, reuse and recycle. The event will begin with a recreation of Dr. Seuss's *The Lorax* and then the Longfellow students will divide into three groups and rotate through each of the reduce, reuse and recycle lessons. The Longfellow students will learn how to help our environment through a series of environmental awareness lessons and the Augustana students will be able to use teaching strategies that they have learned in their education methods courses to engage and support learning in an interdisciplinary approach with young children.

Ashley Adams, Jeff Foltz, Cora Habeger, Brittany Hatlestad, Dakotah Kinsella, Caitlyn Lecour, Rachel McLeod, Tracy Pham, Juliana Silva, Kari Vance, Ines Urquizo, Alivia Lowery

Project advisors: Dr. Shara Stough, Dr. Rupa Gordon and Dr. Ian Harrington, psychology; Dr. Scott Gehler, biology

NeurdFest: Engaging Elementary and College Students in Brain Awareness

[NOT OPEN TO THE PUBLIC]

Augustana's neuroscience program's annual brain awareness outreach event, NeurdFest, is in its fourth year. Since 2015, we have brought second-grade students from Longfellow Liberal Arts School to campus to learn about the brain. For several of those years, the Longfellow teachers have prepared their students for the event by reading the book *Your Fantastic Elastic Brain: Stretch It, Shape It*, written by JoAnn Deak and illustrated by Sarah Ackerley. While on campus on the morning of the Celebration of Learning, as many as 50 elementary students learn about the general functions of the brain, how the brain engages with sensory information, how brain cells transmit information, how the brains of different animals compare, and, perhaps of greatest practical significance, why it is important to practice brain safety, all through a series of interactive exhibits. As facilitators of these same exhibits, our student volunteers learn how to engage others with the academic discipline in which most of them have chosen to major.

FACULTY ACHIEVEMENTS

CALENDAR YEAR 2017 (updated 4/3/18)

Compiled and formatted by Evan Marzahn, Thomas Tredway Library

Bahls, Steven C. "From Shared Governance to Shared Accountability." *Shared Governance in Higher Education: New Paradigms, Evolving Perspectives*, edited by Sharon F. Kramer, vol. 2, SUNY P, 2017, pp. 83–120.

Bancks, Jacob. "Celebratory Evensong." Conducted by Ron May, performed by the Trinity Episcopal Cathedral Choir, 19 Nov. 2017, Trinity Episcopal Cathedral, Davenport, IA. Premiere commission.

Bancks, Jacob. "Occidental Symphony." Conducted by Jason Fetting, performed by the US Marine Band, 19 Mar. 2017, Rachel M. Schlesinger Concert Hall, Alexandria, VA. Premiere commission.

Bancks, Jacob. "Over the Broken Waters." Performed by Naha Greenholtz and Benjamin Loeb, 29 Jan. 2017, Quad City Symphony Orchestra Signature Series, Centennial Hall, Augustana College, Rock Island, IL. Premiere commission.

Bancks, Jacob. "Southern Harmony." Performed by the ZouM New Music Collective, 8–9 Sept. 2017, Whitmore Recital Hall, U of Missouri, Columbia, MO and E. Desmond Lee Recital Hall, Washington U, St. Louis, MO.

Beliveau-Derion, Danielle. "Can We Use 20th-Century Caldecott Award Winners in the 21st Century? Oldies but Goodies." *Illinois Reading Council Journal*, vol. 45, no. 3, Summer 2017, pp. 3–8.

Beliveau-Derion, Danielle. "R.E.A.D.: Illinois Reading Council Program." International Literacy Association Conference, 15–17 July 2017, Orlando, FL.

Beliveau-Derion, Danielle. "Syntax, Semantics, and That's What It's All About!" Illinois Reading Council Conference, 5–7 Oct. 2017, Peoria, IL.

Beliveau-Derion, Danielle, A. Dispensa, M. Kohlbeck, A. Brinker, M. Ambre, et al. "It's All About the Intervention." Illinois Reading Council Conference, 5–7 Oct. 2017, Peoria, IL.

Beyer, Chris, B. Vietti, and K. Jakielski. "Building a Faculty-in-Residence Program." Great Lakes Association of College and University Housing Officers Annual Conference, 12–14 Nov. 2017, Indianapolis, IN.

Bracke, Deborah. "Fair and Equal." *The Teaching Professor*, vol. 31, no. 2, Feb. 2017, pp. 1+.

Burnham, Jennifer L., K. Burnham, M. Chumchal, J. Johnson, and J. Welker. "Status of Mercury Contamination in Twenty-Four Bird Species in Northwest Greenland." North Water Polynya Conference, 21–24 Nov. 2017, Copenhagen, DK.

Burnham, Jennifer L., K. K. Burnham, and B. W. Konkel. "Status of Peregrine Falcon and Gyrfalcon Populations in Northwest Greenland." North Water Polynya Conference, 21–24 Nov. 2017, Copenhagen, DK.

Burnham, Jennifer L., K. K. Burnham, B. W. Konkel, and J. A. Johnson. "Significant Decline Observed in Arctic Tern *Sterna Paradisaea* Population in Northwest Greenland." *Seabird*, vol. 30, 2017, pp. 39–50.

Burnham, Jennifer L., K. Burnham, Z. Robb, and B. Konkel. "Spatial Analysis of Migratory Pathways of Atlantic Puffins (*Fratercula Artica*) from Northwest Greenland Using Geolocator Technology." American Association of Geographers Annual Meeting, 4–9 Apr. 2017, Boston, MA.

Calder, Lendol. "What is the Story of the Civil Rights Movement?" Indiana U, Nov. 2017, Bloomington, IN. Workshop.

Calder, Lendol. "Why Historians (Might) Need a Standardized History Assessment Now." American Historical Association Annual Meeting, 5–8 Jan. 2017, Denver, CO. Pre-meeting workshop.

Carter, Angie. "Putting Science into Practice: Why We Need to Play Our Part." *Science Network*, Union of Concerned Scientists, 8 Mar. 2017. Blog.

Carter, Angie. "Water is Life! Extreme Energy and Agricultural Narrative Shifts." Blackmar Lecture, U of Kansas, 8–10 Mar. 2017, Lawrence, KS.

Carter, Angie. "Water is Life! Narrative Shifts in the #NoDAPL Movement in Iowa." Midwest Sociological Society Annual Meeting, 30 Mar.–2 Apr. 2017, Milwaukee, WI.

