

# 4th Annual Student OSCARS

Outstanding Scholarship, Creative Activities and Research Symposium

Wednesday, May 1, 2019

## ***Project Descriptions and Abstracts***

Project Categories:

<sup>1</sup> Creative Performance/Presentation

<sup>2</sup> Humanities/Social Sciences

<sup>3</sup> STEM/Health Sciences

### **Oral Presentations/Performances**

1. Ben Mildenerger: How the piano dominates the harpsichord<sup>1</sup>  
MUSC, Faculty Mentor: Jason Vanselow and Melissa Bergstrom  
This presentation will project what Wolfgang Amadeus Mozart had in mind when writing his Harpsichord concerto in D Major, which was taken from Johann Christian Bach's piano sonata in D Major. Just before the point of Johann Sebastian Bach's death, the harpsichord was known as the solo keyboard instrument and it would play the role of the Basso Continuo; provided there were limited amount of chordal/basso instruments. During Mozart's time, the earlier versions of pianofortes were being constructed and it wasn't until J.C. Bach as well as someone named 'Nickelmann' helped to kick the piano into the solo keyboard position, overcoming the harpsichord's fame.
2. Annalynn Gilbertson: Context, Subtext Analysis of Equus<sup>1</sup>  
THTR 2230, Faculty Mentor: Blayn Lemke  
A brief analysis of the context and subtext within a short scene of a play titled Equus. The dialogue among the two characters in the scene was examined to find the deeper meaning in what was being said, without being verbalized, that is the subtext. The history, preceding events, culture, notable actions, and words were found and all compiled to give context.
3. Kristen Alickson: Mistreatment of Women: A Habit Formed Through History<sup>1</sup>  
ENGL 2203, Faculty Mentor: Paige Riehl  
Geraldine Coutts is raped on a small reservation in North Dakota. She is not the only one to become a victim of disempowerment throughout Louise Erdrich's novel: "The Round House." Erdrich illustrates different issues women face through several women in the story. These women are manipulated, objectified, raped, and mistreated. Men seem to have formed this habit throughout history, and many of the women who fall victim are Native American women, whether it be at the hands of a white or Native man. Men have objectified, abused, manipulated, or taken away the power of these women without considering her feelings. They do this for the sole purpose of pleasing themselves. They show lack of consideration for the woman, and in many cases take away her right and freedom to choose what she wants. Geraldine, Mayla, and Sonja are the women abused and manipulated in this novel. They are all a portrayal of what happens even in today's society to women everywhere.

4. Mika De Sousa: A Writer's Life students Share their Original Creative Writing<sup>1</sup>  
ENGL 2281, Faculty Mentor: Kate Kysar  
Students from A Writer's Life class will read from their original poetry, fiction, and nonfiction. Mika will be reading from "Liar".
5. Rachel Hanson: A Writer's Life students Share their Original Creative Writing<sup>1</sup>  
ENGL 2281, Faculty Mentor: Kate Kysar  
Students from A Writer's Life class will read from their original poetry, fiction, and nonfiction. Rachel will be reading three original poems "Hunger", "Panic", and "The River".

### **Art Exhibitions/Poster Presentations**

6. Baily Karger: The Far Side of Campus 2019 Portfolio Exhibition<sup>1</sup>  
ART 2200, Faculty Mentor: Rachel Breen  
As an art student, there is still so much to learn within the world of art and the everyday life that surrounds us. It is beneficial as an artist to explore different cultures, artists, and the natural world to give us inspirations, which will result in developing one's own unique, artistic style.

I believe it's important to accept flaws in our art, and in life in general. For many years I stressed over trying to create "perfect" artwork, which made it feel like a chore. I soon realized that it's ok to make mistakes and to just go with the flow.

7. Rebekah Hedquist: AFA Art Exhibition; Paintings and photography<sup>1</sup>  
ART 2200, Faculty Mentor: Rachel Breen  
I have been attending Anoka Ramsey for about 2 years now and I have loved my journey here. I am an art major and coming up on the end of the semester and will be graduating at the end of this semester. As you can see, there are four paintings. All the paintings have been done with oil on canvas, they are my strongest pieces. The three black and white photography pieces are also pretty strong I feel but they don't stand out as much as the paintings. All of these pieces have a connection they all have to do with nature. Nature has played a big impact on my life teaching me that nothing ever stays the same and I want to show everyone that. The paintings show my progress and showing how far I've come and my style has progressed. My paintings show the progression in thick paint and the colors correspond and so does the subject matter. Thank you all for coming out and I would love for you all to take the time and just look at the art work. It may just change your life.
8. Laura Zelin: Combinatorics: A Study in Mixed Media<sup>1</sup>  
ART 2200, Faculty Mentor: Rachel Breen  
I seek to find and study the parallels and intersections between art and mathematics. My goal is to highlight these commonalities through my own work whether it be through subject matter or through process and problem solving. I use primarily traditional media with special attention to charcoal, oil paint, and screen printing. I am currently working on a series named after the branch of mathematics called combinatorics. This branch of mathematics deals with the ways in which a finite set of things can be selected, such as counting the possible combinations of a lock or choosing many different starting teams from the same set of players. I am studying this subject through art by combining and layering media. In studying combinatorics one of the first questions asked is whether order matters in the selection process. I have been studying this in my mixed media pieces by investigating whether the order of use or application informs the use of the media.
9. Jennifer Lieder: The Pledge of Allegiance~Counted Cross-Stitch<sup>1</sup>  
ART 2200, Faculty Mentor: Rachel Breen  
As a disabled veteran, I wanted to complete a special project to enter in the Minneapolis Minnesota VA art show. To keep in the theme of Veterans, I chose this counted cross-stitch of The Pledge of Allegiance. The project specifications are:
  - Stitch Count: 144w x 111h
  - Project Size: 9" x 6.9" on 32 count (over 2)

- Fabric: 32 count Ocean Kiss linen

This project was on display at the VA Hospital in Minneapolis and it took 2nd place. Kelly, Office of Student Services with Disabilities, was one of my encouraging supporters during this process. Being a full-time student, mother, wife, and an active community volunteer, taking on this project was quite intense but in the end it was very rewarding.

