

# IDEA FEST

Thursday, April 25, 2024  
12:30-3:30pm, Science Building

Student Research Symposium  
at Dordt University



# IDEAFEST

## Presentation Schedule

	Science Building - 1603	Science Building - 1604	Science Building - 1641	Science Building - 1606
	Main Floor	Main Floor	Main Floor	Senior Engineering Projects
1:00				<b>Mission Haiti Family House Redesign</b> Matt Haken, Ivana Harsono, Ashayla Soodsma, Hannah Decious
1:15				<b>Sioux Center to Orange City Trail</b> Tasha Wynne, Abraham Stoesz, Drew Daum, Parker Beck
1:30	<b>A Comparison of Teaching Methods of Mathematics in China, Thailand, and US.</b> Longlong Cao	<b>History and Value of Prescribed Fire</b> Lauren Hedman	<b>Newspapers in REVIEW</b> Philip Shippy & Zachary Phillips	<b>Rec Area Site Development 2.0</b> Abby Postma, Colin Klooststra, Dylan Kooiman, and Mitchell Dryden
1:45	<b>All the Yeasts of the Field: Exploring the Relationship between S. cerevisiae and S. pombe</b> Hannah Landman	<b>Maximizing Cognitive Function through Activity</b> Nia Hoekstra	<b>A Veteran's Homecoming</b> Dayna Wichhart & Ian MacDonald	<b>Carrier Group Positioners</b> Dave Landstra, Matthew Bokhoven, Nathan Patterson, Levi DeGroot
2:00	<b>Accumold's Needle Flow Testing</b> Timothy Darla	<b>Faith Contexts for Math</b> Eliana Kuperus	<b>Making of: Lord You Are Good</b> Julia Visser, Joana Franca Correia, Madeline Hofer	<b>Ecoboom</b> Arie Prins, Andrew Kuiper, Ethan Dejong, Nathan Sorley
2:15	<b>Proposed Plan for End-of-Year Waste Reduction for Dordt Students</b> Emily Brinkman	<b>Recovering Mary in the Reformed Tradition</b> Joya Schreurs	<b>When The Pager Goes Off</b> Nathan Warner & Drew Devries	<b>Prosthetic Foot</b> Bebetha Tambong Bisong, Bryce Coppock, Justine Combs
2:30	<b>Blending Strength into Business Start-Up</b> Lydia Zylstra	<b>The Emotional Life of Jesus: A Sermon Series</b> Carter King	<b>Worlds Apart</b> Jenna Kuperus & Victor Mwila	<b>Service Truck Electrification</b> Devin Bos, Collin Rich, Nick Wellen
2:45	<b>Characterization and Analysis of Sparrow Feather Microbiome Composition and Diversity</b> Gretchen Stennett	<b>When Mom and Dad are Stressed: Examining the Impact of Narrative Based Family Therapy in Families Who Have a Child with an Immunodeficiency Disorder</b> Alexis Schrader	<b>Nursing Simulation Orientation Video</b> Emma Groen & Jori Bakker	<b>Sustainable Squares</b> Logan DeVries, Josiah Merkle, Jackson Shaw, Eli Whitney
3:00	<b>Gender Affirming Care: Using the GRADE Scale to Assess Quality of Evidence</b> Mallory Nilles	<b>Dictionaries: The History of "Correct" English</b> Emma Bennett	<b>Deere &amp; Company: A Compelling Investment</b> Daniel Draaistra, Hunter Coyle, Luke Rankin, Joshua Rathjen, Taeden Van Beek	<b>Art Metal Casting</b> Jacob Toole, Jacob Olthoff, Alex Brown, Hayden Fieldhouse
3:15	<b>SB 1606 for Women's Basketball Documentary</b>	<b>SB 1606 for Women's Basketball Documentary</b>	<b>SB 1606 for Women's Basketball Documentary</b>	<b>Documentary Film: Beyond the Arc</b> Quintin Olson & Michael Sondermann