Choi, Hyeong-Gyu and Eric T. Brey. "The Effect of the Perceived Social Acceptance on Brand Content Marketing." Marketing Management Association Spring Conference, 22–24 Mar. 2017, Chicago, IL.

Cohen, Alexander H., J. V. Irwin, and E. Gall. "From Paper to Pixels: The Effects of Modality on End-of-Course Survey Responses." *International Journal of Assessment and Evaluation in Education*, vol. 7, no. 1, 2017, pp. 32–43.

Cohen, Alexander H. and Chase Pielak. *Living with Zombies: Society in Apocalypse in Film, Literature and Other Media*. MacFarland, 2017.

Colmenares, America. "Venezuela in Crisis." Iowa City Foreign Relations Council, 31 Oct. 2017, Iowa City, IA.

Crawford, Patrick, L. Grulke, A. Bergstrom, T. Groen, E. Analtis, and L. Scott. "Isolation, Expression, and Characterization of a β -Lactamase Produced by *Meiothermus Ruber*." American Society of Biochemistry and Molecular Biology National Meeting, 22–26 Apr. 2017, Chicago, IL.

Croll, Paul R., panelist. "Building a Diverse Campus: Recruiting and Retaining Students, Faculty, and Administrators of Color." Midwest Sociological Society Annual Meeting, 30 Mar.–2 Apr. 2017, Milwaukee, WI.

Croll, Paul R., organizer and presider. "Race Relations, Immigration, and Social Contexts." Midwest Sociological Society Annual Meeting, 30 Mar.–2 Apr. 2017, Milwaukee, WI. Panel.

Croll, Paul R., panelist. "Tilling the Ground: Disrupting White Racism on College and University Campuses Through Strategies of Resistance." Midwest Sociological Society Annual Meeting, 30 Mar.–2 Apr. 2017, Milwaukee, WI.

Croll, Paul R. "White Privilege: Not So Invisible Anymore." Center on Race and Social Problems, U of Pittsburgh, 2 Feb. 2017, Pittsburgh, PA.

Croll, Paul R. and Joseph Gerteis. "Race as an Open Field: Exploring Identity Beyond Fixed Choices." *Sociology of Race and Ethnicity*, 24 Dec. 2017.

Croll, Paul R., D. Hartmann, R. Larson, J. Gerteis, and A. Manning. "Colorblindness as Identity: Key Determinants, Relations to Ideology, and Implications for Attitudes about Race and Policy." *Sociological Perspectives*, vol. 60, no. 5, 1 Oct. 2017, pp. 866–888.

Daniels, Kelly. "Love Your Enemies." *The Sun*, no. 495, Mar. 2017.

Daniels, Kelly, contributing editor. *Special on Politics*, Fall/Winter 2016 special issue of *Isthmus Review*, no. 6, 13 Mar. 2017.

Day, Kirsten, chair. "Classical Antiquity VI: Can Classics Domesticate the Wild West?" Film and History Conference, 1–5 Nov. 2017, Milwaukee, WI. Panel.

