

Oral Presentations – 2 p.m. to 4 p.m.

- 2PM – **Jordan Rehe**, *Media Massacre: The Effect of Government Censorship on Domestic Terrorism*, Faculty Mentor: Dr. Jordan Roberts
 - Abstract: This paper examines the relationship between government censorship and domestic terrorism. The results of this project could suggest a way for countries to experience less domestic terrorism per year. Data was gathered for every existing country with a country code. The data gathered for each country includes the severity of a civil war, government censorship effort of media, government internet censorship effort, polity score, country population, country GDP, country GDP per capita, and the count of domestic terrorist attacks per country. All the information gathered was recorded yearly from 2000 to 2018. A negative binomial regression model was used to generate the statistical significance of the variables. From this model, government censorship of the media had a highly statistically significant positive relationship while civil war and government internet censorship effort had a highly statistically significant negative relationship.
- 2:15PM – **Jaliyah Oats**, *Where Do I Belong? Religion and Health in College Students*, Faculty Mentor: Dr. Melissa Paiva-Salisbu
 - Abstract University provides young adults with the opportunity to grow and develop, however, this new environment can also distance students from their families and the beliefs that they once held. The current study aims to provide more information surrounding the relationship between collegiate students, religion, and mental health. Religiosity will be measured using the Centrality of Religiosity Scale – Interreligious Version (CRSi-14: Huber & Huber, 2012). Various mental health aspects will be analyzed including anxiety and depression, which are measured using the Depression and Anxiety, and Stress Scales 21-Item Adaptation for U.S. College Students (DASS-21: Kia-Keating et al., 2017), and sense of belonging. Sense of belonging will be measured by two surveys. The College Belongingness Questionnaire (CBQ; Arslan, 2021) and the Community Questionnaire (Glenn, 1981), will both be used to gain insight into how students feel as though they belong on campus as well as in the community.
- 2:30PM – **Matthew Defreitas**, *Systematic Characterization of Mycobacteriophage Phayonce Gene Function on the Growth of Host Mycobacterium Smegmatis*, Faculty Mentor: Dr. Daniel Williams
 - Abstract: Bacteriophages are ubiquitous viruses encoding diverse genomes. Many genomes have been bioinformatically annotated; yet many lack wet-bench functional characterization. Elucidating individual gene function on host growth and the phage-host interactions causing such phenotypes allows for the exploration of novel antibacterial therapies. We aim to systematically characterize the genome of the temperate mycobacteriophage Phayonce through the investigation of individual gene overexpression on host growth and the phage-host protein interactions underscoring their cytotoxicity. A library of Phayonce's 77 genes was generated and transformed into the host Mycobacterium smegmatis. The resulting colony phenotype was then observed, with 35 genes exhibiting varying degrees of cytotoxicity. Of these, genes 41 and 64 showed near-total inhibition of host growth. For genes 41 and 64, we performed a bacterial two-hybrid screen, isolating numerous host protein fragments of possible

interaction partners. Future research will constitute verifying and sequencing isolated interaction candidates to identify the host protein interacting partners.