# IDEAFEST

## Posters / Displays / Exhibits

On display in the Science Building Atrium from 12:30 – 3:30

*Presenters will be available from 12:30 – 1:30*

**Refreshments will be served near  
the Natural Sciences Office**

## Acknowledgements

Student Presenters

Faculty Sponsors

Campus Events Office: Coordinating the use of facilities

Copy Center: Program Printing

Dordt Dining: Preparing & serving refreshments

Hulst Library: Use of laptops/equipment

Maintenance Department: Set up & tear down

Marketing Department: Assistance Publicizing IdeaFest

Vaughn Donahue: Poster Workshops & Graphic Design

## Classroom Moderators

Jenni Breems

Deb Kleinwolterink

Bruce Kuiper

Ben Saarloos

Leendert van Beek

Mark Volkers

Amy Westra

## **1:00 PM Presentation**

**SB 1606**

### **Mission Haiti Family House Redesign: Senior Engineering Project**

*Matt Haken, Ivana Harsono, Ashayla Soodsma, Hannah Decious – Faculty Sponsor: Ben Saarloos*

Mission Haiti is an organization that provides a variety of services for low-income people in Haiti, including building homes. Mission Haiti's current family home design is a 39 square meter (420 sq. ft.) reinforced concrete frame and masonry infill structure with two bedrooms, a living room, and a front galerie (porch). The current restroom facilities consist of a pit latrine with a wooden structure separate from the house. They desire an updated family house design template that includes an indoor restroom. This senior engineering design presentation covers the design process and proposed design for a new family house."

## **1:15 PM Presentation**

**SB 1606**

### **Sioux Center to Orange City Trail: Senior Engineering Project**

*Tasha Wynne, Abraham Stoesz, Drew Daum, Parker Beck– Faculty Sponsor: Justin Vander Werff*

The Sioux Center to Orange City bike trail project represents a bold initiative to connect communities, promote social interactions and encourage healthy lifestyles through the creation of a pedestrian trail. Rooted in an understanding of the human need for communal experiences, the project's design process navigates the challenges of balancing individualism with a desire for shared outdoor activities. The project includes a careful consideration of design norms, concrete trail design, a thorough hydrologic evaluation, and a detailed evaluation of bridge design.

## **1:30 PM Presentations**

**SB 1603**

### **A Comparison of Teaching Methods of Mathematics in China, Thailand, and US.**

*Longlong Cao – Faculty Sponsor: Valorie Zonnefeld*

The goal of my presentation is to examine differences and similarities between the countries and how students complete the same math exercises in different ways by comparing the methods of math education in China, Thailand, and the United States. This will give me and my peers a better understanding of the impact of different cultures on math learning and a clearer direction when choosing a future teaching location. I will introduce and compare these methods in this presentation based on my own experience.

## **SB 1604**

### **History and Value of Prescribed Fire**

*Lauren Hedman – Faculty Sponsor: Robert De Haan*

Many ecosystems in the US are fire dependent; without semi-frequent fire, the species composition and ecosystem type will change. The US's historic focus on fire suppression has led to a reduction in area of these ecosystems and allowed more damaging wildfires to occur. As a wildlife management intern with the Minnesota DNR and I had the opportunity to assist with a few prescribed burns. Prescribed burns are a valuable tool for managing and restoring ecosystems, and I got to see this firsthand and hear from my coworkers about how they use prescribed fire.

## **SB 1641**

### **Newspapers in REVIEW: Documentary**

*Philip Shippy & Zachary Phillips – Faculty Sponsor: Mark Volkers*

This documentary is about Mikaela Mackey, a young journalist who needs the public to know how the steady decline of local newspapers is affecting her and the country at large.

## **SB 1606**

### **Rec Area Site Development 2.0: Senior Engineering Project**

*Abby Postma, Colin Kloostra, Dylan Kooiman, and Mitchell Dryden – Faculty Sponsor: Kevin Timmer*

The need for this project is that our client desires to develop his pastureland adjacent to Mill Creek State Park into a natural recreational site for family gatherings. The project includes the design of a bridge over Cole Creek with a gathering area on the east side. A natural environment was established through prairie restoration and select tree plantings.

## **1:45 PM Presentations**

### **SB 1603**

#### **All the Yeasts of the Field: Exploring the Relationship between *S. cerevisiae* and *S. pombe***

*Hannah Landman – Faculty Sponsor: Robbin Eppinga*

The use of *S. cerevisiae* deletion strains and homologous *S. pombe* genes involved with the methionine synthesis pathway has several implications for the species evolutionary history and for use in industry as a common fermentation organism. Studying methionine synthesis is particularly useful given methionine's role as the first amino acid in any polypeptide chain. Transformation and complementation of an *S. cerevisiae* strain with a functional gene and a *S. pombe* homolog provide insight into the conservation of protein function and our own understanding of evolutionary relationships. This project reflects ongoing work to continue to develop a lab-based Advanced Cell and Molecular Biology course.