Here are some Pledge of Allegiance facts:

- Authored by Francis Bellamy as part of a national school patriotic program.
- The original was: “I pledge allegiance to my Flag and the Republic for which it stands: one Nation indivisible, with Liberty and Justice for all.”
- The “my Flag” was changed to “to the flag of the United States of America”, in 1923.
- In 1945, The Pledge became part of the Flag Code, 50 years after its creation.
- President Eisenhower approved a bill that added ‘under God’ to the Pledge. This is the current pledge said to this day.

10. Aaron Bury: The Far Side of Campus<sup>1</sup>

ART 2200, Faculty Mentors: Rachel Breen

I've always had a fascination with trees and nature. The different shapes and textures created by the branches of trees and conglomerations of leaves in forests are all different and constantly changing for so many different reasons. Weather, time of day, and seasons all effect nature. Every time you take a step, every second that passes, every angle that you position yourself in, changes how you see the shape of the branches and space between them.

This fascination recurs in my work across many mediums as well as in a variety of different ways. I feel that the work reflects this interest very literally, and abstractly in the usage of all the lines and branches. Nature is very calming to me and it is an especially intriguing aspect of the world to constantly observe. I hope that this work both reflects my intrigue and gives viewers a new interest in the world around them.

11. Jack Harrison: Glass Cubes<sup>1</sup>

ART 2200, Faculty Mentor: Rachel Breen

The Glass Cubes is a project to push myself towards a style I haven't seen before and Thus I might have found my own style in glass, hopefully. It is very hard to do original work in glass and this is my path to explore. In the near future I plan to make a similar object in clear.

12. Julia Neubauer: Exploration of Functional

Blown Glass<sup>1</sup>

ART 2200, Faculty Mentor: Rachel Breen

Creating works of art, functional or sculptural, give me utter gratification. Being able to get messy and dirty while making art, brings forth a child-like, simple mindset that of comfort and content. I select media's that require me to physically work with my hands, and if I make a mistake I can't simply just erase it or click an “undo” button. I work with bright, and loud colors that are like candy for the eyes and intrigue viewers to look at my work from all sides. Focusing on traditional Italian glassblowing techniques, I push those old ways to odd, creative, new bounds and re imagine what a traditional shape can turn into. Working with fire, molten glass, and steel incorporates a danger element that requires every move to be deliberate and intentional. The danger, intent, beauty, sweat, and blood that comes forth from glassblowing will continue to fascinate me throughout my life and career.

13. Zachary McLellan: The Irony of Love<sup>1</sup>

ART 2200, Faculty Mentor: Rachel Breen

12 pages of written poetry bordering an abstract drawing.

14. Sasha Hostrawser: Farside of Campus Exhibition<sup>1</sup>

ART 2200, Faculty Mentor: Rachel Breen

The base of all my work- inspiration, technique, and otherwise, come from mountains of pen doodles and comics I churn out close to daily. These scribbles represent who I feel I am as an artist, but how can I use this to represent someone as educated? It is definitely not “highbrow” such as oil paintings, charcoal drawings, or film photography. But it is who I am, and who I want others viewing my work to see and know about me. So I make a compromise. My paintings, drawings, and photography are displayed on a wall of layered sketchbook cartoons, a literal foundation of what I have created at ARCC. I would not have built the style I have made for myself showed through mark making, composition, and most especially people/portraiture without the years of cartooning. This is who I am as an artist, a cartoonist at heart that also sometimes like to paint.

15. Elizabeth Hanks, Tasha Moksnes, Sara Olson and Erica Tembreull: Donating stuffed animals to Ramsey Police Stations<sup>2</sup>  
PHIL 1110, Faculty Mentor: Monica Janzen  
For our organize an activity, we decided to collect stuffed animals and donate them to the Ramsey Police Station. Each one of us has many stuffed animals just sitting around our houses, as well as we know lots of other people whom we could collect them from. In the past, the Ramsey Police Station has collected stuff animals for children who come in for questioning, or for other reasons. We were informed by them that they are always in need of donations of stuffed animals. For our project we’re going to ask people we know to donate new or gently used stuffed animals. Then as a group we are going to hand deliver these stuffed animals to the police station. This will help comfort children when they’re scared and help them through a frightening time.
16. Daniel Harms: How Theophany Composes with Programmatic World Music<sup>1</sup>  
MUSC 2202, Faculty Mentor: Melissa Bergstrom  
Theophany is a modern composer who writes complex remixes of various video game music and is the creator of the "Time's End" disc series. He specializes in programmatic sound design; which uses sound effects to create an environment and narrative in which the music takes place. In addition, his music is heavily inspired by a diverse range of world music genres, instruments, and timbres. By exploring how Theophany utilizes both of these passions in conjunction with each other, I hope to simplify and summarize several powerful techniques that upstarting composers can use to create more engaging and story-driven music compositions.
17. Tyler Kesler: Beatles’ Hey Jude: A Musical and Lyrical Analysis<sup>1</sup>  
MUSC 2202, Faculty Mentor: Melissa Bergstrom  
The lyrics to the Beatles’ song, Hey Jude, are crucial to understanding the musical ideas and vice versa. By analyzing melodic gestures, harmonic language, musical form and texture choices, we can see the connections between the lyrics and the musical choices of Paul McCartney’s songwriting. I will present textual connections with each of these elements and how they illustrate the words and emotional content.
18. Xue Moua: Beethoven’s Fur Elise: A Love Song<sup>1</sup>  
MUSC 2202, Faculty Mentor: Melissa Bergstrom  
Questions still surround why and for whom Beethoven wrote this hauntingly beautiful piece, Fur Elise. I am researching the origins of the piece, Beethoven’s romantic relationships and growing deafness during the window of time when he composed this work, and details around its posthumous publication. I will also be connecting the musical elements of this work (melody, harmony, rhythm and texture) portray a sense of longing and love.
19. Stephanie Johnson: The Significance of the Haydn Trumpet Concerto in the Development of the Modern Trumpet<sup>1</sup>  
MUSC 2202, Faculty Mentor: Melissa Bergstrom  
The invention of the keyed trumpet came on the scene right as Haydn was in his composing prime, setting the scene for this foundational work for the modern trumpet repertoire. I will analyze how the modern trumpet came to be and how this work exploits the new techniques of the modern trumpet now available to composer and performer. I will be performing this piece on my graduate recital this spring, so this study will be informing my interpretation as well.
20. Jess Hernandez: Samuel Barber’s Adagio for Strings: An Over-Used and Under-Appreciated Work<sup>1</sup>  
MUSC 2202, Faculty Mentor: Melissa Bergstrom

