



8th Annual

ACADEMIC AND RESEARCH SYMPOSIUM

April 16, 2018

2:00–6:00 pm	Registration & Folder Pickup	THOM Main Street
2:30–3:30 pm	Session A: Oral Advanced Art Session E: Oral Empirical Session E Session I: Oral Technology Session M: Oral Technology	THOM Auditorium THOM 111 THOM 113 THOM 101
3:40–4:40 pm	Session B: Oral Advanced Art Session F: Oral Empirical Session J: Oral Technology Session N: Oral Non-empirical & Technology Session P: Oral Lit. Review & Non-empirical Session R: Oral Experiential	THOM Auditorium THOM 111 THOM 113 THOM 101 THOM 105 THOM 106
4:50–5:50 pm	Session C: Oral Advanced Art Session G: Oral Empirical Session K: Oral Technology Session O: Oral Technology Session Q: Oral Non-empirical Session S: Oral Experiential Poster Session	THOM Auditorium THOM 111 THOM 113 THOM 101 THOM 105 THOM 106 THOM Main Street
6:00–7:00 pm	Session D: Oral Advanced Art Session H: Oral Technology Session L: Oral Technology	THOM Auditorium THOM 111 THOM 113

ACADEMIC AND RESEARCH SYMPOSIUM - PRESENTER SCHEDULE

	THOM Main	THOM Aud	THOM 111	THOM 113	
2:30 PM - 3:30 PM		<i>Oral Advanced Session A</i> 1. Frosheiser (2:30-2:50p) 2. E. Moll (2:50-3:10p) 3. Rose (3:10-3:30p)	<i>Oral Empirical Session E</i> 1. Engdahl (2:30-2:45p) 2. Smock & Phillips (2:45-3p) 3. K. Ludwig & J. Ludwig (3-3:15p) 4. Rowland (3:15-3:30p)	<i>Oral Technology Session I</i> 1. Grant (2:30-2:45p) 2. Cole Wohlgemuth (2:45-3p) 3. Fear (3-3:15p) 4. Woodruff (3:15-3:30p)	2:30 PM - 3:30 PM
3:40 PM - 4:40 PM		<i>Oral Advanced Session B</i> 1. Guenther (3:40-4p) 2. Orwen (4-4:20p) 3. Chelsea Wohlgemuth (4:20-4:40p)	<i>Oral Empirical Session F</i> 1. DuRee & Janovich (3:40-3:55p) 2. Daum (3:55-4:10p) 3. Janovich & Beasley (4:10-4:25p) 4. Herman & Ericksen (4:25-4:40p)	<i>Oral Technology Session J</i> 1. Feddern (3:40-3:55p) 2. Ganyo (3:55-4:10p) 3. Ehresman (4:10-4:25p) 4. Heidorn (4:25-4:40p)	3:40 PM - 4:40 PM
4:50 PM - 5:50 PM	<i>Poster Session</i> 1. Symes 2. Rich & Hope-Hull 3. Goodwin 4. Euken 5. Spilker 6. McAllister 7. vonSeggern 8. Shohat 9. Roby, Skorepa, Garner, Rogge, & Hoppe 10. Fisher	<i>Oral Advanced Session C</i> 1. Rowe (4:50-5:10p) 2. Loomis (5:10-5:30p) 3. S. Johnson (5:30-5:50p)	<i>Oral Empirical Session G</i> 1. Soenksen (4:50-5:05p) 2. Mason (5:05-5:20p) 3. Geiger (5:20-5:35p) 4. Haro (5:35-5:50p)	<i>Oral Technology Session K</i> 1. Utecht (4:50-5:05p) 2. Ragland (5:05-5:20p) 3. Shuck (5:20-5:35p) 4. Blersch (5:35-5:50p)	4:50 PM - 5:50 PM
6:00 PM - 7:00 PM		<i>Oral Advanced Session D</i> 1. Rankel (6-6:20p) 2. Woodburn (6:20-6:40p)	<i>Oral Technology Session H</i> 1. Consier (6-6:15p) 2. Rakoski (6:15-6:30p) 3. Walker (6:30-6:45p) 4. Garcia (6:45-7p)	<i>Oral Technology Session L</i> 1. Kosberg (6-6:15p) 2. Henson (6:15-6:30p) 3. McClanahan (6:30-6:45p) 4. P. Johnson (6:45-7p)	6:00 PM - 7:00 PM

ACADEMIC AND RESEARCH SYMPOSIUM – PRESENTER SCHEDULE

	THOM 101	THOM 105	THOM 106	
2:30 PM - 3:30 PM	<i>Oral Technology Session M</i> 1. Fuselier (2:30-2:45p) 2. Fehlhafer (2:45-3p) 3. Golke (3-3:15p) 4. Liermann (3:15-3:30p)			2:30 PM - 3:30 PM
3:40 PM - 4:40 PM	<i>Oral Non-empirical & Technology Session N</i> 1. Brummond & Taylor (3:40-3:55p) 2. Anderson (3:55-4:10p) 3. Crawford (4:10-4:25p) 4. Batters (4:25-4:40p)	<i>Oral Literature Review & Non-empirical Session P</i> 1. Greenmyer (3:40-3:55p) 2. German (3:55-4:10p) 3. Armbrecht (4:10-4:25p) 4. Meyer (4:25-4:40p)	<i>Oral Experiential Session R</i> 1. Cain, Ebel, Cope, & Jordan (3:40-3:55p) 2. Shafer, Bessey, Mussell, & S. Moll (3:55-4:10p) 3. Jesgarz, Altman, & Kohnke (4:10-4:25p) 4. Selander, Willard, Borchering, & Heath (4:25-4:40p)	3:40 PM - 4:40 PM
4:50 PM - 5:50 PM	<i>Oral Technology Session O</i> 1. Vecera (4:50-5:05p) 2. Skwara (5:05-5:20p) 3. Ward (5:20-5:35p) 4. Zikas (5:35-5:50p)	<i>Oral Non-empirical Session Q</i> 1. Jensen (4:50-5:05p) 2. Embretson (5:05-5:20p) 3. Gonzales (5:20-5:35p) 4. Rusert (5:35-5:50p)	<i>Oral Experiential Session S</i> 1. Woruo, Grigsby, Weddle, & Lauby (4:50-5:05p) 2. Jacob, Davis, Kohl, & Eifert (5:05-5:20p) 3. Schuette, Lennington, Woods, Bunting, & Moring (5:20-5:35p)	4:50 PM - 5:50 PM
6:00 PM - 7:00 PM				6:00 PM - 7:00 PM