**SB 1604****Maximizing Cognitive Function through Activity**

*Nia Hoekstra – Faculty Sponsor: Bruce Vermeer*

Many studies have shown the positive impact of bolstering cognitive reserve preclinically and maintaining cognitive and social engagement throughout older adulthood and early Alzheimer's disease progression. Activities and various therapies work towards individual patient goals and prevent the onset of the later stages of the disease. While not physically decreasing the number of amyloid plaques and neurofibrillary tangles indicative of the disease, these methods allow a person to tolerate more advanced pathology, delaying the development of symptoms and decline through the seven identified stages. Incorporation of these activities increases the quality of life, boosts self-esteem, and promotes health.

**SB 1641****A Veteran's Homecoming: Documentary**

*Dayna Wichhart & Ian MacDonald – Faculty Sponsor: Mark Volkers*

A Veteran's Homecoming is a documentary following the stories of two Vietnam veterans. The veterans tell their stories of service and their experience going on Midwest Honor Flight.

**SB 1606****Carrier Group Positioners: Senior Engineering Project**

*Dave Landstra, Matthew Bokhoven, Nathan Patterson, Levi DeGroot – Faculty Sponsor: Jeff Gladstone*

Horwitz Inc. desires a transportation and positioning system for their commercial restroom plumbing carrier groups that is compact, reusable, and can easily be operated by one person. Our team designed and built a carrier group transportation and positioning system that accomplishes these goals and improves the carrier group installation process.

**2:00 PM Presentations****SB 1603****Accumold's Needle Flow Testing**

*Timothy Darla – Faculty Sponsor: Manuela Ayee-Leong*

This research aimed to find a reliable method to measure the difference of flow in straight vs. bent needles for eye surgeries. Through testing and research, it was determined that the best method to measure flow in tiny diameter needles was found by analyzing the timed decay, decay trends, flow measurements, etc. A vital part of this data was determining the impact of different volumes on the accuracy of decay measurements to find the impact of a test system transducer's response time on measurement accuracy.

**SB 1604****Faith Contexts for Math**

*Eliana Kuperus – Faculty Sponsor: Valorie Zonnefeld*

The integration of faith-based values into academic subjects is a vital part of Christian education. This project explores the intersection of faith and mathematics education, specifically by examining the integration of the Teaching for Transformation (TfT) framework within established mathematical standards. By aligning mathematical content and pedagogy with faith-based values, educators can create a learning environment in which students not only will be equipped with mathematical skills, but also will be able to apply these skills responsibly in real world contexts.

**SB 1641****Making of: Lord You Are Good: Documentary**

*Julia Visser, Joana Franca Correia, Madeline Hofer – Faculty Sponsor: Mark Volkers*

FOURTEEN HOURS. FIVE MUSICIANS. ONE SONG. In the last days of a summer internship, a group of college students and their advisor set out to record and produce a worship song - all in the course of one day. In this short “behind-the-music”-style documentary, watch as students learn the art of producing the songs that play all around us, all the time.

**SB 1606****Ecoboomb: Senior Engineering Project**

*Arie Prins, Andrew Kuiper, Ethan Dejong, Nathan Sorley – Faculty Sponsor: Jeff Gladstone*

The building of a single-sided sprayer boom for the usage in South Dakota on the ditches to help eradicate Kochia and Canadian thistles. While also preserving milkweed plants in the ditches for monarch butterflies. This sprayer needs to be built for a single pass spray over the whole ditch area and should be single-man operable. It will end up being a 25ft sprayer boom with a counterweight to help balance out the sprayer arm. It will all be connected on a main pallet assembly which will be easy to load and unload.

***Posters / Displays / Exhibits On display in the Science Building Atrium from 12:30 – 3:30***

## **2:15 PM Presentations**

### **SB 1603**

#### **Proposed Plan for End-of-Year Waste Reduction for Dordt Students**

*Emily Brinkman – Faculty Sponsor: Jeff Ploegstra*

This project was a supplementary project for my community development internship last semester. The project proposal was for implementing a plan of waste reduction at the end of the year and student move-out. The project was only hypothetical, but involved a Gantt chart schedule, multiple graphs, email drafts, a logic model, and proposed meeting topics for potential partners.