- Day, Kirsten.** "Foundational Myth and the Dangers of Hubris: Cowboys and Classics in *Westworld* (1973) and *The Lego Movie* (2014)." Southwest Popular/American Culture Association Conference, 15–18 Feb. 2017, Albuquerque, NM.
- Day, Kirsten.** "Home(r) on the Range: The Use and Abuse of Classical Learning in Establishing Character in Western Film." Film and History Conference, 1–5 Nov. 2017, Milwaukee, WI.
- Delaney, John S. and Gregory Tapis.** "Using Accounting Advisory Boards: A Way to Promote Collaboration Between Faculty and Practitioners." *CPA Journal*, vol. 87, no. 9, Sept. 2017, pp. 40–42.
- Domski, Gregory J., I. G. Smith, J. C. Zgrabik, A. C. Gutaszkas, and D. L. Gray.** "Synthesis, Characterization, and Catalytic Behavior of Mono- and Bimetallic Ruthenium(II) and Iridium(III) Complexes Supported by Pyridine-Functionalized N-Heterocyclic Carbene Ligands." *Inorganic Chemistry Communications*, vol. 81, July 2017, pp. 27–32.
- Drazinski, Lynn,** panelist. Quad Cities Speech-Language-Hearing Association Meeting, 25 May 2017, Bettendorf, IA.
- Ellis, David L.** *Politics and Piety: The Protestant Awakening in Prussia, 1816–1856.* Brill, 2017.
- Emerson, María.** "The Future of the 21st Century Library." Co-presented with T.J. Urbanski, Illinois Library Association Conference, 10–12 Oct. 2017, Tinley Park, IL.
- Emerson, María.** "Teaching Civic Virtue." Co-presented with Lindsay Harmon and Sara Stigberg, Illinois Library Association Conference, 10–12 Oct. 2017, Tinley Park, IL.
- Fockler, Matthew N.** "Downriver Again: The Legibility of Social-Ecological Change in the Upper Mississippi Watershed Since the 9-Foot Channel Project." American Association of Geographers Annual Meeting, 4–9 Apr. 2017, Boston, MA.
- France, Margaret.** "'You're Not Just Employees, You're Our Kids': Bob's Burgers as a Workplace Sitcom." Popular Culture Association /American Culture Association National Conference, 12–15 Apr. 2017, San Diego, CA.
- Frank, Nathan,** advisor. "Light Output for Unbound Neutron Emission and Simulation Comparison." Student researcher, Jacob Herman. Quadrennial Physics Congress, American Institute of Physics, 3–5 Nov. 2016, San Francisco, CA. [Previously omitted.]
- Frank, Nathan,** principal investigator. "RUI: Collaboration to Enhance Participation of Minority and Undergraduate Students in Nuclear Science," NSF Grant 1713522. National Science Foundation Division of Physics, 2017–2020.
- Frank, Nathan.** "Sweeper/MoNA-LISA Setup to the S800." Low Energy Community Meeting, 10–13 Aug. 2016, U of Notre Dame, South Bend, IN. [Previously omitted.]
- Frank, Nathan,** advisor. "Unbound Resonances of 26,25F." Student researchers, Jacob Herman, Ali Rabeh, and Matthew Tuttle-Timm. Spring Meeting of the Illinois Section of the American Association of Physics Teachers, 22–23 Apr. 2016, U of Illinois, Urbana, IL. [Previously omitted.]
- Frank, Nathan, J. Herman, A. Rabeh, and M. Tuttle-Timm.** "Selective Population of Unbound Positive Parity States in 25F and 26F." American Physical Society April Meeting, 28–31 Jan. 2017, Washington, DC.
- Frank, Nathan, M. D. Jones, T. Baumann, J. Brett, J. Bullaro, et al.** "Erratum: Neutron-Unbound Excited States of 23N." *Physical Review C*, vol. 96, no. 5, Nov. 2017.
- Frank, Nathan, M. D. Jones, T. Baumann, J. Brett, J. Bullaro, et al.** "Neutron-Unbound Excited States of 23N." *Physical Review C*, vol. 95, no. 4, Apr. 2017.
- Frank, Nathan, M.D. Jones, K. Fosse, T. Baumann, P.A. DeYoung, et al.** "Search for excited states in 25O." *Physical Review C*, vol. 96, no. 5, Nov. 2017.
- Frank, Nathan, M. D. Jones, Z. Kohley, T. Baumann, G. Christian, et al.** "Search for 4n Contributions in the Reaction 14Be(CH₂X)10He." 21st International Conference on Few Body Problems in Physics, EPJ Web of Conferences, vol. 113, 25 Mar. 2016. [Previously omitted.]
- Frank, Nathan, H. Karrick, A. Kuchera, C. Sword, J. Brett, et al.** "Sequential Decay of 26F." American Physical Society Division of Nuclear Physics Fall Meeting, 25 Oct.–28 Oct. 2017, Pittsburgh, PA.
- Frank, Nathan, C. F. Persch, P. A. DeYoung, P. Gueye, A. N. Kuchera, and T. Redpath.** "Neutron Radioactivity in 26O and Lifetime Analysis of Neutron-Rich Isotopes." American Physical Society Division of Nuclear Physics Fall Meeting, 25 Oct.–28 Oct. 2017, Pittsburgh, PA.
- Frank, Nathan, J. K. Smith, T. Baumann, D. Bazin, J. Brown, et al.** "Neutron Correlations in the Decay of the First Excited State of 11Li." *Nuclear Physics A*, vol. 955, Nov. 2016, pp. 27–40. [Previously omitted.]
- Frank, Nathan, C. Sword, J. Brett, P. A. DeYoung, H. Karrick, A. N. Kuchera.** "First Observation of Three-Neutron Sequential Emission from 25O." American Physical Society Division of Nuclear Physics Fall Meeting, 25–28 Oct. 2017, Pittsburgh, PA.
- Gehler, Scott, F. V. Compere, and A. M. Miller.** "Semaphorin 3A Increases FAK Phosphorylation at Focal Adhesions to Modulate MDA-MB-231 Cell Migration and Spreading on Different Substratum Concentrations." *International Journal of Breast Cancer*, 15 Jan. 2017, pp. 1–16.
- Gehler, Scott R. and Aaron A. Jones.** "The Flavonoids Acacetin and Pinostrobin Inhibit Migration and Adhesion in MDA-MB-231 Breast Epithelial Cells." American Society of Cell Biology/European Molecular Biology Organization Meeting, 2–6 Dec. 2017, Philadelphia, PA.
- Gehler, Scott R. and Madison B. Kinder.** "The Antitumorogenic Effects of Natural Compounds, Conessine and Cardamonin, on MDA-MB-231 Breast Epithelial Cells." American Society of Cell Biology/European Molecular Biology Organization Meeting, 2–6 Dec. 2017, Philadelphia, PA.
- Goebel, Catherine C.** "The *Fine Art* of Liberal Arts Interdisciplinarity." International Conference on Visual and Performing Arts, Athens, Greece, 29–31 May 2017.
- Goebel, Catherine C.,** chair. "Nineteenth-Century Art (I)." Midwest Art History Society Conference, 6–8 Apr. 2017, Cleveland, OH. Session.
- Goebel, Catherine C.,** chair. "Nineteenth-Century Art (II)." Midwest Art History Society Conference, 6–8 Apr. 2017, Cleveland, OH. Session.
- Goebel, Catherine C.** "The Teaching Museum and Interdisciplinary Engagement." Midwest Art History Society Conference, 6–8 Apr. 2017, Cleveland, OH.
- Goebel, Catherine C.** "The War Between the Brush and the Pen: Mr. Whistler and His Critics." Whistler Society Annual Lecture, 13 Sept. 2017, London, UK.