- 2:45PM – **Jennifer Terry**, *A Question of Return: An Elegiac Poetry Collection*, Faculty Mentor: Jess Richardson
 - Abstract: A Question of Return is a somber exploration of illness and the aftermath of loss. Written in both traditional forms and in free verse, I focus on remembrance and resurrection of what gets lost within the self, interrogating the residual questions that grief asks. Taking inspiration from music, watery locations and local geography, and my own personal experience with the death of my father, I look at the arc of tragedy along with the social hiddenness of its implications. This chapbook was created as a companion to those who are grieving, and to address the isolation that grief can bring. Ultimately, A Question of Return is meant to exist as a release.
- 3PM – **Noelle Magann**, *The Collegiate Response to Name, Image, and Likeness (NIL) Legalization within the Sun Belt Conference*, Faculty Mentor: Dr. Fei Gao
 - Abstract: Monetizing off one's Name, Image, and Likeness became legal for collegiate athletes on July 1st, 2021. Since then, Universities across the country have scrambled to develop programming, found collectives, and create deals for their athletes, effectively turning collegiate athletics into the "Wild Wild West ". In this study, I focused on gaining an understanding of the different types of reactions to NIL legalization amongst SunBelt Conference universities. This included comparing what university athletic departments did in terms of program development, website updates, partnering with collectives, and more unique reactions to each university. I also ran a study of how CCU athletes, coaches, and athletic staff viewed NIL and how they felt CCU handled legalization (CCU's response) through surveys of athletes and staff of 9 varsity teams and athletic administration. My research reflects that 71% of athletes and 62% of staff at Coastal believe it could be improved. Over 90% of Athletic staff surveyed wished more was offered by Coastal in terms of NIL educational programming for their athletes, and over 90% of athletes at CCU wished there was more NIL educational programming offered. By researching this topic, I can develop actionable items for Coastal Athletics to follow to improve their NIL response, therefore improving recruiting, athlete development, and community involvement. Thus making CCU athletics the top school for athlete NIL in the SunBelt Conference.
- 3:15 PM – **Megan Shoop**, *Taiwanese Energy Security: Impacts on Cross-Strait Relations*, Faculty Mentor: Dr. Kimberly Hurd-Hale
 - Abstract: Cross-strait tensions have been steadily increasing within the past few years as Mainland China continues to emphasize the One-China policy. While tensions in the South China Sea continue to heat up, global climate goals continue to move toward carbon neutrality. A surefire way to attain climate goals and to reduce carbon emission is through renewable energy. Because energy security is an important aspect of national security, any change to Taiwan's domestic energy production will trigger a response from Mainland China. Using a qualitative comparative approach, this study will investigate how a Taiwanese clean energy transition would impact the island's relationship with Mainland China. Particular attention will be placed on the feasibility of

Taiwanese domestically produced renewable energy on a national scale and how this energy transition would affect both the economics and politics of the East Asian region.

- 3:30PM – **Clark Dotson**, *Digital DNA: The Ethical Implications of Big Data as the World's New-Age Commodity*, Faculty Mentor: Dr. Ross Fultz
 - Abstract: In the emerging digital world that we find ourselves in, it becomes apparent that data collection is a staple of daily life, whether we like it or not. This research discussion aims to bring light to just how much one's own digital identity is valued in the technologically-infused world of today, with distinct research and local examples to bring awareness to the ethical implications of your online presence. Through examining the leaps made in machine learning and digital forensics, the information about you is often just as valued as gold... Even more so, as its use in advanced AI systems has begun to skyrocket. Such a thorough investigation on Internet identity aims to pull back the curtain over the good, the bad, and the ugly when it comes to ethics and data privacy, all to find out if your "Digital DNA" is often more coveted than the real deal.
- 3:45PM – **Jingle Wells**, Reading of *Upriver*, Faculty Mentor: Jason Ockert
 - Abstract: As a creative writing minor with a major in marine science, I was allowed to entwine my two passions to create a collection of short stories for my Honors Thesis. I will be reading my most polished piece, a story called "Upriver", which serves as a poignant snapshot of lingering questions, devastating loss, and how much a young boy (or bull shark) has to push through in order to move on. By combining my knowledge of writing, my knowledge of sharks and most critically, my knowledge of the human capacity for understanding, I hope to take the listeners on a short journey alongside the characters in this piece.

Poster Presentations – 4 p.m. to 5 p.m.