Oral Session A – Oral Art – THOM Auditorium

Hayli Frosheiser; Faculty Sponsor: Seth Boggs **2:30-2:50p**
Recapturing Imagination

For this series of digital illustrations, I wanted to explore the wonderment of childhood imagination through the eyes of an adult. When I was a child, I had a vivid imagination and could effortlessly come up with fantastical creatures, characters, and entire worlds, but tapping into that creative space has been somewhat lost to me over the years. In my process of research for this series, I went back to my memories and drawings of characters I created as a child and began refining them with a more mature feel while also throwing a few more creations in along the way.

Emmiline Moll; Faculty Sponsor: Seth Boggs **2:50-3:10p**
The Dividing Line

"Recording is the absolute dividing line between plundering and scientific work." -Flinders Petrie
The action of recording is the main theme of my BFA Thesis Exhibition. Rather than plundering my childhood bulletin board, I chose to excavate and note my findings. Each of the 171 items taken from the board has an item card containing specific information about that object. Twelve items were further recorded through the process of being translated into intaglio prints with added watercolor. Through the disassembly and recording of the bulletin board, memories were also unearthed and documented.

Hannah Rose; Faculty Sponsor: Don Robson **3:10-3:30p**
Confronting What Remains

We are often faced with pain and suffering. Sometimes that pain and suffering comes from the actions and words of others. We forgive them. Yet even after that forgiveness, the hurt remains. It's not pretty, and it doesn't just go away. Relationships are damaged, and it leaves behind personal scars and wounds that can be reopened. What does that look like? As a future art therapist, I was interested in exploring the pain and hurt left behind after we've been sinned against, and what that may look like in a visual representation.

Oral Empirical – Session E – THOM 111

Heather Engdahl; Faculty Sponsor: Sara Brady **2:30-2:45p**
Personality & Ethical Decision-Making

Previous research suggests that ethical and risk decision-making are influenced by traits such as empathy and narcissism (Brown et al., 2010) or extraversion and neuroticism (Wang et al., 2017). The current study aimed to address to what extent there is a relationship among extraversion, neuroticism, narcissism, empathy, age, and ethical decision-making. It was hypothesized that extraversion, neuroticism, and narcissism will be negatively correlated with ethical decision-making, while empathy and age will be positively correlated with ethical decision-making.

Kayla Smock & Elizabeth Phillips; Faculty Sponsor: Sara Brady **2:45-3:00p**
Correlation between extraversion, purchase intentions, and advertising

The purpose of this study was to explore the relationship between extraversion and purchase intentions of advertisements that vary in sensory stimuli. This study was important for understanding consumers, and how marketing strategies can directly affect groups differently. For example, extraversion includes various components such as activity, socialness, impulsivity, responsibility, and risk-taking (Eysenck & Wilson, 1976). In this study, students were asked to take an extraversion measure and complete a brief survey on their perceptions of eight advertisements that vary in sensory stimuli.

Kaila Lodwig & Jacob Lodwig; Faculty Sponsor: Sara Brady **3:00-3:15p**

Influencing Mood and Moral Decision Making: An Analysis of the Effect of Violent Media on Emotions and Everyday Ethics

The purpose of our experiment is to determine whether viewing clips of movie violence can affect mood and morality. The focus of past research has been specifically on emotions related to moral decision-making (Osman & Wiegmann, 2017). For example, playing violent video leads to angry and violent feelings (Lull & Bushman, 2016). However, these studies did not vary the realism in the violent media. Our research explores how realistic violent scenes compared to unrealistic violent movie scenes can affect mood and moral decision-making.

Erin Rowland; Faculty Sponsor: Kyle Johnson **3:15-3:30p**
The Influence of Soil Characteristics on White Clover Success

The relationship between genetics, environment, and traits of the organism help define what drives their adaptation and survival. Soil features are one factor of the environment in which an organism develops. This relationship is significant in plants like white clover (*Trifolium repens*) that perform phytoremediation, removing pollutants and other compounds from soil. Due to its growing use in agriculture, understanding the factors of growth and reproductive success is crucial. In this study, different experiments examine the relationship between plant success, genetics, and the environment.

Oral Technology – Session I – THOM 113

Jonathan Grant; Faculty Sponsor: Brian Albright **2:30-2:45p**
Moore's Law

Moore's Law claims that the number of transistors in a microprocessor will double every two years. We will examine if this 60 year-old claim still holds true, which microprocessor manufacturers are pushing Moore's Law, and what the future of Moore's Law holds.

Cole Wohlgenuth; Faculty Sponsor: Brian Albright **2:45-3:00p**
Excel Simulations

I have been doing some research on traffic flow problems that are modeled using differential equations. I modeled a few different possible environments that would have real life applications. I used ordinary differential equations to show four different models, and I will be speaking about these within my presentation.

Britnee Fear; Faculty Sponsor: Brent Dieckhoff **3:00-3:15p**
Academic Teaching Toolbox

As a future educator, I understand that there is a need for the organization of teaching tools learned in undergraduate education classes to be easily accessible in the future. My online academic teaching toolbox is the first step to having all the tools future and current educators need/learned about at their fingertips.