### **SB 1604**

#### **Recovering Mary in the Reformed Tradition**

*Joya Schreurs – Faculty Sponsor: Justin Bailey*

I believe that Reformed Christians, using our robust theology of the incarnation (as presented in the Belgic Confession and Heidelberg Catechism), might cultivate a greater respect for Mary. Presently, I believe that many Protestant groups rarely discuss Mary, for fear of being “too Catholic.” However, I believe that a foundation for a truly Reformed Mariology already lies in our beloved confessions--and recovering it may also encourage us to comprehensive incorporation of women and their experiences into Reformed church life. Amy Peeler’s *Women and the Gender of God* will be helpful in my exploration.

### **SB 1641**

#### **When The Pager Goes Off**

*Nathan Warner & Drew Devries – Faculty Sponsor: Mark Volkers*

This is a documentary about the service and sacrifices that the volunteer members of the Sioux Center Fire Department make daily, and the ways that they impact the community around them.

### **SB 1606**

#### **Prosthetic Foot: Senior Engineering Project**

*Bebetha Tambong Bisong, Bryce Coppock, Justine Combs – Faculty Sponsor: Ben Saarloos*

A fourth grader lost half of his foot during a lawn mowing accident and needed a prosthetic because his previous prosthetic foot was bulky, uncomfortable, and giving him sores. We have taken scans of his foot and set up design alternatives for a new prosthetic foot from which a final design has been selected. Various tests will be taken on force plates such as center of pressure, balance, comfortability, and flexibility. A 3D foot was printed from the scans and will be used in the final design when a silicon mold is built out of it in combination with a pretibial shell ankle foot orthotics.



## **2:30 PM Presentation**

### **SB 1603**

#### **Blending Strength into Business Start-Up**

*Lydia Zylstra – Faculty Sponsor: Craig Stiemsma*

The goal of this research was to discover the processes necessary to start up a business. One discovery was the need to design reproducible and repeatable systems to ensure each aspect of a business runs smoothly. Another part of the conducted research included studying absolute strength and finding the best exercises to build absolute strength programs. One program was designed to focus on balance and stability for seniors while the other program focused solely on building absolute strength.

### **SB 1604**

#### **The Emotional Life of Jesus: A Sermon Series**

*Carter King – Faculty Sponsor: Justin Bailey*

This project is an in-depth presentation, in the form of a sermon series, of the emotional life of Jesus as presented in the Gospel accounts. This includes identifying some of the emotions he experienced, the context of these emotions, and exploring the ways in which they inform and apply to our own emotional experiences and further how they apply to and inform our discipleship as followers of Christ and members of his church.

### **SB 1641**

#### **Worlds Apart: Documentary**

*Jenna Kuperus & Victor Mwila – Faculty Sponsor: Mark Volkers*

What is it really like to live worlds apart from your home country? What does culture shock mean? In this short documentary, we dive headfirst into the lives of two Dordt international students to answer these questions and more.

### **SB 1606**

#### **Service Truck Electrification: Senior Engineering Project**

*Devin Bos, Collin Rich, Nick Wellen – Faculty Sponsor: Jason Wyenberg*

This senior design project focuses on the design, development, and manufacture of an innovative Electric Auxiliary Power Unit (eAPU) to replace traditional Power Take-Off (PTO) systems in service truck bodies manufactured by Maintainer Corporation of Iowa, Inc. This eAPU will efficiently power hydraulic systems for crane operation, outriggers, and an air compressor, enabling these functions to operate independently of the main engine. Our objective is to create a versatile eAPU that can be seamlessly integrated into existing diesel or gas trucks, as well as future electric trucks, enhancing operational efficiency and sustainability.

**2:45 PM Presentation****SB 1603****Characterization and Analysis of Sparrow Feather Microbiome Composition and Diversity**

*Gretchen Stennett – Faculty Sponsor: Manuela Ayee-Leong*

The microbiome, the community of microorganisms in a specific location, can be affected by many intrinsic and extrinsic factors, but can also affect host behavior, digestion, lifespan, and evolution. These changes in the microbiome and their impacts are important for understanding the host, the microorganisms, and their relationship. However, the avian microbiome is much less studied than its mammalian counterpart. We utilized 16S rRNA sequencing and bioinformatics techniques to characterize and analyze the avian microbiome composition and diversity. Using feather samples from Saltmarsh and Seaside Sparrows, we investigated how factors, including species, sex, date, and location, may impact the microbiome.