- **Alyssa Antolak**, *The Impacts of Seasonality and Nutrient Loading on Microcystis Bloom Development in Wall Pond*, Faculty Mentor: Dr. George Boneillo
 - Abstract: The harmful cyanobacteria *Microcystis* globally dominates eutrophic freshwater systems. Eutrophication leading to nitrogen and phosphorus loading into aquatic systems is increasing bloom propagation and shifting diatom/dinoflagellate dominated systems to cyanobacteria dominated systems. Understanding seasonal variability and environmental parameters combined with nutrient loading will allow for better understanding of what factors are influencing *Microcystis* blooms. Biweekly plankton samples, environmental parameters, and nutrients were collected from Wall Pond from spring 2022-spring 2023. Nitrogen and phosphate limitation was examined by performing seasonal nutrient limitation experiments. Early results show that yearly plankton samples shifted from diatom dominated in the late summer-early fall to *Microcystis* dominated in late fall-early winter and then dinoflagellate dominated in late winter-early spring. Relationships between seasons, nutrients, and plankton assemblages will be discussed.

- **Nicholas Aversano**, *Mergers and Acquisitions in Healthcare*, Faculty Mentor: Dr. Robert Killins
 - Abstract: Since the Covid-19 pandemic began in 2020, the healthcare infrastructure has returned to the consciousness of the American people. Questions about cost, access, and quality of care are being asked daily. As large companies move in to or out of the healthcare industries sectors such as hospitals, doctors' offices, research firms, or pharmaceutical companies through mergers and acquisitions are consumers benefiting? Would a monopoly in healthcare be beneficial or even advantageous for the average American? Do economies of scale exist in this industry? This paper explores and consolidates studies published to help answer questions regarding the impacts of healthcare mergers and acquisition. In addition, to answering questions this paper will point out areas that should be explored further.

- **Olivia Ayers**, *Eight*, Faculty Mentor: Steven Bleicher & Meghan O'Connor
 - Abstract: This series is a mirror of the mind; as a surreal approach to natural forms meets a stylized focus of line, each offers a perspective into the mind of both the creator and the viewer. These works will be displayed as eight black-and-white pieces as a cohesive unit on a plain wall. These interwoven works are of a range of emotional metaphors—some well-known, some cryptic. The viewer will determine the significance of each piece through their own experiences, knowing that each work can be successful both separately and as a whole.

- **Jacey Ballard**, *Suboxic and Anaerobic Respiration Across a Sandy-Shore-to-Estuarine Gradient*, Faculty Mentor: Dr. Angelos Hannides
 - Abstract: Sulfate is an inorganic ion that is one of the major ions of seawater. Sulfate is also an essential reactant in microbially mediated anaerobic respiration that produces sulfide, an energy source during chemosynthesis. Sulfide is widely found in sediment, and water rich in decaying organic material, as well as hydrothermal vents. While sulfate reduction occurs extensively in muds, such as those of marshes, it is not expected to occur in sand which is much better aerated. Recent research in our group documented extensive sub aerobic respiration in coastal sands which suggests that sulfate reduction may also be happening. This reduction of sulfate in coastal sands can be significant because it may potentially remove harmful amounts of organic matter pollution from land and prevent it from entering the coastal ocean. For my project, I will set up the sulfide analysis method in the sand biogeochemistry lab and I will determine if and where sulfate reduction occurs by measuring sulfide concentrations in the sediment column at different locations throughout Singleton Swash.

- **Abigail Beaty**, *The Influence of Sex Ratios on the Foraging and Waving Behaviors of Fiddler Crabs in the South Carolina Low Country*, Faculty Mentor: Dr. Eric Rosch
 - Abstract: Atlantic marsh and sand fiddler crabs (*Minuca pugnax* and *Leptuca pugilator*) are found in herds located throughout the low country area of South Carolina. These species exhibit unique behaviors that can determine the composition of the community around them and increase the probability to find a mate and reproduce. Male fiddler

crabs are very territorial and possessive over their burrows and the female fiddler crabs in their herds (Allen 2014). To attract the attention of their burrows and potential mates, the male crabs will perform a dance-like move by waving their enlarged claws (Cummings 2006). The purpose of this study was to determine if varying sex ratios would alter the waving and feeding habits of the males. It was hypothesized that waving would occur in higher frequencies when males were more abundant and that male feeds would occur in higher frequencies when females were more abundant.