Meghan Woodruff; Faculty Sponsor: Brian Albright **3:15-3:30p**
Simulating Random Events

Monte Carlo simulations are used to predict the outcomes of real-world random events. These are called Monte Carlo simulations because they are commonly used to study games of chance, but can be used to study many random events. Once a model is created using random numbers, the trials are simulated many times. Then, the results are analyzed statistically.

Oral Session M – Oral Technology – THOM 101

Keddrick Fuselier; Faculty Sponsor: Joel Helmer **2:30-2:45p**
Mapping Top Texas Recruits

This project is to identify 2018 Texas high school top 100 recruits and their future college locations. The goal is to show the number of recruits leaving Texas and the new college they will attend this upcoming fall semester. This has been completed by pinpointing the location of each athlete's college of choice. The

results show that most recruits attended high school around the Houston area.

Brady Fehlhafer; Faculty Sponsor: Joel Helmer **2:45-3:00p**
An Analysis of Cultural Identity and the 2018 Winter Olympic Games

Since its start in 1924, the Winter Olympic games has served as a showcase for many athletes, and the countries they represent. This study looks at the spatial distribution of the medalists that competed in the 2018 Winter Olympics. To conduct the study, the residence of every medalist was placed on a map. The inclusion of additional map layers, and analysis of the data reveals the close associations between Olympic sporting events, cultural identity, and geographic location.

Isaac Golke; Faculty Sponsor: Joel Helmer **3:00-3:15p**
Birthplaces of NFL Players

Using the resource "Pro Football Reference" and GIS I mapped all of the birthplaces of every NFL football player for the 2017 season. Using this map one can see where the players they watch on TV every Sunday come from and how these places relate to population, ethnicity, geography, and culture.

Samantha Liermann; Faculty Sponsor: Joel Helmer **3:15-3:30p**
GPAC Throwers

This project is a map of all the current throwers in the Great Plains Athletic Conference. My research includes the throwers' hometown, distances, and honors. This information shows me that a large majority of the throwers come from the Midwest, particularly Nebraska, South Dakota, and Iowa. I also wanted to find out what schools from the GPAC produce the most all-conference and all-American honorees. This information shows that Concordia, Hastings, and Doane have had the most All-Americans in the past few years.

Oral Session B - Oral Art - THOM Auditorium

Leah Guenther; Faculty Sponsor: Seth Boggs **3:40-4:00p**
Marriage By Design

I would like to discuss my Graphic Design capstone, in which I created a set of designs for my wedding this June. I wanted to reflect the simplicity of a wedding from the 30s or 40s, when couples didn't have much to spend on weddings. However, I also didn't want to appeal to a specific decade. Instead, I wanted to create a feeling of a bygone time - the good old days - which draws from several periods of design. I will be talking about the research I conducted on the subject, the styles I combined to create a unified series, and the methods I used to carry out the project.

Jessica Orwen; Faculty Sponsor: Seth Boggs **4:00-4:20p**
Video Games in the Gallery

In my project I explore how the medium of video games can be used for art. Influenced mainly but the niche dream exploration genre, I attempt to use this medium in a way where I can pile as many ideas as possible together in a mostly cohesive manner. I'm also taking into consideration the role audience interaction plays, as I picture each person having a different experience with the game and each person having something different to say. The idea is eventually the game will continue to grow with the help of these opinions, and as the game gets bigger people will have more varied interactions.

Chelsea Wohlgemuth; Faculty Sponsor: Seth Boggs **4:20-4:40p**
Nóstos

Once thought of as a crippling medical condition, nostalgia can be defined as a longing for the past. Twelve interviews in search of "nostalgic memories" have led me to believe nostalgia is a highly romantic sentiment for happy past memories. "Nóstos" (Greek for homecoming) is an appropriate label for my Thesis Exhibition. I began by collecting twelve memories that embody a sense of longing. These memories were recorded both

digitally and physically. The memories were then translated into woodblock and graphite illustrations. The series of illustrations is a homecoming for those involved.

Oral Session F - Oral Empirical - THOM 111

Dylan DuRee & Mary Janovich; Faculty Sponsor: Kyle Johnson **3:40-3:55p**

The Effect of Alcohol on Vitamin C in a Solution

In the body, Vitamin C acts as an antioxidant, which protects the body from damage by harmful molecules in free radicals, and may be the cause of many diseases. Dichlorophenolindophenol (DCPIP), a redox dye, can be used to measure active Vitamin C in a solution. This experiment investigated the effect of different concentrations of alcohol on Vitamin C. We expected the alcohol to reduce the ability of Vitamin C to act as an antioxidant.

Brenleigh Daum; Faculty Sponsor: Kyle Johnson **3:55-4:10p**
Water Temperature and Its Effects on the Stability of Vitamin C

An essential nutrient found mainly in fruits and vegetable, Vitamin C is required by the body to form and maintain bones, blood vessels, and skin. DCPIP, or 2,6-Dichlorophenolindophenol, is a chemical compound used mainly as a redox dye. DCPIP is dark blue, in color, but can be reduced to colorless when other substances are added to it. This study used Vitamin C to reduce DCPIP in order to find out if water temperature affects the stability of Vitamin C and which temperature affects it the most. I expected cold water to maintain Vitamin C's stability the best.

Mary Janovich & Vincent Beasley; Faculty Sponsor: Sara Brady **4:10-4:25p**

The Cause and Effect on the Relationship among Failure and Satisfaction with Life

Research has shown that the desire to be accepted by peers is an ongoing basic human drive (Baumeister & Leary, 1995). When that drive is derailed through failure, people react in a multitude of negative ways. This experiment aimed to investigate the relationship between failure relating to satisfaction with life (SWL). Participants were asked to recall a time where he/she experienced a negative life event, how he/she responded, and answered a few questions about his/her life. We expect those who have higher SWL would react positively and those with lower SWL would react negatively.