- Hager, Stephen B., B. J. Cosentino, M. A. Aguilar-Gómez, M. L. Anderson, M. Bakermans, et al.** "Continent-Wide Analysis of How Urbanization Affects Bird-Window Collision Mortality in North America." *Biological Conservation*, vol. 212, pt. A, Aug. 2017, pp. 209–215.
- Hann, Lena.** "Fetal Tissue: Patients, Providers, and the Laws that Affect Them." Center for Reproductive Rights panel, Abortion Care Network Conference, Mar. 2017, New Orleans, LA.
- Heine, Reuben A.** "Levee Effects upon Flood Levels: An Empirical Assessment." American Association of Geographers Annual Meeting, 4–9 Apr. 2017, Boston, MA.
- Hough, Carrie, E. Prussing, and K. Applegate.** "New Mothers' Breastfeeding Expectations, Challenges and the Return to Employment." *Breastfeeding: New Anthropological Approaches*, edited by Cecília Tomori, Aunchalee E. L. Palmquist, and E. A. Quinn, Routledge, 2017, pp. 185–198.
- Hurty, Jon and John C. Hughes.** "A Life of Song: Considerations for the Collegiate-Based Town and Gown Choir." *Choral Journal*, vol. 57, no. 7, Feb. 2017, pp. 51–59.
- Jakielski, Kathy J.,** panelist. Quad Cities Speech-Language-Hearing Association Meeting, 25 May 2017, Bettendorf, IA.
- Jakielski, Kathy J.** "Childhood Apraxia of Speech: Differential Diagnosis and Evidence-Based Intervention." Annual Meeting of the Danish Association of Logopedics and Phoniatrics, 7 Apr. 2017, Copenhagen, DK.
- Jakielski, Kathy J.,** instructor. "Developing Speech Goals and Stimuli Based on Articulatory Complexity." MedBridge Education, May 2017.
- Jakielski, Kathy J.,** instructor. "Foundations for Clinical Practice: Phonetic Transcription." MedBridge Education, May 2017.
- Jakielski, Kathy J.,** instructor. "Foundations for Clinical Practice: Analyzing the Speech System." MedBridge Education, May 2017.
- Jakielski, Kathy J.,** instructor. "Foundations for Clinical Practice: Vocal-to-Verbal Development." MedBridge Education, May 2017.
- Jakielski, Kathy J., C. Beyer, and B. Vietti.** "Building a Faculty-in-Residence Program." Great Lakes Association of College and University Housing Officers Annual Conference, 12–14 Nov. 2017, Indianapolis, IN.
- Jakielski, Kathy J., M. Gomez, P. McCabe, and A. Purcell.** "Treating Childhood Apraxia of Speech: Evaluating the Kaufman Speech-Language Protocol." Speech Pathology Australia National Conference, 28–31 May 2017, Sydney, AU.
- Jakielski, Kathy J., E. Maas, A. Van Zelst, N. Kovacs, H. Vradelis, et al.** "Treatment for Childhood Apraxia of Speech: Amount and Intensity of Practice." American Speech-Language-Hearing Association Convention, 9–11 Nov. 2017, Los Angeles, CA.
- Jakielski, Kathy J. and Lisa Mitchell.** "Building Speech: A New Approach for Developing Speech Goals and Stimuli." National Conference on Childhood Apraxia of Speech, 6–8 July 2017, San Diego, CA. Pre-conference seminar.
- Jakielski, Kathy J., L. D. Shriberg, E. A. Strand, M. Fourakis, S. D. Hall, et al.** "A Diagnostic Marker to Discriminate Childhood Apraxia of Speech from Speech Delay: I. Development and Description of the Pause Marker." *Journal of Speech, Language and Hearing Research*, vol. 60, no. 4, Apr. 2017, pp. S1096–S1117.
- Jakielski, Kathy J., L. D. Shriberg, E. A. Strand, M. Fourakis, S. D. Hall, et al.** "A Diagnostic Marker to Discriminate Childhood Apraxia of Speech from Speech Delay: II. Validity Studies of the Pause Marker." *Journal of Speech, Language and Hearing Research*, vol. 60, no. 4, Apr. 2017, pp. S1118–S1134.
- Jakielski, Kathy J., L. D. Shriberg, E. A. Strand, M. Fourakis, S. D. Hall, et al.** "A Diagnostic Marker to Discriminate Childhood Apraxia of Speech from Speech Delay: III. Theoretical Coherence of the Pause Marker with Speech Processing Deficits in Childhood Apraxia of Speech." *Journal of Speech, Language, and Hearing Research*, vol. 60, no. 4, Apr. 2017, pp. S1135–S1152.
- Jakielski, Kathy J., L. D. Shriberg, E. A. Strand, M. Fourakis, S. D. Hall, et al.** "A Diagnostic Marker to Discriminate Childhood Apraxia of Speech from Speech Delay: IV. The Pause Marker Index." *Journal of Speech, Language, and Hearing Research*, vol. 60, no. 4, Apr. 2017, pp. S1135–S1152.
- Kahm, Emily S.** "Can Owning a Dog Make You a Better Catholic? Mine Did." *America Magazine*, 19 May 2017.
- Kahm, Emily S.** "Learning, Living and Sexing: Three Crucial Encounters in Religious Sexuality Education." Religious Education Association Annual Meeting, 3–5 Nov. 2017, St. Louis, MO.
- Kahm, Emily S.** "Sex and Sundays: Exploring Sexual Values." Franklin College, 22 Oct. 2017, Franklin, IN. Workshop.
- Katz, Brian P.,** facilitator. "Bystander Intervention Training." Augustana College, 21 Nov. 2017, Rock Island, IL.
- Katz, Brian P.** "Complicit Function Theorem." *Inclusion/Exclusion*, American Mathematical Society Blogs, 30 Oct. 2017.
- Katz, Brian P.** "Discussing Justice on the First Day of Class." *Inclusion/Exclusion*, American Mathematical Society Blogs, 17 Aug. 2017.
- Katz, Brian P.** "Epistemologies of Mathematics." Center for Research in Mathematics and Science Education Brown Bag Talk, San Diego State U, 16 Feb. 2017, San Diego, CA.
- Katz, Brian P.** "Get Off the Road." *Inclusion/Exclusion*, American Mathematical Society Blogs, 28 July 2017.
- Katz, Brian P.** "How Do Mathematicians Believe?" Mathematics Dept. Seminar, California Lutheran U, 29 Mar. 2017, Thousand Oaks, CA.
- Katz, Brian P.** "How Do Mathematicians Believe?" Loras-Clarke Mathematics Seminar, Loras College, 21 Sept. 2017, Dubuque, IA.
- Katz, Brian P.,** organizer and moderator. "IBL Diversity: Yesterday, Today, and Tomorrow." Panelists, Aditya Adiredja, Talitha Washington, and Carol Schumacher, Inquiry-Based Learning Conference, MathFest, Mathematical Association of America, 26–29 July 2017, Chicago, IL.
- Katz, Brian P.** "Inquiry and Equity." *Inclusion/Exclusion*, American Mathematical Society Blogs, 3 Mar. 2017.
- Katz, Brian P.,** facilitator. "NSF PRODUCT Inquiry-Based Learning Workshop." DePaul U, 20–23 June 2017, Chicago, IL.
- Katz, Brian P.,** facilitator. "NSF PRODUCT Inquiry-Based Learning Workshop." Baker U, 20–21 Oct. 2017, Muskegon, MI.
- Katz, Brian P.** "Pedagogical Thinking about Examples in Real Analysis Textbooks." Proof Research Group, Special Interest Group of the Mathematical Association of America for Research on Undergraduate Mathematics Education, 21 Apr. 2017. Online seminar.
- Katz, Brian P.** "Supremum/Supremacy." *Inclusion/Exclusion*, American Mathematical Society Blogs, 4 May 2017.