While Samuel Barber's Adagio, Opus 11 appears in countless film scores and national rituals, its original reception and even the composer's own appreciation of his work is mixed. I will be presenting research on the path this piece has taken since its inception in terms of Barber's intent and regrets, the work's emotional significance and use in pop culture.

21. Esteban Badillo: Night Song: Chopin's Nocturne op. 9 no. 1 in B flat minor<sup>1</sup>  
MUSC 2202, Faculty Mentor: Melissa Bergstrom  
In Nocturne op. 9 no. 1 in B flat minor, a piece for solo piano, Frederic Chopin uses the key, melodic shapes, repetitive textures and rhythmic ideas to portray a night-time serenade. I will be analyzing each of those musical elements and how they add to the nocturnal mood as well as Chopin's own biography at the time of composition.
22. Anthony Brown: Musical Gesture in George Enescu's Legende: An Analysis<sup>1</sup>  
MUSC 2202, Faculty Mentor: Melissa Bergstrom  
In Legende, a piece for solo trumpet and piano by George Enescu, there is a wide range of emotions portrayed throughout. Enescu achieves this variety through transforming melodic, harmonic and rhythmic gestures. My analysis will show specific examples of each musical element and the emotional affect it inspires. I will be performing this piece on my graduate recital, so this study will be informing my interpretation as well.
23. John Przybilla: Rap and drugs: How heavily are these two connected?<sup>2</sup>  
CMST/MCOM 1100, Faculty Mentor: Melody Hoffmann  
It is clear that today's version of rap is far from what it used to be. Rap used to have uplifting messages and creative lyrics, but now, sadly, most popular songs are about drugs. However, one thing still remains the same, rap culture continues to influence young people all over the world. This is why this is an important problem; young people are constantly becoming used to the drug filled media that they listen to daily. For my project, I am researching just how much of this media is negatively impacting those who listen to today's rap. To do so, I will be counting how many songs, from the top ten rappers, talk about drugs in it. I believe that there will be a surprising result when one sees just how heavily rap music is focused on drugs. I hope to answer the question: How often is the topic of drugs present in modern rap music?
24. Laura Synowczynski, Ali Cook and Rachel Schroeder: Stormwater Runoff, Erosion and You<sup>3</sup>  
BIOL 1107, Faculty Mentor: Kristen Genet  
This project is one out of six interpretive signs for the Coon Creek watershed district restoration project. This interpretive sign focuses on how excess, polluted water has led to the erosion of Sand Creeks banks. Techniques like Root Wads and Rip-Rap vegetation have been used to help restore a healthy water flow, protect the banks, and provided habitats for several native species that call Sand Creek their home. Also this sign mentions several productive ways for homeowners to prevent erosion from happening again at Sand Creek, such as bagging grass clippings and leaves, also reducing the amount of salt used in the winter.
25. Brooke Paulson, Alyssa Seibert and Terran Stenger: In-Stream Creature Features<sup>3</sup>  
BIOL 1107, Faculty Mentor: Kristen Genet  
The Coon Creek Watershed District asked our biology class to create interpretive signs that highlight a restoration project that they are conducting on Sand Creek. My group created a sign that discusses the features placed within the creek. These features are to help improve the creek and provide better habitats for residential wildlife.
26. Noah Stockert: Helping the Hiawatha Homeless Camp<sup>2</sup>  
PHIL 1110, Faculty Mentor: Monica Janzen  
During the semester of fall 2018, news came out that there were hundreds of Native Americans living on the side of Highway 55 and Hiawatha Avenue. I had also read a news press release stating that the state government would move these homeless people to a safe shelter by December. I was struck with grief as I knew that Minnesota winters are devastatingly cold and low temperatures often hit Minnesota earlier than December. I realized that I and my group had to do something to keep these people warm as they would eventually be stuck out in the freezing cold. I started a GoFundMe page and raised over \$300 and my group members collected many winter items from their closets, colleagues, family, and friends. After a decent amount of time had passed, I

withdrew the money and drove my group and I to different stores located around the Coon Rapids area. Inside these stores we bought feminine products, warm winter gear, hand warmers, and many MANY blankets. After we collected enough stuff to donate, we went to the White Earth Nation Substance Abuse building downtown to drop off all of the items we had earned. In total we filled three trunks full of collected items and even got to witness two men walking away with sleeping bags donated by us!

27. Kelsey Jagerson, Rodney Nyandoro and Stephanie Shoemaker: Hope 4 Youth - KRS<sup>2</sup>

PHIL 1110, Faculty Mentor: Monica Janzen

For our Organize an Activity project we decided to collect items and money throughout various ways like social media, posters, donation drives and GoFundMe and bring them to Hope 4 Youth. We personally called Hope 4 youth to find out the items that they are in most need of. They said that cash is always helpful and gave me a list of things that they are currently in need of. This list consisted of canned beef stew, individual cereal, ravioli and spaghetti, pizza sauce, pancake mix and syrup, canned fruit, men's undershirt XL, men's sweat pants M and hand towels. We also found the time for donation drop-off which is Wednesday and Saturday 9am- 12am.