**SB 1604****When Mom and Dad are Stressed: Examining the Impact of Narrative Based Family Therapy in Families Who Have a Child with an Immunodeficiency Disorder**

*Alexis Schrader – Faculty Sponsor: Erin Olson*

This research proposal explores the challenges of families who have children with immunodeficiency disorders and the impact that family therapy can have on the functioning of a family unit. It will accomplish this through the following research question: “Does the implementation of narrative family therapy positively impact the family functioning of a family who has a child with an immunodeficiency disorder?” This research proposal looks at the current literature surrounding this topic and then presents a research design and plan using the Parental Stress Scale. The presentation then will conclude by exploring the limitations and ethical concerns of this research proposal.

**SB 1641****Nursing Simulation Orientation Video**

*Emma Groen & Jori Bakker – Faculty Sponsor: Melanie Wynja*

We created a video providing a standardized orientation to nursing simulation in Dordt’s nursing program. The goal of this video is to help students be prepared for SIM and decrease learner anxiety. This video provides an overview of the goals of SIM, a tour, and what to expect.

**SB 1606****Sustainable Squares: Senior Engineering Project**

*Logan DeVries, Josiah Merkle, Jackson Shaw, Eli Whitney – Faculty Sponsor: Ben Saarloos*

Dordt's interconnected campus buildings provide a unique opportunity to understand energy use patterns, reduce total energy use, and offset energy consumption with local renewable energy generation. We will develop a framework to monitor and assess campus energy consumption; specifically analyzing the Squares Apartments as a case-study in opportunities to implement more sustainable energy practices at Dordt and in Northwest Iowa.

**3:00 PM Presentation****SB 1603****Gender Affirming Care: Using the GRADE Scale to Assess Quality of Evidence**

*Mallory Niles – Faculty Sponsor: Tony Jelsma*

For the past few decades, the discussion surrounding gender-affirming care has been complicated by the limited number of studies done in this field. In this review, we analyzed original research papers on the effects of gender-affirming care. Using the GRADE scale as an analytical tool that evaluates the strength of scientific evidence, we examined articles that claimed beneficial effects of gender-affirming care. Because of the limited time frames and uncontrolled nature of these studies and the lack of objectivity in measuring the overall wellbeing of an individual, it is difficult to make claims regarding the efficacy of gender-affirming care.

**SB 1604****Dictionaries: The History of “Correct” English**

*Emma Bennett – Faculty Sponsor: Leendert van Beek*

My presentation will explore the history of the English dictionary, and how preserving our language in this way presents to us both help and harm.

**SB 1641****Deere & Company: A Compelling Investment**

*Daniel Draaistra, Hunter Coyle, Luke Rankin, Joshua Rathjen, Taeden Van Beek – Faculty Sponsor: Jesse Veenstra*

Our presentation is an investment analysis report initiating coverage on Deere & Company (John Deere) with a “BUY” recommendation, based on a 12-month target price of \$441.70. The presentation highlights Deere's strong brand loyalty, technological advancements in agriculture, and diverse revenue streams as key drivers for the recommendation. It also outlines Deere's financial services and market positioning, emphasizing its competitive edge through technology and strategic acquisitions. The analysis concludes with Deere's potential for sustained growth and profitability.

**SB 1606****Art Metal Casting: Senior Engineering Project**

*Jacob Toole, Jacob Olthoff, Alex Brown, Hayden Fieldhouse – Faculty Sponsor: Ben Saarloos*

Design and construct a new metal foundry for the art department to cast metal sculptures.

**3:15 PM Presentation****SB 1606****Beyond the Arc: Documentary**

*Quintin Olson & Michael Sondermann – Faculty Sponsor: Mark Volkers*

Beyond the Arc follows the Dordt Women's basketball team on their way to the NAIA National Championship. After the women were Runner Ups in 2022, the team has all the right pieces to go far in 2024. Being the 50th year of Dordt Women's basketball, these women have the opportunity to do something that no other Dordt team has done. They love to compete and go far in the tournament, but the women are less focused on results and more focused on relationships and how they can grow as people using basketball and their faith as a catalyst.