Tiffany Herman & Elizabeth Ericksen; Faculty Sponsor: Sara Brady **4:25-4:40p**

Professors' Perceptions of Attendance, Communication, and Academic Achievement

Past research has shown that better attendance leads to better grades (Gump, 2005), but very few have looked at professor perceptions of students based on both communication and attendance. Therefore, the purpose of this study was to determine if the relationship between attendance and perceived academic achievement was based on communication between the professor and student. Professors from a small faith-based campus in the Midwest were asked to complete an anonymous survey asking about former and present student attendance, and their personal views on attendance and academic achievement.

Oral Session J - Oral Technology - THOM 113

Kelby Feddern; Faculty Sponsor: Joel Helmer **3:40-3:55p**
A Spatial Analysis of Collegiate Shotgun Schools

The sport of collegiate shotgun shooting is becoming more and more popular among colleges across the country. This project looked at the spatial analysis of the schools as far as the geographic location in the United States and where they are most frequently found. Being more specific what region or regions of the United States are collegiate shotgun teams more popular. This is based off of the Annual Clay Target Tournament held each year. The data I used is from the 2017 (ACUI) tournament held in Texas.

Connor Ganyo; Faculty Sponsor: Joel Helmer **3:55-4:10p**
Hometowns of Major League Baseball Players

The purpose of this presentation is to show where professional baseball players are from. The presentation shows where Baseball talent is coming from. This presentation and project takes a look into the Major League Baseball 40-man rosters during spring training of 2018 and maps all 30 Major League rosters on ArcGIS online. This map shows the influx of players into America from the central American countries and also the major influx from countries like Puerto Rico, Dominican Republic, Cuba, and Japan. This research shows that the sport of Baseball is not just an American pastime.

Tyler Ehresman; Faculty Sponsor: Brian Albright **4:10-4:25p**
Factors Determining Golf Scoring Averages

I did a multiple regression problem to determine what combination of six predictor variables (Driving Accuracy Percentage, Greens Hit in Regulation Percentage, Scrambling Percentage, Sand Save Percentage, Birdies per Round, and Putts per Round) was the best fit for determining a Professional Golfer's scoring average in the year of 2017.

Emma Heidorn; Faculty Sponsor: Brian Albright **4:25-4:40p**
Cleaning Up the Great Lakes
We will look at how pollution affects the great lakes using Excel spreadsheets.

Oral Session N – Oral Non-Empirical & Tech. – THOM 101

Simon Brummond & Thomas Taylor; Faculty Sponsor: Sara Brady **3:40-3:55p**

Effects of self-awareness during social media exposure on self-esteem

Social media is implicated with negative self-outcomes, such as increased loneliness and lowering well-being. State self-esteem is lower when individuals view social media that contains upward comparison information. This study aims to determine whether being self-aware while viewing social media posts affects state self-esteem. Participants evaluated unrealistic social media posts while in the presence or absence of a mirror and then took a state self-esteem measure. It was expected that being self-aware while viewing unrealistic social media posts would lead to lower state self-esteem.

Jonathon Anderson; Faculty Sponsor: Kent Einspahr **3:55-4:10p**

An Algorithm for Efficient Approximation of Fractal Projections in Parallel

In the field of Computer Science, fractals remain one of the most elusive and difficult to handle mathematical structures ever encountered, despite their prevalence in physics and graphic design. A simplification, dubbed "fractal projection", allows one of the spatial dimensions to be removed to improve speed, and approximation of this can be both viable and useful in these fields. This project investigates briefly the use of such projections, before analyzing a technique for producing the resultant approximate fractal projections using the parallel processing given by modern graphics cards.

Gabriel Crawford; Faculty Sponsor: Joel Helmer **4:10-4:25p**
Great Plains Athletic Conference Recruits

I am a wrestler and I made this map of the most GPAC wrestling teams I could get done with the time given. I was interested in see where coaches recruits their wrestlers from, I wanted to see if there were any noticeable trends. Did coaches recruit in the same place? Do they compete for these recruits? This map tell us the answers to these questions.

Luke Batters; Faculty Sponsor: Joel Helmer **4:25-4:40p**
The best soccer players around the world

I have researched the birth city of the best 100 soccer players in 2012 and 2017 across the world. These stats come from a panel of 169 experts from 63 nations who have compiled a list of the

greatest male players. My research will include: Players name, club, nationality, age and birth place. I have conducted this research to see if there is a trend between top players and their birth place. After comparing the 2012 to the 2017 list, ultimately my research shows the contrast between player's world-wide.

Oral Session P – Oral Lit. Review & Non-Emp. – THOM 105

Joseph Greenmyer; Faculty Sponsor: Matthew Phillips **3:40-3:55p**

The Life and Theological Development of Philip Melancthon

This paper focuses on the life and theological development of the Lutheran reformer Philip Melancthon. Specific attention is given to his views of the real presence and free will. All conclusions are drawn from his personal theological documents written and subsequently edited throughout his life.

Morgan German; Faculty Sponsor: Matthew Phillips **3:55-4:10p**
The Response of the Confessing Church to Hitler's National Socialism

The Confessing Church, a group of Lutherans and other Christians, was founded in 1934 in response to the German Christians' and Hitler's plan to remove real Christianity from Germany and to replace it with a National Socialist version of the religion. While the Nazi government thought it could convince all Germans to follow them and to prescribe to all their ideologies, they were met with resistance by men and women who believed it was better to follow God and His teachings rather than those of man and whose goal was to return both church and state to their rightful roles in God's kingdom.