28. NorKhadijah Lindgren: Art for Yemen<sup>2</sup>

PHIL 1110, Faculty Mentor: Monica Janzen

I have been passionate about helping the people of Yemen for a couple of months and didn't have the money to donate. I used one of the talents I was good at to help aid me in this project: Art. It took me all semester (fall 2018) to paint all the paintings. It was not easy, while keeping up with classes and work. I created four art pieces along with two pieces being donated by Chris Lopez. I posted my project online and made it into an auction, I also created and sold bookmarks for one dollar. Thanks to my Ethics class and my mosque the bookmarks were popular. My friends have always asked me about selling my art, this was the opportunity to where they wanted to help my cause and own an art piece.

For months I would hear that 85,000 children died in Yemen and 22 million people needed help, it made me furious. How can I help? This project help guide me make my wish possible. I successfully beat my goal of raising past \$100, I was able to raise \$363. The money went directly to "Yemen Aid" to where this organization raises awareness, sends emergency food assistance, and medical assistance. One dollar equals one meal. 100% of their donations go to helping the people of Yemen. Philip Zimbardo once said "To be a hero, you have to learn to be a deviant, because you're always going against the conformity of the group. Heroes are ordinary people whose social actions are extraordinary. Who act." (Zimbardo, TED talk, Sep. 2008) Any one can be a hero, Zimbardo explained of my core values in life, if something is wrong do not ignore the situation and give into sloth. I always will act in the face of injustice.

29. Owen Nitz: Why Aviation Needs More Interested People<sup>2</sup>

PHIL 1110, Faculty Mentor: Monica Janzen

For my organize an activity I am planning on raising money for (Flight Expo Inc.), which is a flight club I'm part of. This club is a flight and plane restoration non-profit organization intended to raise interest and awareness in aviation. It is also to help young people who don't have a ton of money and are interested in flying get their pilot's license. My plan to help this club/organization is to get a group of people together and advertise an activity we are planning, which is going to be to host a party at the airport where kids, teens and adults can come sit inside of the airplanes and take pictures. We are also going to raise money by selling products we have gotten donated in by private donators and companies. I plan to advertise by creating a GoFundMe page and different types of social media pages, as well as poster boards.

30. Fatima Abbas and Dana Carlson: Cardioselective Beta-Blockers vs. Noncardioselective Beta-Blockers<sup>3</sup>

PHAR 2120, Faculty Mentor: Ashley Havig

According to the subjects that our class, Pharmacy Technician/ Drug Use and Reaction, covered during this semester, our group chooses one of the important topics that have huge effects and reactions nowadays. Our project will present the side effects some of the drugs used for the Cardioselective Beta-Blockers V.S Noncardioselective Beta-Blockers. In addition, the reactions that will cause on the human body when the patients use such medications. Also, we will also talk about the difference between the two generations of the Beta Blockers. Nevertheless, we will show one of the recent future studies about the side effects of the two common Drugs used for the Beta-Blockers.

31. Lucas Kielblock and Jillian Kuffel: Stream Restoration (Sand Creek corridor)<sup>3</sup>  
 BIOL 1107, Faculty Mentor: Kristen Genet  
 This is one sign in a set of six that are being made to document the process of the Sand Creek corridor restoration, and the process involved. This sign focuses specifically on stream restoration, talking a small bit about the history of ditching, and defining the difference between a natural meandering stream, and a man-made or altered stream channel. It is meant to be displayed in the proper order with the other five signs and as such does not stand alone very well, it will likely seem incomplete by itself as a result of this.
32. Elliot Johnson, Samantha Pawlak and Joslyn Prather: Riparian Habitat Restoration<sup>3</sup>  
 BIOL 1107, Faculty Mentor: Kristen Genet  
 Interpretive sign designed for the Coon Creek Watershed district restoration
33. Paige Hanson: Effects of Bait on Animal Attraction<sup>3</sup>  
 BIOL 1110, Faculty Mentor: Jennifer Braidon  
 I wanted to test which baits attract which animals in the Linwood School Forest. I set out a variety of different baits in the Linwood School Forest over a period of a few months and tracked the first animal to arrive, and the frequency of the animals that visited the bait. A few of these baits included fruit, bird seed, dead muskrat, and dead beaver. This information would prove useful so future researchers would know the best bait to attract a certain animal to conduct animal specific research.
34. Andrew Bluth: Determining the Importance of Sex, Age, and Geographic Location on Scute Pair Fluctuating Asymmetry in Painted Turtles *Chrysemys picta*<sup>3</sup>  
 BIOL 2230, Faculty Mentor: Kristen Genet  
 Fluctuating Asymmetry (FA) can be used to determine the health of an organism and if there are any stressors in the environment such as disease or pollutants. There is only one study that has investigated FA in turtles and two that looked at tortoises. These present studies, however, are not consistent with one another as two of them state that males exhibit higher levels of FA than females and the other one asserts that there is no significant relationship between male and female FA. In this study, the absolute difference between the left and right scute for the gular, abdominal, and anal scutes for 120 adults, 59 juvenile turtles, and 120 Midland Painted Turtles were measured using ImageJ. In Western Painted Turtles, there is no significant difference between male and female FA as well as between adult and juvenile FA. It is anticipated that there will be a significant difference between Western Painted Turtle FA and Midland Painted Turtle FA. This may be caused by scutes growing against each other which might cause higher levels of FA in larger turtles such as Yellow-Bellied Sliders and lower levels of FA in smaller turtles like Western Painted Turtles. The results may also be caused by adults and juveniles having the same habitat and thus the same stressors. FA is an important tool to utilize because it can give us information about the health of the environment and organism which allows us to better understand them and possibly determine the animal's fitness.
35. Morgan Buhmann: *Batrachochytrium dendrobatidis* prevalence in Minnesota amphibians is species specific and is influenced by time of year and location<sup>3</sup>  
 BIOL 2230, Faculty Mentor: Kristen Genet  
*Batrachochytrium dendrobatidis* (Bd) has been wreaking havoc on amphibian populations worldwide since before the 1980's when wildlife disease studies gained acceptance. The initial studies provided standardized procedures that are used in current studies focused on how and why Bd affects species differently. Data on 7 Minnesota frog and toad species was collected over the course of two years from five different counties, and polymerase chain reaction (PCR) and a Qiagen assay were used to determine the presence of Bd. Contingency tables and Chi Square analysis were performed to determine significant results between species, counties, months, and years. Of the 116 samples, only 20 tested positive for the presence of Bd. Statistical analysis determined the comparisons between species, counties, and time of year were not significant. While our results indicated nonsignificant values, research is still in the preliminary stages and our sample size may not be large enough to see any significant relationships. Continuing this study and increasing the sample size could lead to significant results in the future. Learning more about how Bd spreads and interacts with its' host species can aid in conservation management decisions, including species re-introduction programs.
36. Leah Bodie and Nicole Kenigsberg: The Influence of Temperature and Precipitation on Calling Phenology