- **Kynda Beckett**, *Reflections of a Graphic Designer*, Faculty Mentor: Victoria Pickett
 - Abstract: From concept to development and ultimately a final product, as a graphic designer, there is a delicate balance that must be struck in order to successfully communicate a hundred ideas with a single graphic. Where a casual viewer sees a simple newsletter, article, piece of merchandise, or packaging, there are several messages being presented all at once simply through color, font choice, size, formatting, wording, and placement. Successful graphic design is not seen, but it influences many aspects of a person's everyday life. As a graphic designer, I have applied this insight and other digital design skills to create a body of work that demonstrates my ability to not only design visually appealing products but to also communicate effectively through them.

- **Christian Blanchard**, *Capsim Simulation - Business Analysis*, Faculty Mentor: Dr. Eugene See
 - Abstract: My poster features the analysis of a simulated business that I, and a team, interacted with to compete against other teams. The analysis poster will feature various performance reports and include breakdowns regarding our company's research and development, marketing, production, and finance departments. I will analyze the decisions that my team and I made as well as propose alternatives that we could have taken to change the outcome. The business sells explicitly sensors across five product segments: traditional, low-end, high-end, performance, and size. Each round features a multitude of business decisions you are required to complete, and these decisions have outcomes, just like in real life. It is our job to compete with other groups within the class to have the best-performing company.

- **Cheyenne Butler**, *Psychopathic Moral Reasoning*, Faculty Mentor: Dr. Andrew Terranova
 - Abstract: Psychopaths have been shown to engage in more antisocial behaviors due to their lack of moral reasoning. Research into this topic is extremely limited particularly in community samples such as college students. This research aims to see how college students with ranging psychopathic traits differ in moral reasoning.

- **Lauren Carroll**, *Elevation Patterns of *Sporobolus alterniflorus**, Faculty Mentor: Dr. Keith Walters
 - Abstract: Intertidal zones are among the most diverse ecosystems on the planet, with low-energy intertidal zones being largely overlooked. The dominant form of plant life in these more temperate zones being various *Sporobolus* species, with *S. alterniflora* being the most abundant in South Carolina. The study area of the leaves is crucial due to their part in photosynthesis and the plant's production rates. The study focused on the

physical aspects of the leaves to determine if there is a significant difference between those of the high marsh versus the low marsh.

- **Mia Datoli**, *CBAD 478 Capsim Simulation*, Faculty Mentor: Dr. Eugene See
 - Abstract: An overview of the Capsim business simulation exploring various moving parts of a company. Understanding and applying knowledge learnt throughout relevant coursework to a hands on simulation.

- **Cindy Dinh**, *Knowledge, Attitudes, and Behaviors of Sexually Transmitted Infections Based on Exposure of Sex Education*, Faculty Mentor: Dr. Hannah Coffman and Dr. John Yannessa
 - Abstract: As of 2020, thirty states and the District of Columbia require that public schools teach sex education. Additionally, it is up to local and state levels to determine and dictate the quality of sex education and how it should be taught. Prior exposure to sex education can impact one's risk and attitudes toward sexually transmitted infections. Thus, collegiate years are a time where high-risk sexual behaviors occur including the risk of sexually transmitted infections. The purpose of this research is to investigate the extent to which previous exposure to sexuality education impacts college students' knowledge, attitude, and behaviors.