Isaiah Armbrecht; Faculty Sponsor: Matthew Phillips **4:10-4:25p**

Luther at the End of Time: Luther's Eschatological Focus

When most people consider what was at the heart of the theology of Martin Luther, eschatology is not usually what comes to mind. Luther did not have a distinct article in his confessional writings that dealt with the end times. Luther will not explicitly state what his position on the end times is because he sees the last days as a completion of the work of Christ that He has already begun in the here and now. Luther even perceives signs of the end in his own time. The entirety of Luther's theology is imbued with this eschatological approach to the Church and world.

Kacy Meyer; Faculty Sponsor: Matthew Phillips **4:25-4:40p**
The Radical Reformation

This research is on the Radical Reformation of the 16th century, which is a subset of the Protestant Reformation. This includes figures such as Thomas Müntzer, Andreas Karlstadt, and the Anabaptists. Primarily, this research answers why history deems these particular groups as radical. Why was Martin Luther not included in this radical reformation? This research takes into account the teachings and actions of each radical reformer and compares it to the ideology of the time period, which supports the radicalism of their teachings.

Oral Session R – Oral Experiential – THOM 106

Corrienne Cain, Alison Ebel, Lauren Cope, & Briana Jordan; Faculty Sponsor: Patricia Jensen **3:40-3:55p**

Learning & Applying Pedagogical Knowledge with Practical Experience

As future educators, we need the opportunity to apply our pedagogical and content knowledge to realistic situations and the "Live Well in Christ" parochial school health day is our opportunity to do so. Therefore, we plan to receive practical experience working with children by planning health and wellness lessons and executing the lessons. Through this experience, we hope to gain knowledge of methods for working with children, practice of application of teaching health topics, and the experience of teaching children and solving problems in the midst of teaching.

**Madeleine Shafer, Samantha Bessey, Leah
Mussell, & Susie Moll;** Faculty Sponsor: Patricia Jensen
3rd Grade Wellness Day

3:55-4:10p

This project is a summary of our experience during the HHP 360 Wellness Day for parochial third grade students. Our goal was to educate our students in areas including stress management, brain anatomy and self-esteem and engage them in activities which incorporated these topics. We discuss these aspects of health and wellness and how they work together with our faith to create a healthy lifestyle.

Anne Jesgarz, Emily Altman, & Grace Kohnke;
Faculty Sponsor: Patricia Jensen
Fit and Well Day with Kindergarten

4:10-4:25p

In this experiential project, we had the opportunity to go through the entire process of choosing a grade level, to planning a whole day of health and fitness related activities for kindergarten students, to actually doing the plans with the kindergarten students. This presentation covers the process we went through to get to Fit and Well day.

**Corinn Selander, Chelsea Willard, Paige
Borcherding, & Kenna Heath;** Faculty Sponsor: Patricia Jensen
Benefits of Special Olympics

4:25-4:40p

We will be presenting on the benefits of Special Olympics and the impact this program has on the athletes, coaches, parents, and student volunteers. We will discuss the skills they learn that affect them cognitively, socially, and physically. The presentation will include information about the history of the Special Olympics and how it has changed throughout the years.

Oral Session C - Oral Art - THOM Auditorium

Jade Rowe; Faculty Sponsor: Jim Bockelman
The Bone Doctor

4:50-5:10p

I challenged myself to illustrate a short story without words about the dangers of giving up too much of yourself for another. It's about a surgeon who, in order to help a friend through a difficult time, gives up parts of himself to replace the parts of herself that aren't "working" properly. As they go through the procedures, he slowly becomes more skeletal and she becomes more akin to the image of Frankenstein's monster, or a zombie. In an attempt to give up parts of oneself and affix them to another, both sides lose who they are. Presented in graphite in a comic book/storyboard hybrid.

Allise Loomis; Faculty Sponsor: Jim Bockelman
Layers of Being

5:10-5:30p

This presentation will discuss the themes and inspiration behind the body of work I have created for my BFA show. My work explores layers, in both a physical sense and a psychological sense. Through the use of collage I create layered pieces that prompt my viewers to look deeper than the surface, to reach beyond their initial assumptions about themselves and the world they live in, and consider alternate realities.

Sarah Johnson; Faculty Sponsor: Jim Bockelman
Beauty Underneath

5:30-5:50p

When I work with forming and creating bones, I am focusing on the intricate foundation that living things have. They are designed by our loving God. They are beauty underneath. I think too often we don't truly see people. We don't always take the time to know someone below the surface or to love their structure or their bones. Deeper qualities such as a person's characteristics, what they stand for and what makes them unique are often not reached. Bones are usually seen as dark and an image of death, but with my art I want to bring attention to the beauty of layers and life.

Oral Session G - Oral Empirical - THOM 111

Esther Soenksen; Faculty Sponsor: Kyle Johnson
Vitamin C and Smoking

4:50-5:05p

Vitamin C is essential to our bodies in many ways, including its function as an antioxidant to fight free radicals. Vitamin C is especially important for smokers, because free radicals are produced at accelerated rates in their bodies. This research explored the effect of chemicals found in, and produced by, cigarettes on the ability of vitamin C to react with the indicator dichlorophenolindophenol, a redox dye that quantifies vitamin C activity in a solution. We expected these chemicals to inhibit the activity of vitamin C.

Teya Mason; Faculty Sponsor: Kyle Johnson
Change of Vitamin C concentration in Oranges as they Ripen

5:05-5:20p

Vitamin C shows how different effects on it can alter how much of the natural vitamin we need to survive. In this experiment we determined how the concentration of Vitamin C changes in oranges as they ripen. Vitamin C and dichlorophenolindophenol were proportionally mixed together and tested based on the concentration amounts of Vitamin C. DCPIP is a chemical compound that is used as a redox dye. The amount of color change quantified the amount of Vitamin C present. I expected that as the orange becomes riper, the amount of Vitamin C will increase.