of Amphibians in Minnesota<sup>3</sup>

BIOL 2230, Faculty Mentor: Kristen Genet

The long term precipitation and temperature trends and the effects they have on of the calling phenology of amphibians in Minnesota needs to be studied to determine if there have been shifts occurring. Climate change has the ability to affect amphibians first date of calling, breeding habits, and population size. This study analyzed the annual average long term and short term precipitation and temperature trends along with the average spring temperature trends. Ten species were studied by analyzing relationships with scatterplots between their average first date of calling from 1995-2015, the average spring temperature trends from 1995-2014, and the average annual precipitation from 1995-2014. Long term trends of annual precipitation and temperature trends demonstrated an increase from 1900-2014 while the short term annual precipitation and temperature trends and average spring temperatures from 1995-2014 demonstrated a decrease. Six of the ten species demonstrated shifts in calling earlier, while the remaining four species demonstrated later calling dates from the years 1995-2014. The information found in this study could lead to further studies analyzing amphibian phenology as well as contributing to studies related to climate changes and their effects.

37. Jamie Frazee-Naslund: Symbicort and its effects on the skin<sup>3</sup>

PHAR 2120, Faculty Mentor: Ashley Havig

My presentation is about the drug Symbicort which is an inhaled corticosteroid. Typically prescribed for COPD and /or asthma. I will concentrate on the side effects that it has on the skin. Who this effects the most such as age, gender.

38. Yohnnes Tadele: Naloxone<sup>3</sup>

PHAR 2120, Faculty Mentor: Ashley Havig

My presentation will be focused on the importance of naloxone as opioid anti

39. Sara Ali: Vitamin D Deficiency<sup>3</sup>

PHAR 2120, Faculty Mentor: Ashley Havig

The causes of vitamin D deficiency, how it affect human health and related diseases, how to level up the Vitamin D intake.

40. Rakwon Adrus, Vanessa Bartlett, Brian Perez-Cortez and Brian Tran: Metro North Chamber of Commerce Student Recruiter Program<sup>2</sup>

COMM 110, Concurrent Enrollment Instructor: Jennifer Prince (Spring Lake Park High School)

ARCC Faculty Liason: Angie Anderson

The main problem that led us to our research was the ongoing teen labor shortage in the metro area and how we can get more teens into the workforce. How we conducted our research was through a survey that we gave to the students at Spring Lake Park High School that asked them about how they find out about jobs, what would entice them to get a job, and other questions. We also conducted secondary research through MN Department of Employment and Economic Development in order to find out more about the demographics in our area, employment information, and more. A few of our biggest findings were that teens mainly found about jobs through word of mouth and not through social media or other methods. We also found that the lower level job industries, which are the industries that teens generally find jobs in, are actually the job industries with the most job vacancies. With our findings we concluded that we, the students, must find a personal way to get job information out to other students along with their families. With this structure in place students will be more knowledgeable when it comes to going after these entry level jobs.

41. Keeley Auld, Amanda Boyle, Sarah Kaplin and Carter Sanken: Rise Inc. and the Hiring of Direct Support Professionals: Finding the Right People for the Job<sup>2</sup>

COMM 110, Concurrent Enrollment Instructor: Jennifer Prince (Spring Lake Park High School)

ARCC Faculty Liason: Angie Anderson

Rise Inc. is a non-profit company that employs Direct Support Professionals to help adults with disabilities lead the most fulfilling and independent lives possible. They asked for our help because they've had trouble with the hiring and retention of DSPs due to the inherent unpredictability that comes with working in a people-involved field.

Our work for Rise involved online research about marketing for jobs in healthcare industries similar to a DSP



and what online advertisements for DSP roles currently looked like, with the main bulk of our research being interviews with current DSPs regarding how they were hired, their experiences, and what they would like to see from their employers and daily work environment in the future. Our interviews and online research found the large majority DSPs got into the work due to their want to help or build a community, indicating that the company should focus on selling the role of a DSP as a way to make a difference in your work in order to hire employees with better retention in the long run. Additionally, our online research resulted in a lot of recommendations for Rise's online advertising, including a comprehensive website that had general descriptions for all the different roles and an improved social media presence to build awareness for their company and mission. Both recommendations would allow for easier access to important information regarding the jobs and Rise as a company, ensuring more people know what they're getting into so they'll be more likely to stay.