- Katz, Brian P. and Jessica Ellis.** "Equitable Practices in IBL." MathFest , Mathematical Association of America, 26–29 July 2017, Chicago, IL.
- Katz, Brian P. and Victor I. Piercey.** "SIGMAA IBL: Making Our Future Proactively Inclusive." Joint Mathematics Meetings, 4–7 Jan. 2017, Atlanta, GA.
- Katz, Brian P., S. Yoshinobu, M. Jones, X. Xiao, A. Hodge, et al.** "PRODUCT: Professional Development and Uptake Through Collaborative Teams NSF DUE 1525058." Joint Mathematics Meetings, 4–7 Jan. 2017, Atlanta, GA.
- Kaul, Adam.** Bishop Hill research presentation, Swedish-American Borderlands Conference, 24–25 Aug. 2017, Sigtuna, Sweden, 24–25 Aug. 2017.
- Kaul, Adam.** "A Cosmopolitan Sense of Place: Busking, Tourism, and Performance in 'The City of Strangers.'" *Cosmopolitanism and Tourism: Rethinking Theory and Practice*, edited by Robert Shepherd, Lexington, 2017.
- Kaul, Adam.** "Pedestrian Performances: Irishness, Cosmopolitanism, and Busking in Ireland." Nótai/Notes: Music and Ireland Symposium, Boston College, 23 Sept. 2017, Chestnut Hill, MA.
- Kivisto, Peter**, discussant. Civil Sphere and Radicalization Conference, Centre for Citizenship and Rule of Law, 20–22 Oct. 2017, U of Aberdeen, Scotland.
- Kivisto, Peter.** "Explaining the Rise of Donald Trump in the Wake of the 2016 Election." Midwest Sociological Society Annual Meeting, 30 Mar.–2 Apr. 2017, Milwaukee, WI.
- Kivisto, Peter**, contributor. Letter. "The Republican Party in the Age of Trump." *New York Times*, 16 Dec. 2017.
- Kivisto, Peter.** "National Identity in the Age of Migration." *Serious Science*, 24 Mar. 2017.
- Kivisto, Peter.** *The Trump Phenomenon: How the Politics of Populism Won in 2016*. Emerald, 2017.
- Kivisto, Peter.** "What's Wrong with Trump and Trump Voters?" *Discover Society*, 31 Oct. 2017.
- Koontz, Jason A.** "How to Do Biology Research at a Small College: Examples of Conservation and SoTL." Biology Dept., Western Illinois U–Macomb, 22 Feb. 2017, Macomb, IL.
- Koontz, Jason A. and Laura Zangori.** "Supporting Upper-Level Undergraduate Students in Building a Systems Perspective in a Botany Course." *Journal of Biological Education*, vol. 51, no. 4, 2017, pp. 399–411.
- Koontz, Jason A., D. N. Zaya, B. Molano-Flores, M. A. Feist, and J. Coons.** "Assessing Genetic Diversity for the USA Endemic Carnivorous Plant *Pinguicula lonantha* R. K. Godfrey (Lentibulariaceae)." *Conservation Genetics*, vol. 18, no. 1, Feb. 2017, pp. 171–180.
- Kovacs, Claire L.** "Art, Criticism, and Nationalism in Telemaco Signorini's Italy." College Art Association Annual Conference, 15–18 Feb. 2017, New York City, NY.
- Kovacs, Claire L. and Melissa Mohr.** *The Gallery Gap*. WVIK, 2017. Podcast.
- Lederman, Gillian.** "Adapting to Change." From Crisis Management to Innovation: Reimagining the Role of World Languages in the 21st Century, Hope College, 6–7 Oct. 2017, Holland, MI.
- Leech, Brian.** "Competition, Community, and Entertainment: The Anaconda Company's Promotion of Mine Safety in Butte, Montana, 1915–1942." *Mining History Journal*, vol. 24, 2017, pp. 19–39.
- Leech, Brian.** "How Clinton, Iowa Feeds the World." Sawmill Museum, 16 Feb. 2017, Clinton, IA. Presentation.
- Leech, Brian.** "The Open-Pit Workscape: Industrial Exposure and Mining Labor During the Shift from Underground to Open-Pit Copper Mining." American Society for Environmental History Conference, 29 Mar.–2 Apr. 2017, Chicago, IL.
- Mahn, Jason A.** "The Conflicts in Our Callings: The Anguish (and Joy) of Willing Several Things." *Vocation Across the Academy: A New Vocabulary for Higher Education*, Oxford UP, 2017, pp. 44–66.
- Mahn, Jason A.**, panelist. "Language for a Complex Educational Environment: Conversations on the Second NSRP Volume, *Vocation Across the Academy: A New Vocabulary for Higher Education*." NetVUE Regional Gathering, 17 Nov. 2017, Boston, MA.
- Mahn, Jason A.** "Post-Christendom or Neo-Christendom? A Kierkegaardian Assessment of Christian Privilege and the Church Indifferent in Contemporary U.S. Culture and Politics." American Academy of Religion Annual Meeting, 18–21 Nov. 2017, Boston, MA.
- Mahn, Jason A.**, editor. *Radical Lutherans/Lutheran Radicals*. Cascade, 2017.
- Marklevits, Farah.** "Adjunctified." *Forklift, Ohio*, no. 35–36, Fall 2017.
- Marklevits, Farah.** "Crust Season." *All We Can Hold*, 2 Jan. 2017.
- Marklevits, Farah.** "Poetry: After Months of Clouds, the Sun; First Bird." *Intersections: Faith, Learning, and the Vocation of Lutheran Higher Education*, no. 45, Spring 2017.
- Melton, Olivia.** "Examination of State Adoption Credits and the Possible Benefits to State Budgets: Do Tax Policies Match State Political Environments?" Rocky Mountain Academy of Legal Studies in Business Conference, 29 Sept.–1 Oct. 2017, Vail, CO.
- Morse, Margaret A.** "Domestic Devotions and the Independent Portrait in Venice." Renaissance Society of America Annual Meeting, 30 Mar.–1 Apr. 2017, Chicago, IL.
- Morse, Margaret A.**, organizer. "The Spiritual Dimensions of the Early Modern Italian Portrait." Renaissance Society of America Annual Meeting, 30 Mar.–1 Apr. 2017, Chicago, IL. Session.
- Muir, Tim J., J. M. Wiebler, and M. Kumar.** "Daily Thermal Fluctuations to a Range of Subzero Temperatures Enhance Cold Hardiness of Winter-Acclimated Turtles." *Journal of Comparative Physiology B*, vol. 187, no. 8, Dec. 2017, pp. 1163–1172.
- Nagase, Mari.** Japanese Teaching Material Purchase Grant. The Japan Foundation, 2017.
- Nagase, Mari.** "Translating, Popularizing, and Commodifying the Poetic World of China in Edo-Period Japan." Association for Asian Studies Annual Conference, 16–19 Mar. 2017, Toronto, CA.
- Nagase, Mari.** "Women's Water Margin: Bakin's Creative Adaptation of a Chinese Novel." Association for Asian Studies Annual Conference, 31 Mar.–3 Apr. 2016, Seattle, WA. [Previously omitted.]
- Nordling, Jamie K.** "Success in College: Relations among Parent-Child Trust, Emotional Autonomy, Emotion Regulation, and Social and Academic Competence." Society for Research in Child Development Biennial Meeting, 6–8 Apr. 2017, Austin, TX.
- Perreau, Ann E.**, panelist. Quad Cities Speech-Language-Hearing Association Meeting, 25 May 2017, Bettendorf, IA.
- Perreau, Ann E.** "Childhood Hearing Loss: What Do We Know Now?" Quad Cities Speech-Language-Hearing Association Meeting, 25 May 2017, Bettendorf, IA.