Kaleb Geiger; Faculty Sponsor: Kyle Johnson
Vitamin C concentration in fruit juices

5:20-5:35p

The essential nutrient Vitamin C helps in tissue repair, immune health, protects against cardiovascular and eye disease, and acts as an antioxidant. This experiment measured the amount of Vitamin C in different fruit juices by using dichlorophenolindophenol (DCPIP) as a redox dye. Vitamin C reduces the DCPIP when mixed causing a change in the color and the wave length absorbance. I expected the orange juice to have the greatest Vitamin C concentration.

Victor Haro; Faculty Sponsor: Kyle Johnson
Comparison of the Vitamins C content in different fruits

5:35-5:50p

Different fruits contain different levels of vitamin C. These fruits are essential nutritional values and health benefits to its consumers. This study will measure the ascorbic acid levels from four different fruits an orange, lime, lemon, and apple. The basic setup for this study was to use DCPIP to find the amount of vitamin C in each fruit after which we will be able to determine which out of the four has the larger amount of Vitamin C within it.

Oral Session K - Oral Technology - THOM 113

Justus Utecht; Faculty Sponsor: Brian Albright
Restaurant

4:50-5:05p

I am going to look how long the wait time at a certain restaurant might be. There will be a fluctuating number of people coming in. I want to see how long people will have to wait based on seating and see if there is good number to have for seating.

Johanna Ragland; Faculty Sponsor: Brian Albright
Probability of Playing a Game

5:05-5:20p

I will discuss the probability of winning a game based running multiple trials of a simulation.

Tanner Shuck; Faculty Sponsor: Brian Albright
Basketball stats analysis

5:20-5:35p

Different statistical categories are tested to see what categories seem to influence the winning percentage the most, and what combinations of categories may be more telling of what teams are doing well.

Aaron Blersch; Faculty Sponsor: Brian Albright **5:35-5:50p**
Black Plague SIR Model

The presentation is an explanation of how I created a model to depict how many people in London, 1347, died from the black plague, and at what rate. I used a SIR model, which uses differential equations to model the number of susceptibles, infectives, and removed (no longer sick).

Oral Session O – Oral Technology – THOM 101

JT Vecera; Faculty Sponsor: Joel Helmer **4:50-5:05p**
Title: Hometown of NBA Players

Where do you think most of the NBA players are from? When you look at the locations of the NBA teams in the United States, you can see that they are in some of the largest cities, but where do they come from? I took all of the players and mapped them. I compared them to population density maps and looked at which cities per capita produce most of the NBA talent. The data shows that most of the talent is in the New York area, Florida, California, and Texas.

Patrick Skwara; Faculty Sponsor: Joel Helmer **5:05-5:20p**
2017 Football Conference Championship Teams from Major FBS Schools

For My Project I selected the conference champions from each of the major conferences in NCAA Division I schools and mapped each of the rosters. Since these teams are the conference champions the case can be made that they are the best teams from each conference. The goal is to delineate if there are regions in the United States that have clusters of the more elite athletes than other areas across the nation.

Drew Ward; Faculty Sponsor: Joel Helmer **5:20-5:35p**
College World Series Winning Team Rosters

The purpose of this project is to provide an understanding of where particular universities recruit their athletes from. By viewing this presentation, you will have a good idea in which the previous ten winning college world series teams recruit their athletes from. My goal of mapping these collegiate baseball athletes was to get an understanding of whether universities are more likely to recruit from around the country or close to the university. My hypothesis was that most universities would recruit from nearby towns due to knowing coaches personally due to convenience of area.

Nolan Zikas; Faculty Sponsor: Joel Helmer **5:35-5:50p**
Geography of College Bass Fishing Teams

This presentation focuses on college fishing teams participating in the Carhartt Bassmaster College Series tournaments. I used ArcGIS online to map all of the information. The map describes where these college teams are located, and then the map looks closer into the area around the school to see all the different lakes. Schools around lakes that produce quality bass have a tendency to contend and compete in the Carhartt Bassmaster College Series more.

Oral Session Q – Oral Non-Empirical – THOM 105

Emily Jensen; Faculty Sponsor: Bryan Moore **4:50-5:05p**
A Dramaturgical Exploration of Shakespeare on the Green

William Shakespeare was the king of words. He invented many of the words and phrases in our language today. How do we, as viewers and readers of his work, find meaning and a story out of so many words? Ben Schrag and Amanda Petefish-Schrag created Shakespeare on the Green to help audiences understand the story. My job, as the dramaturg for this show, was to relate their work back to the original plays and to today's audiences. It was also a matter of figuring out how the play was written and applying it to create our own script. This presentation is a culmination of that work.

Karle Embretson; Faculty Sponsor: Lisa Ashby **5:05-5:20p**
A Poetry Chapbook Experience

As part of my major's fulfillment, I completed a Capstone project that focuses on the creation of poetry, reader response and interpretation, and scholarly research into the philosophy of hermeneutics. A poetry chapbook, which is a small collection of poems centered around a specific theme, acts as the bulk of the project. This chapbook was passed around to a handful of both English and non-English majors with instructions to engage with the poetry and with each other. I connected my further research to my analysis of the chapbook responses to provide a well-rounded project.

Rosa Gonzales; Faculty Sponsor: Vicki Anderson **5:20-5:35p**
Application of Music in Second Language Acquisition

This study follows 8 students who were asked to listen to 5 songs every day over a period of 4 weeks. This participants were required to complete language tasks related to the music each week. This report presents the result of their self-evaluation of their second language acquisition over the month of the experiment.