42. Anneka Clark and Jackson Nordstrom: Chick-fil-A Promotion Project<sup>2</sup>

COMM 110, Concurrent Enrollment Instructor: Jennifer Prince (Spring Lake Park High School)

ARCC Faculty Liason: Angie Anderson

Our group was assigned to work with Chick-fil-A Northtown to figure out how the Chick-fil-A Northtown can make a positive impact in the surrounding area that reflects the image of the company. We were also asked to find guest preferences on CFA's food, service, and location. We did primary and secondary research, and to begin, we sent out a survey to various advisory teachers in our school and had their students take the survey. Then, we went into the restaurant and conducted in-person interviews. Lastly, we put out an on-paper survey on the restaurant community table. In all three methods of research, we asked them various questions such as what their favorite menu item was and how far away do they live from the Northtown CFA. The most important results were that people like the atmosphere and enjoy spending time there, the spicy chicken sandwich is a favorite, and the majority of guests don't use the CFA App. Our recommendations were that the Northtown CFA makes more people aware of the app, having kids/teen nights or specials, and using their social media more. Upon completion, our recommendations were presented to Chick-fil-A representatives and we are excited to see if they implement our ideas.

43. Max Horn, Fareena Kaleel and Naima Osman: National Sports Center Social Engagement Project<sup>2</sup>

COMM 110, Concurrent Enrollment Instructor: Jennifer Prince (Spring Lake Park High School)

ARCC Faculty Liason: Angie Anderson

We were assigned to help the National Sports Center with determine what platform of social media are the best form of communication for the intended audience because of our unique perspective as teenagers on social media. We did research on which social media platform is best with parents, students, and athletes. For our primary research we created a survey and had people give input on what the NSC could do to increase social media engagement. We surveyed 390 participants on their social media engagement specifically with the NSC. This helped us create a smaller focus group on what we should specifically give recommendations on. The last thing that we did was create a prototype event at our high school on how social media has a large effect on audience members at an event. Our results gave the NSC certain paths to follow to create specific social media posts to engage with different subgroups of people.

44. Jack Copeland, Muluk Eltag, Sam Wrightson and Linaey Wurie: Teen Night Marketing Challenge<sup>2</sup>

COMM 110, Concurrent Enrollment Instructor: Jennifer Prince (Spring Lake Park High School)

ARCC Faculty Liason: Angie Anderson

Getting teens to Teen Night was our main problem. Urban Air Adventure Park wanted to increase the amount of teenagers that went to their Saturday teen nights. We conducted 2 surveys and did mockups of things to change and hoped they would increase attendance. The survey questions included of who knew about Urban Air, age ranges, what else teens do on Saturdays, to back up our recommendations. Another thing we worked on was making Instagram posts that they could post instead of the other ones they did. Some of the most important research results we had was that it was mostly 13-15 year olds going and that people did not really like their Instagram, page. Another important thing we learned from our survey was that 80 percent of teenagers at our school had heard about Urban Air but only 20% of teenagers have been to Urban Air. By increasing promotion in

schools and with these teens along with getting better posts, they were able to put up their attendance. There is a higher and consistent amount of likes on their posts now and even seeing more teenagers at Urban Air.

45. Alexander Clark, Catherine Nguyen and Solange Vang: Infinite Campus: Researching Student Information Systems<sup>2</sup>

COMM 110, Concurrent Enrollment Instructor: Jennifer Prince (Spring Lake Park High School)  
ARCC Faculty Liason: Angie Anderson

The main purpose of the problem at hand included the lack of overall creativity in the Infinite Campus program. As a system that uses the information of students to create new reports and keep information about them, Infinite Campus did not continue to evolve as the competing softwares did. The significance of this affected the company at the same rate as competing software overall greatly, as there was a decrease of customers using the program, there was an increase in confused heads when they set the program out for release. By creating a new design prototype, conducting surveys with students who interact with the system on a daily basis, and analyzing competitor offerings, our group came up with three simple recommendations, and ways to implement them as well.

There were several methods used in creating solutions to the problems at hand. We conducted a competitive analysis to gather valuable information on why Infinite Campus has been experiencing a decline in users. We directed a focus group of parents in which we had the opportunity to listen to what they had to say about the program overall and disbursed a survey to students who use the program. We concluded that there was a lack of overall motivation for users to use the program, there were too many complications and confusions with the system, and most of the competitors have features that create an easier work space for users. We then proceeded to carry out share the information gathered to the company, which is valuable because it pertained to the main culprits of their problems. This project was important as it helped shine a light on what Infinite Campus needs to improve upon their products, as well as creating new ideas.

46. Sarah Jones, Dominic Morman, Bailey Rosdahl and Kathryn Skorykh: Readings in Religious Studies<sup>2</sup>  
PHIL 1115, Faculty Mentor: Kristin Doneen

In this presentation, we will share our independent reading from PHIL 1115 - Comparative World Religions. In doing this, we will demonstrate diverse reading in Religious Studies. The study of world religions lends itself to an interdisciplinary study that is easily driven by personal interest. We will present a variety of readings that differ in style and focus. For example, one of us will present on a classic autobiography (Confessions of St. Augustine), while another will present a text intended for academic study in religious history (When God Was a Woman by Merlin Stone). Others will share inspirational conversations they read which have to do with the place of religion in our complex lives. These books include The Book of Joy (a conversation between the Dalai Lama and Desmond Tutu) and The Faith Club by Ranya Idilby (shared stories of three mothers from different faiths). Though brief, each summary will demonstrate central points and key experiences in our research project. Together, these presentations will illustrate different forms of reading in Religious Studies.