***THANK YOU to all who are moderating today!***

## **Posters/Exhibits on display 12:30 – 3:30 in Science Building Atrium**

Presenters will be available to answer questions from 12:30 – 1:30pm

### **Poster Presentations:**

#### **The Centaur**

*Madeline Hofer – Faculty Sponsor: Becky Donahue*

This project's goal was to create a centaur costume that would move with the actor. It served as an extension of the actor's own body and mimicked their own proportions and movements.

#### **ACT/SAT Defining Student Success**

*Ashley Arriaga – Faculty Sponsor: Rose Postma*

ACT/SAT defining student success.

#### **PuzzLego**

*Nathanael Herman – Faculty Sponsor: Tayler Hoekstra*

I am going to physically create a completely see through plastic table with wheels. This table can be used to build puzzles, Legos, models, crafts, 3D puzzles, etc. I will research existing solutions and improve upon them. I will go through the engineering process of brainstorming, prototyping, building, and sharing my invention. I hope that this will not only help me but will be able to help many other people as well.

#### **Serving with Collision**

*Madelyn Tinklenberg – Faculty Sponsor: Donald Roth*

Collision is “a student-led ministry that builds teams of students who see their school as a mission field and equips them to share the hope of Jesus to transform lives.” Through my experiences with Collision, I have been able to work in a variety of ways from volunteering in an underprivileged neighborhood in Sioux Falls to equipping MS/HS students to share their faith. Students are equipped and empowered to share the hope of Jesus with their peers and others in their life who are far from God, inviting them into relationship with Jesus. This presentation will give a glimpse into this organization, how they are serving MS and HS youth, along with the Sioux Falls community and beyond.

**Engineered Hybrid Aerogels for Controlling Fatal Bleeding in Battlefield Injuries**

*Mallory Nilles – Faculty Sponsor: Jeff Ploegstra*

In a review of 4,596 battlefield mortalities from the Iraqi conflicts from 2001-2011, 87% occurred due to excessive bleeding before reaching the hospital. Of these deaths, 90% were from potentially survivable injuries. Effective hemostatic treatment administered promptly after injury is essential to improving survival rates of hemorrhagic injuries. Despite efforts, there are currently no ideal options for managing junctional hemorrhage (JH) in prehospital settings. Our proposal introduces an ideal pre-hospital treatment option for JH, capable of stopping hemorrhaging long enough for trauma victims in military scenarios to reach a surgical unit for life-saving care.

**Bettman, Ditch the Ping Pong Balls**

*Ryler Schelle – Faculty Sponsor: Rose Postma*

Essay and poster presentation about why I am angry about the NHL draft lottery system and ways the NHL could change it along with way to prevent teams from “tanking.” This will be a part of English-100 “Why I’m So Angry” Essay. The NHL draft lottery is something fans of hockey are upset about and want changed.

**Packaging Design for Late Harvest Brewery**

*Jenna Dekkers, Aubrey Hill, Madison Bachar, Eva Richterkessing, Jonathan Trimble, Logan Baccam, Tayah Struble – Faculty Sponsor: Vaughn Donahue*

A collaborative design effort by the students of ART 390 Graphic Design III, these concept designs were completed for Late Harvest Brewery in Sioux Center. After several years using a generic label for their line up of original brews, the brewery will have custom labels that seek to make each product distinctive while maintaining a cohesive aesthetic.

**Short Story Posters**

*Ryne Wiersma – Faculty Sponsor: Vaughn Donahue*

These three posters will be the titles of three short stories presented in a typeface representing my short stories. The stories themselves will be present in appropriate typefaces.

**Vaccine Compliance of Parents with Newborns**

*Victoria Colwell & Kaitlyn Ammons – Faculty Sponsor: Kate Vander Veen*

We are studying the effects on the population of parents who choose to vaccinate their newborn babies and the effectiveness of the vaccinations on the newborn.

**Food Insecurity in Iowa and Iowa Colleges**

*Emily Wingert & Anneke Douma – Faculty Sponsor: Kate Vander Veen*

This presentation is going to focus on food insecurity in Iowa as well as the different programs Iowa has to offer to help combat this issue. We are also going to touch on a couple of Iowa colleges and talk about food insecurity among college students.

**Human Trafficking**

*Emily Thiessen & Erica Hoogland – Faculty Sponsor: Kate Vander Veen*

Human trafficking is the use of another person for sexual exploitation, forced labor, or services. Human trafficking can involve the transportation, harboring, or transfer of another human using force or coercion, all for the benefit of another. Marginalized individuals and those in poverty are at the greatest risk, however, it is not limited to one group of individuals. Health implications vary based on the incident; however, most involve sexual and drug components. Nurses and healthcare professionals have responsibilities in these situations to provide both physical and mental support.