Perreau, Ann E. and M. Derrig. "Noise-Induced Hearing Loss in Young Adults." Illinois Academy of Audiology Convention, 26–27 Jan. 2017, Chicago, IL.

Perreau, Ann E. and E. Fetscher. "The Clinical Relevance of Smartphone Apps in Audiology." Illinois Academy of Audiology Convention, 26–27 Jan. 2017, Chicago, IL.

Perreau, Ann E., H. Ou, and R. S. Tyler. "Development of a Shortened Version of the Spatial Hearing Questionnaire (SHQ-S) for Screening Spatial-Hearing Ability." *American Journal of Audiology*, vol. 26, no. 3, Sept. 2017, pp. 293–300.

Perreau, Ann E., Y. Wu, B. Tatge, D. Irwin, and D. Corts. "Listening Effort Measured in Adults with Normal Hearing and Cochlear Implants." *Journal of the American Academy of Audiology*, vol. 28, no. 8, Sept. 2017, pp. 685–697.

Quinn, Megan. Artwork featured in *Embracing Hard and Soft Edges*, 31 Mar.–21 Apr. 2017, Beréskin Fine Art Gallery and Studio, Davenport, IA.

Rayapati, Sangeetha and Michael Zemek. "Active Aging and the Choral Ensemble." American Choral Directors Association National Conference, 8–11 Mar. 2017, Minneapolis, MN.

Renaud, Jeffrey. "Coarticulation in Two Spanish Fricative-Vowel Sequences." Linguistic Association of the Southwest (LASSO) Annual Meeting, 5–7 October 2017, Las Cruces, NM.

Roberts, Beth. "4 Poems." *Diagram*, vol. 16, no. 6, 31 Dec. 2016. [Previously omitted.]

Roberts, Beth. "Liars Poetica." *Love's Executive Order*, 13 Oct. 2017.

Rosenthal, Matthew A., K. Vance, and J. A. Williamson. "Difference in Accuracy Between Item and Order Tasks Suggest Separate Working Memory Mechanisms." Midwestern Psychological Association Annual Meeting, 20–22 Apr. 2017, Chicago, IL.

Safstrom, Mark D., writer. *God's Glory, Neighbor's Good: The Story of Pietism*. Co-written by Michelle Clifton-Soderstrom, narrated by G. Timothy Johnson, Vision Video, 2017. Film.

Safstrom, Mark D. "God's Glory, Neighbor's Good: Teaching the History of Pietism Through Documentary Film." American Society of Church History/American Catholic Historical Association Joint Spring Meeting, 6–9 Apr. 2017, Berkeley, CA.

Safstrom, Mark D. "Luther's Influence on Kierkegaard's Existentialism." *Encyclopedia of Martin Luther and the Reformation*, edited by Mark Lamport, Rowman and Littlefield, 2017.

Safstrom, Mark D. "Luther's Influence on Scandinavian Pietism." *Encyclopedia of Martin Luther and the Reformation*, edited by Mark Lamport, Rowman and Littlefield, 2017.

Safstrom, Mark D. "Luther's Influence on the Welfare State." *Encyclopedia of Martin Luther and the Reformation*, edited by Mark Lamport, Rowman and Littlefield, 2017.

Safstrom, Mark D. *Silliness & Stillness: A History of Covenant Point Bible Camp in Michigan's Upper Peninsula*. Covenant Point Bible Camp, 2017.

Safstrom, Mark D. "Soul Care for the Anxious Heart: Luther in the Imagination of Scandinavian and Scandinavian-American Pietist Readers." American Historical Association Annual Meeting, 5–8 Jan. 2017, Denver, CO.

Sattar, Fatima. "Rights and Responsibilities: Bureaucrats' Competing Frames about U.S. Resettlement Objectives for Refugees." American Sociological Association Annual Meeting, 12–15 Aug. 2017, Montreal, Canada.

Schussheim-Anderson, Rowen. Artwork featured in *American Tapestry Biennial 11*, 21 Jan.–16 Apr. 2017, San Jose Museum of Quilts and Textiles, CA.

Schussheim-Anderson, Rowen. Artwork featured in *Boundaries and Balance*, 1–30 Mar. 2017, ACCI Gallery, Berkeley, CA.

Schussheim-Anderson, Rowen. Artwork featured in *Material Connection: New Work by Members of the MFAEN*, 10 Nov.–3 Dec. 2016, Downtown Gallery, Kent State U, Kent, OH. [Previously omitted.]

Schussheim-Anderson, Rowen. "Synergetic 7." *Fiber Celebration*, Northern Colorado Weavers Guild, 12 May–17 Jun. 2017, Art Center of Estes Park Gallery, Estes Park, CO. 2nd place award winner.

Schwartz, Nadia. "Explain Everything App." Conference on Teaching and Learning in Accounting, American Accounting Association Annual Meeting, 5–6 Aug. 2017, San Diego, CA. Technology demonstration.

Schwartz, Nadia. "Five Minutes with High Rate of Return." Conference on Teaching and Learning in Accounting, American Accounting Association Annual Meeting, 5–6 Aug. 2017, San Diego, CA.

Schwartz, Nadia. "Give Them a Pencil... to Draw: The Power of Visual Metaphor in Accounting." American Accounting Association Annual Meeting, 5–9 Aug. 2017, San Diego, CA.

Scott, Lori, P. Crawford, L. Grulke, A. Bergstrom, T. Groen, and E. Analitis. "Isolation, Expression, and Characterization of a β -Lactamase Produced by *Meiothermus Ruber*." American Society of Biochemistry and Molecular Biology National Meeting, 22–26 Apr. 2017, Chicago, IL.