47. Albert Ulwelling, Li Vang and Kenji Yang: How Season Affects Baboon Abundance<sup>3</sup>  
BIOL 1103, Faculty Mentor: Kristen Genet

Baboons are a species of mammal abundantly found in Gorongosa National Park. The goal was to determine the season with the highest number of baboons by analyzing photos from each individual season. Trail cams were used to compare in which of the four seasons (dry, dry wet, wet, wet dry) baboons were the most present. While our prediction was that baboons would be most present in the Wet season, through the analysis of trail cam photos, we determined that they are actually most abundant in the Dry season. Further study is needed before these results can be accepted because only two years of data were accounted for versus three of four.

48. Brittany Wells and Brian Welsh: Interpretive Watershed Sign<sup>3</sup>  
BIOL 1107, Faculty Mentor: Kristen Genet

Presentation for critique of interpretive sign for Coon Creek Watershed District.

49. Paige Berg, Ashley Handel and Mikhail Morrison: The Effect of Plyometric Training on

### Vertical Jump Height<sup>3</sup>

EXSC 475, Faculty Mentor: Jill Gromberg

Vertical jumping is a fundamental component of many sports, and plyometric training has been shown to be one of the better ways to see improvement in vertical jumping ability in a short amount of time. Plyometric is a type of training which uses a stretch-shortening cycle that starts with an eccentric contraction and then is immediately followed by a rapid concentric contraction with all of the muscles involved. This training enhances the contractile performance of a muscle to be able to fire more readily for short, quick, jumping movements and to produce greater strength and power. The purpose of this study was to focus on the effect of a four-week plyometric training program on an individual's vertical jumping performance. In this study, 12 male undergraduate students who have previous athletic ability were randomly assigned to the plyometric group, or the control group. Their mean age is (20.4±1.9), mean height of (70.4±3.5 in), and a mean weight of (165.8±19.7 lbs). A Vertec Jump Trainer or "Vertec" for short, was used in testing the vertical jump height measurements of the participants. Vertical jump height measurements were taken at three different times during the four-week period for all participants; the beginning, middle, and end. The plyometric group trained by performing plyometric exercises three times per week for four weeks, whereas the control group performed no exercises. The plyometric group warmed up for five minutes before, and then performed exercises such as box jumps, depth jumps, single leg hops, broad jumps, and jump squats for three sets of 10 repetitions. The plyometric and control groups had respective P-values of 0.8776 and 0.8486 with a level of statistical evidence of 0.05. This suggests that there are no significant changes in vertical jump height for either the control group or plyometric group. In comparison of weight to jump height there was a p-value of less than 0.0001 that suggests that weight has an effect on vertical jump performance. In comparison of initial height with arm raised to jump height, there was a p-value of 0.1508 that suggests height does not have an effect on jump height performance. From our study, plyometric training does not improve vertical jump performance. With a larger sample size and a longer time-frame, the outcome would be more statistically significant.

### 50. Brianna Kent, Tyler Rousu and Jayde Warren: Effect of Dynamic Stretching on Agility Testing Times<sup>3</sup>

EXSC 475, Faculty Mentor: Jill Gromberg

The purpose of the study is to analyze whether participating in dynamic stretching prior to agility testing will result in faster agility testing times. Sixteen males participated in agility testing once weekly for four weeks. Subjects were randomly assigned to either an experimental or control group, with eight subjects per group. Subjects had a mean weight of 85.54 kilograms (±8.11kg), mean height of 182.09 centimeters (±8.03cm.), with a mean age of 23.5 years (±4.90 years). Agility testing consisted of the shuttle run and t-test. Eight of the men were placed in the experimental group, in which they underwent dynamic stretches which included high knees, butt-kicks, jump squats, Frankenstein's, lunge-twists, and shuffle sprints. The other eight men were in the control group and just underwent agility testing. After the testing, Dartfish® software was used to interpret the agility testing to then be able to analyze the results. The results for the shuttle run showed no improvement in testing times over the four-week study. Testing times for weeks two and three were slower than their control week one times when there was no stretching involved. The results for the T-test showed a decrease in time each week during the course of the four-week study. However, the analysis stated there was no significant difference in times of those who warmed up with a dynamic stretching routine and those who didn't. Dynamic stretching prior to agility testing showed inconclusive results. The results from the study suggest that dynamic stretching has no significant effect on agility testing times.

### 51. Elliot Gonzales and Slava Lisanets: Carbohydrate mouth rinse prior to anaerobic performance<sup>3</sup>

EXSC 475, Faculty Mentor: Jill Gromberg

Carbohydrates are a primary source of energy for the human body and research supplementing this substrate mostly focused on ingestion of carbohydrate bolus and its effects on aerobic performance. A limited amount of research has investigated the use of sugar-containing mouth rinses and their effect on anaerobic performance such as sprint times, power output, and time to fatigue tests. Research using sugar-containing mouth rinses is limited with some studies showing some positive effect on improved anaerobic performance. The objective of this study was to see if there was any positive effect with a carbohydrate (sugar) mouth-rinse on shuttle run

sprint times by getting faster and lowering sprint times. Initial recruitment consisted of eight male athletes and was reduced to six with two subjects dropping out from the study. Subjects had a mean age of  $22.50 \pm 2.95$  years. The mean weight was  $83.48 \pm 10.06$  kilograms. The duration of the study was three weeks with subjects coming in for testing one time each week. Of the eight initial recruits, six participants completed the study. Subjects were randomly assigned to one of two groups. During week one, all subjects ran a shuttle run sprint test to familiarize subjects with the test. During week two, one group of subjects was given a sugar-free mouth rinse and the other group received a sugar-containing mouth rinse prior to completing the shuttle run. During week three, the second group received the sugar-containing mouth rinse while the first group received the sugar-free mouth rinse prior to completing the shuttle run. A paired t-test was used to determine if significant differences occurred in subjects' times with the sugar-containing rinse compared to the sugar-free rinse, but no significant difference in shuttle run sprint test times was found ( $p=0.403$ ). Within this study's limitations, the use of a carbohydrate containing mouth rinse prior to an anaerobic effort/event was not found to have an ergogenic effect. In the future, suggestions for improving the study's design include increasing the study's sample size, increasing time for testing for effective familiarization, and providing more time between the rinse protocol and each sprint trial. A future study could also administer different concentrations of rinses to assess if the carbohydrate concentration of a rinse could affect performance times.