**Healthcare Access for Native Americans in the U.S.**

*Katrina Koomans & Katie Gross – Faculty Sponsor: Kate Vander Veen*

We are going to discuss healthcare access in the United States, while focusing more on type of healthcare to a specific ethnic group, such as care for Native Americans. We are hoping to inform people of any differences in healthcare access between different ethnic groups, such as European Americans and Native Americans.

**Childhood Obesity in America**

*Elizabeth Smith & Addilyn Mitteness – Faculty Sponsor: Kate Vander Veen*

The topic we will be covering is childhood obesity. We will be diving into the factors causing the increase in childhood obesity across America. After discovering certain risk factors, we will be brainstorming possible interventions to lessen the widespread problem across America.

**Parkinson's**

*Marissa Wielenga & Sierra Meyer – Faculty Sponsor: Kate Vander Veen*

We will be focusing on the epidemiology of Parkinson's disease. We will be using graphs and charts on a poster to convey this information. We will discuss Parkinson's in healthcare, including topics such as morbidity, mortality, and prevalence of Parkinson's. We will be looking at Parkinson's disease on the local, state, federal, and international level.

**Prevention of Metabolic Syndrome in Children**

*Olivia Netjes & Madison Vis – Faculty Sponsor: Kate Vander Veen*

Metabolic syndrome is comprised of high blood pressure, type 2 diabetes, obesity, and high cholesterol. The syndrome is typically diagnosed in the later stages of life. However, many of the lifestyle choices that lead to metabolic syndrome can be identified in childhood years. To prevent the syndrome from developing into a serious condition, it is essential to identify and prevent possible risk factors from progressing in childhood years. This presentation will give insight into some attainable lifestyle choices to promote health in children and stop the development of metabolic syndrome as soon as possible.

**The Effects of Glaucoma on Individuals from Different Ethnic Groups**

*Taryn Kooiman & Taylor Spoelstra – Faculty Sponsor: Kate Vander Veen*

Glaucoma is a common disease affecting the eyes that results in increased intraocular pressure in the eye that causes damage to the optic nerve and leads to vision loss. This epidemiology study looks at the effects of glaucoma on different ethnic groups including, Asians, African Americans, European Americans, and Hispanics. Graphs and diagrams were used to display the prevalence, incidence, mortality rate, and several other factors between the ethnic groups. Overall, it was determined that African Americans have a higher chance of getting glaucoma and it will progress at a much quicker rate than other populations.

**Ventilator-Associated Pneumonia**

*Hanah Van Beek & Jenna Gleason – Faculty Sponsor: Kate Vander Veen*

We looked at ventilator-associated pneumonia and the epidemiology of it. We investigated which population groups are more likely to get this type of pneumonia as well as the ways in which healthcare providers can do their part in preventing this infection.

**Opioid Abuse in the Nursing Profession: An Epidemiological Study**

*Emily Zuidema & Emma Groen – Faculty Sponsor: Kate Vander Veen*

This presentation will focus on the epidemiology of the opioid crisis with specific emphasis in the nursing profession.

**Asthma in Children in the United States in comparison to Puerto Rico**

*Priver Sang & Aidan Platon – Faculty Sponsor: Kate Vander Veen*

We will compare the prevalence of asthma in Puerto Rican children compared to children in the rest of the United States. We will identify the factors that lead to the development of asthma along with the risk factors in children in the United States with Puerto Rican children specifically. This is important because there are many Puerto Ricans living in the United States.

**Healthcare Disparities**

*Makayla Vander Wier – Faculty Sponsor: Kate Vander Veen*

This project is about healthcare disparities and the impact that certain inequalities have on patients quality of healthcare, satisfaction, and general well-being and health. With better knowledge of the disparities in healthcare, nurses and other healthcare professionals can improve the system for patients and employees alike.

**THANK YOU to all who are presenting today!**



## **Quick Stats:**

**105 student participants**

**25 faculty mentors**

**31 classroom presentations**

**20 posters/exhibits**

**7 classroom presentation moderators**

**Hundreds of audience members!**

**Thank you to all who participated in IdeaFest!**