Simonsen, Jane. "Power Suits: Sartorial Politics in Portraits of Black Hawk, 1833–1837." *American Indian Quarterly*, vol. 41, no. 4, Fall 2017, pp. 336–367.

Stonedahl, Forrest, S. H. Stonedahl, N. Cheboi, D. Tazyeen, and D. Devore. "Novelty and Objective-Based Neuroevolution of a Physical Robot Swarm." International Conference on Agents and Artificial Intelligence, 24–26 Feb. 2017, Porto, Portugal.

Stough, Shara D., and students. "Investigating the Effect of Familiar and Novel Scents on the Expression of Fear in Young Male Chicks." Midbrains Midwest Regional Neuroscience Conference, 4 Nov. 2017, St. Paul, MN.

Strunk, Christopher. "Cultivating Belonging: Vacant Lot Gardening, Refugees, and the Politics of Food in the Midwest." American Association of Geographers Annual Meeting, 4–9 Apr. 2017, Boston, MA.

Strunk, Christopher and Margaret Richardson. "Cultivating Belonging: Refugees, Urban Gardens, and Placemaking in the Midwest, U.S.A." *Social and Cultural Geography*, 9 Oct. 2017.

Szafran, Lisa. "An Exploration of the Cost and Benefits Associated with Confrontation." Midwestern Psychological Association Annual Meeting, 20–22 Apr. 2017, Chicago, IL.

Tapis, Gregory P. and John S. Delaney. "Using Accounting Advisory Boards: A Way to Promote Collaboration Between Faculty and Practitioners." *CPA Journal*, vol. 87, no. 9, Sept. 2017, pp. 40–42.

Tapis, Gregory P., S. C. Usrey, and T. Z. Webb. "Religion, Politics, and Sin Taxes." American Accounting Association Annual Meeting, 5–6 Aug. 2017, San Diego, CA.

Wengronowitz, Bobby. "Letter: Thomas Flogged Context." *Quad-City Times*, 5 Oct. 2017.

Williamson, J. Austin, and M. W. O'Hara. "Who Gets Social Support, Who Gives It, and How It's Related to Recipient's Mood." *Personality and Social Psychology Bulletin*, vol. 43, no. 10, 1 Oct. 2017, pp. 1355–1377.

Williamson, J. Austin, K. Vance, and M. A. Rosenthal. "Difference in Accuracy Between Item and Order Tasks Suggest Separate Working Memory Mechanisms." Midwestern Psychological Association Annual Meeting, 20–22 Apr. 2017, Chicago, IL.

Vietti, Brittney, C. Beyer, and K. J. Jakielski. "Building a Faculty-in-Residence Program." Great Lakes Association of College and University Housing Officers Annual Conference, 12–14 Nov. 2017, Indianapolis, IN.

Xiao, Peter T. *Found in Translation*. 21 Aug.–29 Sept. 2017, Art Space Gallery, Black Hawk College, Moline, IL.

Xiao, Peter T. *Moments and Intervals*. 21 Oct.–18 Nov. 2017, Beréskin Fine Art Gallery and Studio, Bettendorf, IA.

Xiao, Peter T. *Second Act*. 17 Feb.–24 Mar. 2017, Quad City Arts, Rock Island, IL.

Zargar, Cyrus Ali. "The Imām's Ethical Body: Embodied Virtue and the Human Constitution in Shī'ī Philosophy." *Philosophy and the Intellectual Life in Shī'ah Islam*, edited by Saiyad Nizamuddin Ahmad and Sajjad H. Rizvi, Shī'ah Institute P, 2017, pp. 208–240.

Zargar, Cyrus Ali. *The Polished Mirror: Storytelling and the Pursuit of Virtue in Islamic Philosophy and Sufism*. Oneworld, 2017.

Zemek, Michael, creator and conductor. "When in Our Music God is Glorified: A Hymn Festival for the 500th Anniversary of the Reformation." Gloria Dei Lutheran Church, 25 Feb. 2017, Iowa City, IA.

Zemek, Michael and Sangeetha Rayapati. "Active Aging and the Choral Ensemble." American Choral Directors Association National Conference, 8–11 Mar. 2017, Minneapolis, MN.

Zhang, Xiaowen. "The Reemerging Concern over Air Pollution in China: the Smog of the State's Efforts to Guide Public Opinion." *Journal of Chinese Political Science*, May 2017.

STUDENT HONORS & AWARDS

FIRST-YEARS, SOPHOMORE AND JUNIOR STUDENT HONORS AND AWARDS

ACCOUNTING

Augustana Accounting Association Scholarship

Toan Pham
Whitaker Siaw
David Treis

Arthur Andersen Scholarship

Daniel Artman
Eric Bjork (Honorary)
Vlada Botsul
Scott Brick
Bradley Garrett
Cora Jacobsen
Robert Jarosz
Brooke Keegan
Dylan Malinowski
Emily Ness
Danielle Osazuwa
Souhail Rhafiri
Griffen Staes
David Treis
Emma Van Essen
Pavel Yashurkin

S. James Galley Scholarship

Adam Bauman
Derek Bilskov
Carissa Boerboom
Zachary Boesen
Vlada Botsul
Abigail Brown
Natalie Brown
Anthony Brown
Tyler Burns
Kylie Cline
Katelyn Farrell
Ashley Guenther
Bryan Haage
Teague Hagan
Alexander Halterman
Brady Hardesty
Kayla Heflen
Kelli Johnson
Sam Koeppel
Lauren Krueger
Yemurai Mapurisa
Auden Meal
Dylan Mizaur (Honorary)
Meridyth Morgan
Nicholas Mosele
Mai Nguyen
Joseph Pement
Michael Powers
Benjamin Sera

Michael Sheets
Ian Steigerwald
Nicholas Uhlir
Gerald Welu
Yanzhao Xu

Deere & Company Scholarship

Jacob Schoeck

KPMG Peat Marwick Scholarship

Michael Powers

Bill Mele Scholarship

Rachel Anderson
Thao Chu
Brianna Haney

RSM Scholarship

Nicholas Mosele

BUSINESS ADMINISTRATION

Harold E. and Louise Lage

Swanson

Scholarship

Rachel Anderson
Sarah Blount
Thao Chu
Kylie Cline
Emily Graziano
Brianna Hanes
Brianna Haney
Thuy Trang Le
Grace Logan
Dylan Mizaur
Nicholas Mosele
Trang Ngo
Mai Nguyen
My Thi Tra Nguyen
Joseph Pement
Michael Powers
Jacob Schoeck
Michael Sheets
Allison Shire
Andrew Silverman
Ian Stigerwald
Alex Swatek
Nicholas Uhlir
Trung Vu
Gerald Welu