- **Nathan Easterling**, *Investigation of a Possible Switch of Benthic Photosynthetic Organism and Phytoplanktonic Organism in White Point Swash, South Carolina*, Faculty Mentor: Dr. Angelos
 - Abstract: In this research study, the study will be examining the possible switch from benthic photosynthetic organisms to phytoplankton in the water column at White Point Swash, Long Bay, South Carolina, and what is causing this switch to occur. During Dr. Hannides' and his group's studies of this and other swashes in the past, they noticed this phenomenon of the benthic photosynthetic organisms taking over during a certain time and then the phytoplankton in the water column taking over during a different time. In this study, I measured the chlorophyll a concentration in the sediment to calculate the abundance of benthic photosynthesizers, which was compared to the water column chlorophyll a concentration for the abundance of phytoplankton. We also took pore water samples to analyze sedimentary nutrients which were compared to water-column nutrients. We included turbidity measurements and water depth monitoring to account for light reaching the benthic photosynthetic organisms to account for the role these have on the switch.

- **Heath Erdos**, *Delta Airlines - A Strategic Analysis*, Faculty Mentor: Dr. Dadanlar
 - Abstract: A strategic analysis on the varying business level strategies, core competencies, and recommendations for Delta Airlines to assist them in maintaining their competitive advantage over the airline industry.

- **Finn Gillette**, *Flooding Changes Communities: A Look into a Coastal South Carolina Community*, Faculty Mentor: Dr. Jennifer Mokos
 - Abstract: Coastal communities are at risk of flooding. Hurricanes bring in large amounts of water that can cause damages to people's homes, businesses, and their lives.

Communities that face frequent hurricanes do not have enough time to fully recover. The community may change from a rural, close-knit town to hotels and highly priced housing. Bucksport is a community in coastal South Carolina could be at risk for gentrification due to the frequent hurricanes and residents being unable to fix their homes after flooding. A community housing assessment was conducted to assess the state of the homes. I hope to find a correlation between increased damages to a location and a higher risk of flooding. In the future, the housing assessment will be utilized by the entire community to advocate for funding from FEMA and other agencies to protect the residents from having to leave their homes.

- **Amber Ketcham**, *Quantifying Birds of Hackler Golf Course*, Faculty Mentor: Dr. Kevin Godwin
 - Abstract: South Carolina is home to hundreds of bird species, with many of them present around Coastal Carolina's campus. Hackler golf course is part of a conservation easement with CCU which allows for the research of species and the development of best management practices for these species. A point count system was utilized at eighteen sites of the course to best demonstrate the diversity as a whole. The data found can best be used in further research and management practices for Hackler and Coastal Carolina University.

- **Katie Herrell**, *Wildlife and Conservation at South Carolina State Parks*, Faculty Mentor: Dr. Andrew Busch
 - Abstract: This project aims to highlight wildlife at Huntington Beach State Park and Myrtle Beach State Park through photography. The photographs and accompanying information hope to inspire appreciation for the local wildlife as well as highlight their importance to the environment. This project also looks at conservation efforts in the past and present at each park.

- **Zoe Lyons**, *Ribbed Mussel Density and Distribution*, Faculty Mentor: Dr. Keith Walters
 - Abstract: The ribbed marsh mussel, *Geukensia demissa*, is a predominant species found in salt marshes from Canada to Florida. Studies of ribbed mussels primarily from cordgrass, *Sporobolus alterniflorus*, habitats have documented their ecological importance in marsh systems, but little is known about the roles mussels play on oyster reefs. To assess the importance of oyster reefs for local ribbed mussel populations, a series of samples will be collected from reef and marsh localities and the density and distribution of mussels analyzed. Results will be interpreted in the context of past studies focusing on only marsh mussels.

- **Cage Mitchell**, *Microfluidic Microplastic Separation: Using Fluid-Carrying Microchips To Filter And Sort Microplastic Particles*, Faculty Mentor: Dr. G. Wesley Hitt
 - Abstract: As microplastics continue to contaminate our natural environment, it is becoming increasingly important to understand not only how microplastics affect the people, animals, and plants that ingest and interact with them, but also where the microplastics originate. Current techniques can accurately sift and sort microplastics of sizes greater than 48µm in dimension. Anything below that range is particularly difficult

to process as separation methods fail to keep important details about the plastics' past intact. In this paper we present a separation method based on an inertial, spiral separator microfluidic chip. The forced flow in the chip is characterized by a strong swirl motion which exerts centripetal forces within the fluid. The centripetal forces can be used to separate micro-sized particles based on their mass and size. Using this process, we hope to sort and categorize microplastics while preserving their morphology.