Rebekah Rusert; Faculty Sponsor: Laurie Zum Hofe **5:35-5:50p**
Literature and the Labyrinth

The prominence of mental health issues among adolescents is growing at an alarming rate. Because of this, it is important that we address these issues in school in order to help students identify these issues in themselves and others. A great way to approach this is through the use of bibliotherapy. In other words, having students read engaging books that showcase characters dealing with mental health issues can help to start the discussion of these things in the classroom. This presentation showcases the benefits of this type of approach as well as how this approach could be executed.

Oral Session S – Oral Experiential – THOM 106

John Woruo, Kerry Grigsby, Lamont Weddle, & Caleb Lauby; Faculty Sponsor: Patricia Jensen **4:50-5:05p**
We're all athletes

We have decided to discuss the common misconceptions about people with disabilities and their abilities athletically. We will highlight how our own personal experience has shaped how we see them now compared to how we looked at the disabled community before.

Sierra Jacob, Hannah Davis, Emily Kohl, & Mikayla Eifert; Faculty Sponsor: Patricia Jensen **5:05-5:20p**

Live Well in Christ Day: Reflection for Fourth Grade

This presentation focuses on the experience of undergraduates teaching fourth grade students about different aspects of physical, socioemotional, and spiritual health. The lessons were centered around the body of Christ (1 Cor. 12:12-27) and how it works similarly to the respiratory system, how it relates to self-image, and how it affects peer relationships. This presentation examines the students' responses to the lessons and the undergraduates' conclusions from the experience.

Taryn Schuette, Monica Lennington, Darnell Woods, Russell Bunting, & Cade Moring; Faculty Sponsor: Patricia Jensen **5:20-5:35p**

Got Skillz

We are student coaches of Special Olympic Athletes. Our purpose is to encourage and direct the athletes to further develop their gross motor skills. This experience has enhanced our knowledge of cognitive and physical disabilities.

Poster Session - THOM Main Street - 4:50-5:50pm

Paul Symes; Faculty Sponsor: Brian Albright

Paradoxes in Probability

A demonstration and explanation of the False Positive paradox and Simpson's paradox using computer simulations, focused mainly on applications in the medical field.

Audrey Rich & Joseph Hope-Hull; Faculty Sponsor: Sara Brady
Factors of Lasting Faith: Young Adult Church Commitment Based On Family Faith Practices and Church Attendance

The purpose of this study was to examine the relationship between perceived parental and young adult religiosity. I hypothesized that a correlation between these variables would exist. Participants were Christian students, selected via convenience sampling. The Faith Activities in the Home Scale was used to determine home religious practices of the participant while growing up, and the Christian Faith Practice Scale was used to assess current religiosity. A correlation statistic will be used to compare means of these scales. Findings may confirm the importance of home family faith practices.

Alexander Goodwin; Faculty Sponsor: Robert Hermann
Measuring Stellar Temperatures

This research measured the temperatures of five main sequence stars. Multiple images were collected of each star with a Celestron NexImage5 on a Meade 16-inch telescope. The temperature of each star was calculated by comparing the brightness in each of three colors to those of a blackbody. Using these calculated temperatures and each star's known temperature a relation was developed between the measured intensities and the temperature. Additional images of stars within a cluster were analyzed using the same technique to measure their temperatures and determine characteristics of the cluster.

Seth Euken; Faculty Sponsor: Robert Hermann
Measuring Rotation Characteristics of Fidget Spinners using an Arduino

This project used an Arduino microprocessor to measure the rotation rate of a fidget spinner. Magnets attached to the fidget spinner induced a potential in a coil attached to the Arduino, which used this incoming potential to calculate the rotation rate. Changes in the rotation rate were used to find characteristics of the fidget spinner. Powering the fidget spinner by sending a changing current into a coil near the magnets was also attempted.

Ann Spilker; Faculty Sponsor: Joseph Gubanyi
Diet and Habit Analysis of Barn Owls (*Tyto alba*) Nesting at Ponca State Park

Barn owls (*Tyto alba*) have declined in the Midwest. In 2015 barn owls nested in a grain bin in Ponca State Park, NE. Pellets were analyzed to determine prey. A 768-ha land cover map around the nest site was made using ArcMap 10.5 software. A total of 358 prey were identified. Ten species of mammals made up 95% of prey with birds at 5%. Cultivated crops and abandoned fields made up 64.5% of the mapped area. Suitable habitat (grassland, pasture/hay, and abandoned fields) made up 33.8% of the mapped area. Barn owls fledged 6 of 7 young but did not return to the nest site the following spring.

Josiah McAllister; Faculty Sponsor: Connie Callahan
Robustness Analysis of Radiomic Features Across Breathing Phases of 4DCT

Radiomic analysis uses routine CT scans from cancer patients to understand tumor characteristics. Features are extracted from CT scans and compared to similar patients' scans. These results direct treatment choices, providing personalized medicine. This study observed the stability of potential prognostic features to analyze their reliability in 4DCT lung tumor scans. "Shape" features were the most stable group. The effect of adding AIP to the 8 phase 4DCT scans to observe the change in stability of the

features was also evaluated. Features were consistently less stable when including AIP.

Amanda vonSeggern; Faculty Sponsor: Nolan Harms
Injuries and Mental Health in Athletes

There is an aspect of importance of mental health in athletes that is seldom looked upon in depth today. This would be the mental health coming back from a temporary injury, permanent injury, and or a retirement. To an athlete their mental identity within the team changes with each step of injury impairment; becoming more drastic as the wait to get back in the game continues. Balancing a mental athletic identity looks at academics, social activities, success or lack thereof, physical and mental health, relationships and dealing with the end of their career.

Leah Shohat; Faculty Sponsor: Nolan Harms
The Benefits of Exercise for Individuals with Autism

Exercise for the purpose of maintaining health can be a struggle for individuals with Autism, as they may need extra care and guidance when learning new activities. Several studies have been conducted to determine what kinds of exercises at which these individuals are able to excel. As a positive side effect of these studies, researchers have learned that exercise does more than maintain their physical health, it also helps to reduce maladaptive behaviors, increase their capacity for social interaction, and create a positive and lasting impact on their lives.