52. Sarah Cook: Preliminary Study in St. Croix State Park on the Detectability and Capture Rates of Wildlife by Various Camera Trap Types<sup>3</sup>

BIOL 2230, Faculty Mentor: Kristen Genet

Being able to procure accurate, high-quality data is the goal of every scientist. For biologists, especially those who are involved with ecological restoration and maintenance, this can be a tricky endeavor. One method of monitoring the wildlife in an ecosystem is camera trapping. However, due to their history as being recreational devices, these wildlife monitoring tools are still relatively untested as to how their presence affects the wildlife it records. Therefore, the following study tested three types of camera traps (Stealthcam, Bushnell TrophyCam, and Reconyx) in a field setting. Emphasis was placed on counteracting any sort of unwanted variables that may affect the data recorded. This emphasis was established due to the unruly nature of field tests. The results reflected that certain elusive carnivores did show signs that they detected even the highest quality cameras (Stealthcam). Steps to decrease the detectability of camera traps as well as the importance of doing so is also discussed.

53. Megan LaFond: Study of Seasonal Genet Abundance in Gorongosa National Park<sup>3</sup>

BIOL 1103, Faculty Mentor: Kristen Genet

Genets are small, catlike mammals that typically feed on rodents and other small animals. The aim for this project was to investigate what season genets are most abundant within Gorongosa National Park, located in Mozambique Africa. We completed this experiment by using camera traps that caught images of them. It was predicted that genets would be more likely to have a higher abundance in the wet-dry climates due to several factors like habitat and access to prey. Through our experiment we found that they overall are most abundant in the dry season. There is no re-searchable answer as to why genets tend to prefer this season but having completed this research study can help us understand how to help and understand the biodiversity of Gorongosa.

54. Ocean Lamoureux: Food Insecurity on Campus<sup>2</sup>

PHIL 1101, Faculty Mentor: Monica Janzen

Throughout the month of April 2019, I have been selling bookmarks to help raise money for the Campus Cupboard at Anoka-Ramsey Community College (ARCC). I have been creating these bookmarks with friends and family, and I have been selling them for \$1 each. May 1st, I will be donating 100% of the proceeds to the Campus Cupboard at ARCC. This is a temporary solution for food insecurity at ARCC, but we need more people to take the ethical path and to join in the fight. This campus is not the only campus with food insecure students. This is a worldwide ethical injustice and all I can do is take the first step, one bookmark at a time.

55. Larisa Schultz: Organize an Activity (e-portfolio)<sup>2</sup>

PHIL 1101, Faculty Mentor: Monica Janzen

In my e-portfolio I will present how to organize an activity in our community to make our world a better place. I

will have some pictures explaining how we volunteer our time to organize an activity. Also, I will have some videos showing what we done to help our community.

56. Andrew Hattling: How Many Miles per Gallon do Runners Get?<sup>2</sup>  
POLS 1141, Faculty Mentor: Matthew Schuster  
A lot of emissions go into producing food, and agriculture makes up about 20 percent of U.S. emissions. In order to look at the real impact food has on the climate, I calculated the amount of carbon emissions that go into food that fuels running. With an excel spreadsheet, I converted calories/CO2 to the equivalent amount miles/CO2 using how many calories runners burn per mile. Then, I converted it to the well-recognized measure of miles per gallon. The results were surprising: someone running on calories from beef gets only 7.1 miles per gallon equivalent. However, someone running on potatoes gets about 1600 miles per gallon equivalent. Looking at emissions this way gives people an easy way to see what foods are better for the environment, and to make more sustainable decisions about what they eat.
  
57. Gustavo Aquino-Rodriguez: Vegetation influence on Oribi Population<sup>3</sup>  
BIOL 1103, Faculty Mentor: Kristen Genet  
Gorongosa National Park is located in Mozambique, Africa. The park features a wide variety of species. This project focuses specifically on Oribi and the purpose of the study is to measure the number of Oribi in different types of vegetation. We will be looking further into whether the vegetation has an affect on the Oribi population. We believe that the type of vegetation has a serious effect on the Oribi population. To determine whether our hypothesis is correct, we will be looking at four different types of vegetation. So, we are going to be looking awfully closely at the data presented by the Grasslands and comparing it to the other types of vegetation communities. The main reason we believe that Grasslands will contain the most abundant Oribi is because Oribi rely heavily on tall grass for food and cover from predators. Thus, they should be in that specific area most of the time.
  
58. Kylie Carlstrom and Zachary Thibado: Screening Diversity: A content analysis of TV programming across platforms<sup>2</sup>  
CMST/MCOM 1100, Faculty Mentor: Melody Hoffmann  
Diversity in programming is on the rise, which is a big deal. It not only is helping achieve equality in the world; it is giving people representation and relatable content in ways that haven't been around before. This brings the question, is the amount of diversity the same on broadcast tv as it is on streaming services, such as Netflix? To answer my research question, I will be doing content analysis of popular television shows on both network television and various streaming services by watching a variety of shows on cable tv, broadcast tv, and streaming services and recording information such as where it is from, when it premiered, and if there are women or people of color lead characters. After recording this, I will sort and organize it to compare diversity under the different categories of premier date and place aired.
  
59. Savannah Johnson, Reese Kaehler and Ryan Makela: Research Project<sup>2</sup>  
PHIL 1100, Faculty Mentor: Monica Janzen  
Our group research project we decided to give back to our veterans for everything they have done for us. So we called the VA hospital and asked for things veterans need. After they gave us a list of things they could use we decided to create some care packages of things we could give back to them to make their everyday life easier.