- **Katlyne Nielsen**, *Role of Redox in Driving Changes in Elemental Distributions in Deep Marine Sediments from the Pacific Ocean*, Faculty Mentor: Dr. April Abbott
 - Abstract: The availability of oxygen plays a significant role in the reduction-oxidation (redox) processes that are involved in the distribution of many elements present in marine sediments, including neodymium (Nd) and other Rare Earth Elements (REEs). We sampled cores that had been sitting for 1.5 years since initial collection in the equatorial Pacific Ocean. We used corresponding cores from the same deployment that were sampled immediately upon collection for comparison. We predict that the cores processed at the time of collection will show different redox chemistry (oxic) than those incubated and processed 1.5 years later in the lab (hypoxic or anoxic). The cores set aside and processed later are presumed to be anoxic due to ongoing respiration. To understand the impact of the shift of redox conditions, we will section the stored cores in an anoxic environment (nitrogen filled glove bag) and use a centrifuge to separate the pore water and the sediments. The oxygen, trace elements, REEs, and REEs (including Nd) will then be analyzed to compare the changes between the two sets of cores.

- **Shelby Pawlikowski**, *The Sustainability of Salt Marshes*, Faculty Mentor: Dr. Zhioxiong Shen
 - Abstract: Salt marshes are one of the most productive ecosystems on Earth, providing priceless ecosystem services and supporting economies. As climate change unfolds, the byproducts of anthropogenic activities will become increasingly prevalent. Sea level rise is arguably the largest threat to salt marshes, as they are pressured to migrate vertically and landward to stay above water. The potential rise of sea level has sparked urgent action to research and preserve these ecosystems while formulating mitigation efforts. Copious review of literature on the sustainability of salt marshes into the next century indicate serious endangerment of the ecosystem's survival. Inspired by a simple diagnostic index of Rhode Island salt marsh integrity stated in Kutcher et al., the conditions of Waties Island and Murrells Inlet were quantified using their formula and defining features. The findings agreed with the literature and were adjusted to represent the physical and vegetative characteristics of South Carolina marshes.

- **DaVidria Robinson**, *Preschool (PK) - Grade 12 Experiences and Career Influences for Education Majors*, Faculty Mentor: Dr. Eugenia Hopper
 - Abstract: In public schools, the classroom teacher workforce diversity does not reflect the diversity of the student population. Only about 20% of teachers are people of color (Taie & Goldring, 2020), while 50% of the student population are students of color (Carver-Thomas, 2018). Currently, the teacher workforce is 77% female and 23% male (Taie & Goldring, 2020). Therefore, increasing the number of male teachers of color is a

priority. This study explores the research question: What factors may influence education as a career choice for males of color? The second research question is: To what extent do factors influence education major's career choice for males of color? This quantitative study investigates the reasons male teachers of color may decide to become educators and seeks to expand the information known about the aspects that may influence men of color to work to become teachers. For this research, a survey was piloted which asks participants to rate the extent to which a factor influenced their decision to pursue education as a career.

- **Trevor Stevens**, *Succinate Semialdehyde Reductase Knockout in Alzheimer's Drosophila*, Faculty Mentor: Dr. Fang Ju Lin
 - Abstract: *Drosophila melanogaster* serve as a prime model organism to study human disease models, including neurodegenerative diseases such as Alzheimer's disease. Through the RNAi knockout of the succinate semialdehyde reductase gene, it is hypothesized that the effects of Alzheimer's disease will be decreased due to a lack of accumulation of gamma hydroxybutyrate (GHB). Through this downregulation, it is hoped that the motor function and survivability of these flies will increase in comparison to the Alzheimer's disease *Drosophila*.