Taylor Roby, Carley Skorepa, Kennedy Garner, Sarah Rogge, & Taeva Hoppe; Faculty Sponsor: Patricia Jensen
Living Well in Christ - 2nd Grade

Thirty-five students from parochial second grade classrooms in Seward, NE will participate in a "Living Well in Christ" wellness day. Through experiential learning, observations will be recorded and data will be collected on their overall knowledge of germs, hygiene, and nutrition. The students will participate in a pre-assessment and post assessment to evaluate the learning that takes place over a five hour period.

Addy Fisher; Faculty Sponsor: Nolan Harms
Parkinson's Disease: Management through Rehabilitation Interventions and Pharmacological Treatments

The purpose of this research was to review the effects that different physical therapy programs and pharmaceutical drugs have on the management of Parkinson's Disease, specifically cognitive processes that involve the basal ganglia, dopamine firing and reception, and the resulting symptoms. Seven peer-reviewed studies done on patients with PD had over 2,000 participants. The subjects were tested prior to physical therapy interventions or drugs, and after. Flexibility, motor control, speech pattern, gait, mobility, posture, balance, and cognitive functions were measured.

Oral Session D - Oral Art - THOM Auditorium

Taylor Rankel; Faculty Sponsor: Seth Boggs **6:00-6:20p**
The Wolves Within Us

This series of poster portray that there are events in life that we cannot control. I use the wolf as a metaphor to represent these uncontrollable events. The red ribbons throughout the works represent the idea that we are tied to whatever events may come our way, the arrows show the daily struggles in our lives, and the halos illustrate that we feel we need to be our own saviour. There are people in life who protect us and there are people in life who hurt us. These interactions, whether big or small, shape who we are as a person and how we interact with those around us in the future.

Grace Woodburn; Faculty Sponsor: Justin Groth **6:20-6:40p**
Being and Becoming

Over the last three years, my studio research has been dedicated to creating spheres. This form is the basis of my current body of work. A sphere, by definition, deals with the idea of one's social realm. Your sphere of influence is what you know, what you do, and who surrounds you. These objects are white, contrasted by chromatic swatches of color. They reflect their environment, without actually having color. When you encounter them, you impose your ideas to the work, based on your experience. The sculpture in return, addresses you. This provides a space for reflection.

Oral Session H - Oral Technology - THOM 111

Robin Consier; Faculty Sponsor: Joel Helmer **6:00-6:15p**
Up Up and Away

In 2017, there were 192 hot air balloon festivals and 3,684 commercial hot air balloon pilots throughout the United States. With the use of ArcGIS Online I was able to import data from hot air balloon festivals, U.S. commercial hot air balloon pilots, balloon manufacturers, and ground schools. After examining the information relating to these aspects of balloon piloting, I have found that many of the people who are involved in it are in the middle level of income and reside in areas with greater population densities.

Benjamin Rakoski; Faculty Sponsor: Joel Helmer **6:15-6:30p**
How recruiting classes for head football coaches of Concordia Football have changed

For my project I chose to look at with the changes in head football coaches there is also a change is the area they like to look a players from. Some of these changes are where in the country players are recruited from and what areas or states were favored. This study maps the hometowns of freshman from each coaches first year as head coach. I will also look at where the Head coach is from and how that may have influenced where he looked at players from.

Zach Walker; Faculty Sponsor: Joel Helmer **6:30-6:45p**
How sports stadium prices vary from the four major sports league

For my project I have decided to look up the prices for the stadiums that are built for the four major sports leagues (NFL, NBA, MLB, and NHL). The four major sports leagues play a huge role in where people live and where potential other teams my either join the league or a former team be relocated to that city. I am trying to find out why some cities and states can have all four of the major sports and why some have multiple teams for the same league in the same state as well. I am comparing what professional sport league spends the most amount of money for their stadiums to be built.

Alberto Garcia II; Faculty Sponsor: Joel Helmer **6:45-7:00p**
Best in the world

Personally, my philosophy of sports consists of discipline, sacrifice and competitiveness. Which I believe are the key elements combined with physical activity and physical education, that is why I think individuals are able achieve health and fitness. Exercising in sports, has allowed me to gain the skills needed in the real world. Equally important the description of my mapping will I be explaining about a \$4 Billion-dollar company which is the UFC where all the best fighters in the world in each weight class come from as well as where the consistency and patterns showing around their countries.

Oral Session L - Oral Technology - THOM 113

Kasaundra Kosberg; Faculty Sponsor: Brian Albright **6:00-6:15p**
Epidemics

Using a SIRD model it can be shown what happened during the Ebola epidemic in Guinea, West Africa and this can be applied to the United States.

Eric Henson; Faculty Sponsor: Brian Albright **6:15-6:30p**
Solution of RC Circuit Differential Equation

This project uses Euler's Method to approximate the current in an RC circuit from a given oscillating input voltage. It also compares that method with an analytical solution.

Andrea McClanahan; Faculty Sponsor: Brian Albright **6:30-6:45p**
Modeling Diseases and the Use of Vaccines

In our world, diseases are common, and they spread quickly; however, vaccines can be helpful in preventing such spread. We can use math modeling to virtually explore the spread of diseases and how the use of vaccines can affect the rate at which these diseases spread.

Parker Johnson; Faculty Sponsor: Brian Albright **6:45-7:00p**
Practically Predicting Physical Performance

Data points from physical tests performed by Concordia's football team shed light on which exercises impact and athlete's speed.

Thank you to all participants, faculty sponsors, staff, judges, and attendees for supporting the symposium!

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