Thomas C. Montgomery Memorial Scholarship

Daniel Artman
Erik Bjork
Carissa Boerboom
Scott Brick
Anthony Brown
Isabel Dawson
Livia Donald
Jessica Hammond
Ye Hein
Tung Hoang
Blake Iskra
Cora Jacobsen
John Lynch

Dylan Malinowski
Isabel Matthew
Samuel Paulson
Toam Pham
Souhail Rhafiri
Luke Sawicki
Mary Scarpinato
Whitaker Siaw
Nicole Smith
Callista Staker
Daniel Tjaden

CHEMISTRY

American Chemical Society

Analytical

Chemistry Award

Marie Skuby

First-Year Chemistry Achievement Award (2016-17)

Duy Nguyen

COMMUNICATION STUDIES

Multimedia Journalism and

Mass Communication

Illinois College Press

Association Awards

Thea Gonzalez

ECONOMICS

Bruce R. Milligan Endowed

Scholarship

Samantha Katz
Jacob Knox
Bethany Koch
Mai Nguyen
Trung Vu

Thomas C. Montgomery

Memorial Scholarship

Chandler Behrens
Samuel Daly
Danielle Osazuma
Souhail Rhafiri
Andrew Tuel
Isabella Uccelli

ENGLISH

Tom and Wanda Hanson

Scholarship in English Studies

Maxell Maharry

GEOLOGY

Dr. Richard C. Anderson

Research Award

Lauren Judge

Sigma Gamma Epsilon: The National Honor Society for the Earth Sciences

Matthew Harrington
Forrest Hisey
Bethany Hobart
Lauren Judge
Alexis Karon
Sierra Kindley
Joshua Malone
Jill Reale

MATHEMATICS AND COMPUTER SCIENCE

Pi Mu Epsilon, National

Honorary Mathematics Society

Jack Cannell
Kacey Carpenter
Jared Haeme
Shirin Hoseini
John McDonough
Son Nguyen
Anthony Santangelo
Brandon Wilkerson
Kyle Workman

MUSIC

Louise Nathanson Applied

Lesson Award

Rachel Heah
Rebecca Hobson
Joshua Iyer
Camille Myers
Sophie Nevel
Ashley Ramirez

PHYSICS

Sigma Pi Sigma

Patrick Crompton
Adam Gronewold
Hayden Karrick

RELIGION

Floyd and Louise Anderson

Fund for Excellence in

Religious Studies

"Mina" Juliana Magalhães

THEATRE ARTS

Judith Katz Memorial Theatre

Scholarship Award

Peter Alfano
James Wheeler
Jaryd Whitmore

**WORLD LANGUAGES,
LITERATURES, AND
CULTURES**

Asian Languages:
Outstanding Academic Achievement Award in Chinese
Jacob Schoeck

Delta Phi Alpha, the German Honorary Society
Emma Albers-Lopez
Ivan Starenko

Scandinavian Studies Award: First Prize
Bailey Aasen
"The Greater Effects of Ocean Acidification: Shellfish in the Arctic"

Excellence in Swedish – Beginning Level
Brandon Johnson

Excellence in Swedish – Intermediate or Advanced Level
Alex Hart

Freistat Center Peace & Justice Studies Award
Bailey Aasen
Jacqueline Kwasigroch

Freistat Faculty/Student Group Travel Award
Mason Bergstrom
Lauren Clapp
Jordan Cray
Mason Disabato
Sydney Gilbert
Jessica Lechtenberg
(Aileen) Phung Nguyen
Johann Roman
Sean Sheehan

Freistat Student Language Award
Brisa Almanza
Kristen Biefeld
Jeana Brown
Dana Ghoulch
Melissa Hagerty
Ye Hein
Nghia Hoang
Filip Kuzmanovic
Aubrey Lyon
Sara Lyon
Muriel Melgoza
Jenna Noesen
Mehan Noonan
Joselyn Pena
Alma Pizano-Onofre
Alejandra Raya
Christine Rogers
Haley Ruch
Valerie Spreeman
Katie Steininger
Samantha Wright

Mortar Board Juniors
Kayli Ahuja
Rachel Anderson
Dana Baele
Sarah Blount
Abigail Brown
Shelby Burroughs
Alayna Connelly
Alfred Dei-Ampeh
Anthony Dzik
Logan Enstrom
Liem Gearen
Emily Graziano
Taylor Hayes
Bethany Hobert
Lauren Hogan
Jacqueline Kwasigroch
Kaitlyn MacDonald
"Mina" Juliana Magalhães
Yemurai Mapurisa
Audrey Mast
Laura McNair
Courtney Merkel
Silas Metternick-Jones
Alyssa Mish
Trang Ngo
Meghan Noonan
Emma Nordemeyer
Kaitlin O'Brien
Grace Rients
Audrey Rose
Emma Samatas
Amanda Schar
Jake Schoeck
Zachary Schrank
Carli Schwanebeck
Allison Shire
Andrew Silverman
Ariana Solis
Valerie Spreeman
Natalie Staton
Jordan Thill
Jennifer Townsend
Reileigh Turro
Brandon Wilkerson
Madeline Witt

Omicron Delta Kappa Juniors
Kayli Ahuja
Ashley Chex
Ethan Conley-Keck
Anthony Dzik
Megan Gabler
Brianna Hanes
Brianna Hillyer
Lauren Hogan
Shelby Kuepker
Emma Nordmeyer
Maegan Patterson
Anna Pfalzgraf
Kim Phan
Reilly Siepka
Ariana Solis
Hailey Swager
Daniel Williamson

Class Honors (4.0 GPA) Juniors
Morgan Anderson
Erin Cygan
Melissa Hagerty
Jessica Hammond
My Thi Tra Nguyen
Catherine Priebe
Emma Samatas
Taylor Setterlund
Hannah Vercellotti
Andrew Winkelman

Sophomores
Alexandra Buffington
Nathan Corman
Kayla Dillon
Connor Duffy
Jack Harris
Jaclyn Hernandez
Kayley Larson
Megan Laufer
Kristian Mrazek
Lauren Ng
Thinh Nguyen
Abigail Overmann
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