- **Emily Trimberger**, *Dart throwing experiment with motor behavior*, Faculty Mentor: Dr. Daou
 - Abstract: Participants will be required to practice dart-throwing task through 6 blocks of 10 trials and answer three questionnaires. Day one activities will take approximately 50 minutes. On day two, approximately 24 hours after practicing dart-throwing, you will return to the Motor Behavior lab and will have your learning assessed by performing two posttests in different conditions. In addition, you will be required to respond to four questionnaires. Day two activities will take approximately 25 minutes.

- **Thomas Vehige**, *How to Grow a Business on Social Media*, Faculty Mentor: Dr. Jeffery Ranta
 - Abstract: Participants will be required to practice dart-throwing task through 6 blocks of 10 trials and answer three questionnaires. Day one activities will take approximately 50 minutes. On day two, approximately 24 hours after practicing dart-throwing, you will return to the Motor Behavior lab and will have your learning assessed by performing two posttests in different conditions. In addition, you will be required to respond to four questionnaires. Day two activities will take approximately 25 minutes.

- **Caitlyn Weinstein**, *Genetic rescue in a Drosophila model of polycystic kidney disease*, Faculty Mentor: Dr. Chiara Gamberi
 - Abstract: Autosomal Dominant Polycystic Kidney Disease (ADPKD) is incurable and is caused by mutations in the PKD1 gene in 85% of patients. Our lab has shown PKD1 mutations cause BICAUDAL C loss-of-function. The Bicaudal C gene is conserved from *Drosophila* to humans. Thus, we have established a PKD model in *Drosophila* Bicaudal C (BicC) mutants. The BicC protein represses translation of several mRNAs in fly ovaries. We have shown, in the renal (Malpighian) tubule of *Drosophila*, BicC binds to d-myc mRNA and represses translation. In BicC mutants, d-Myc protein is overproduced,

causing cystic growth. Similarly, the kidneys of ADPKD patients display MYC over-expression. We have identified a second BicC mRNA target, target 2, with similar regulation as d-myc. We will report on a genetic rescue strategy to determine the role of target 2 dysregulation in renal cyst formation in the BicC fly model of PKD.

- **Jerry White**, *Induction of the [URE3] yeast prion by overexpression of variants of URE2*, Faculty Mentor: Dr. Michael Pierce
 - Abstract: *Saccharomyces cerevisiae*, a strain known as Brewers' or Bakers' yeast, is renowned for its fermentation mechanism. This strain has a myriad of uses in wine, liquor, and bread production. Outside commercial use, *S. cerevisiae* is a model organism for eukaryotic genetics. Due to exhibiting similar behavior to prokaryotic cell, *Escherichia coli*, this yeast strain can be transformed by exogenous DNA. Additionally, *S. cerevisiae* can exhibit a form of infectious proteins caused by genetic sequencing error known as prions. In *S. cerevisiae*, the URE2 gene codes a nitrogen metabolizing protein which may result in the [URE3] prion due to DNA mutation. While not inherently fatal, other species variant prions are. Utilizing plasmid induction, this experiment aims to exploit spliced regions of the [URE3] coding DNA to determine the specific coding region for prion formation.
- **Madilyn Zimmerman, Austin Williams, Bailey Ruhf, Caroline Harper**, *Case Study of Southwest Airlines*, Faculty Mentor: Dr. Hazel Dadanlar
 - Abstract: Southwest Airlines has been one of the most successful airlines in the industry since it first took flight in 1971. The company's low-cost business model, which emphasizes efficiency and excellent customer service, has enabled it to remain profitable even in the face of intense competition and economic downturn. This case study explores Southwest's strategies for success, including its unique corporate culture, innovative operational practices, and relentless focus on cost control.