Universities of Louisiana
ACADEMIC SUMMIT

AGENDA

Thursday, *April 7, 2022*

2 p.m. – Performing Arts Review

- Welcome – Dr. Jeannine Kahn, Provost and Vice President for Academic Affairs, University of Louisiana System
- Opening and Introductions – Dr. Michael Buckles, Dean of College and Liberal Arts, McNeese State University

3:15 p.m. – Visual Arts Review

- Opening and Introductions – Ms. Leslie Gruesbeck, Associate Professor of Arts, Northwestern State University
- Wrap-up – Ms. Erica Calais, Vice President for Student Services, Safety, and Resilience, University of Louisiana System

TBA *Virtual Reception*

Friday, *April 8, 2022*

9 a.m. – Welcome and Opening Remarks

- Dr. Jim Henderson, President & CEO, University of Louisiana System

9:30 a.m. – Concurrent Session A

- Undergraduate Research Presentations
- Visual and Performing Arts Presentations
- Service Learning Presentations

10:45 a.m. – BREAK

11 a.m. – Concurrent Session B

- Undergraduate Research Presentations
- Visual and Performing Arts Presentations
- Service Learning Presentations

12:15 p.m. – BREAK

12:30 p.m. – Keynote Panel Featuring Professional & Academic Mentoring Efforts

Moderator – Ryan Bell – University of New Orleans

- **Project PULL – Southeastern Louisiana University** – Marjorie Parker, Asia Young, and Adonica Reed

  Project PULL is a program that enhances the educational experience for freshmen of color through mentoring, leadership development, service, and fun activities. Designed as a continuing orientation initiative, the goal of the program is to facilitate holistic development and progress towards graduation. Project PULL assists students in the achievement of academic and life skills by providing positive role models, promoting interaction with faculty and staff, and introducing leadership opportunities. Mentors act as an information, support, and referral service, assisting mentees with navigating the challenges of college transition.

- **Crossing Cultures – Nicholls State University** – Dr. John P. Doucet, Dr. Gary LaFleur, and Kaitlyn Dalferes

  To provide students professionalizing, multi-disciplinary opportunities in mentored research and service. From traditional, project-based research in the sciences, we have engaged humanities faculty to join in cross-mentoring students in research and service projects, and have engaged the Louisiana Academy of Sciences to include a special category for these projects at its annual meeting and its proceedings, thus giving students professional experience in the discovery and knowledge-expanding realms. Some of our projects focus on previously unstudied aspects of local environment and community history – two entities at risk in southeastern Louisiana due to continuing coastal land loss. We have also adapted projects to be conducted remotely and otherwise safely in the pandemic world. Mentored students have been extremely successful in career and professional school placement after baccalaureate graduation, suggesting that our Crossing Cultures efforts are effective in student progression through the baccalaureate and farther into careers and graduate career preparation.

- **Mentoring Men in Nursing – Louisiana Tech University** – Dr. Donna Hood and Deverrick Wright

  The goal of the Mentoring Men in Nursing program is to introduce male nursing students to male alumni who have successful careers in a wide range of nursing roles. This program provides students a unique connection with one of our outstanding alumni and the opportunity to gain additional support as they complete the rigorous nursing program and transition to nursing practice. We believe that the transition to profession practice can be enhanced as mentored students build relationships and begin to develop a professional network with Louisiana Tech graduates and with others participating in the mentoring program.

  The National Nursing Workforce Study reported 9.1% of registered nurses are male (2017). Initiatives such as this mentoring program are designed to promote gender diversity in nursing and align with the Future of Nursing 2020-2030 recommendations. Recruiting and retaining our future nursing students and registered nurses is critical. Mentoring programs are recommended approaches to address recruitment and retention of male nursing students. Developing partnerships with alumni is a key factor to promote the future nursing workforce.

1:30 p.m. – Wrap-Up and Recognition

CONCURRENT SESSION A – HEALTH AND COMMUNICATION

9:30 a.m. – 10:45 a.m.
Zoom 1A

Title: SARS CoV-2 Viral RNA Sequencing
Presenter: Lescia Valmond
Advisors: Dr. Paul Kim and Dr. Audrey Kim
Grambling State University
Oral Research Presentation

COVID-19 is caused by the SARS-CoV-2 virus. Mutations in the SARS-CoV-2 virus occur spontaneously as the virus jumps from host to host, creating variants of said virus. As it mutates, variants of SARS-CoV-2 adapt to the environment, evade the human immune system, and become vaccine-resistant, thus giving rise to a more infectious disease. This research sought to identify these mutations and analyze the ease of spread of each variant. Mutations are identifiable as changes occurred in the genetic material of SARS-CoV-2. In doing so, COVID-19 viral RNA was extracted from nasal swabs obtained from positive patients. Using Oxford Nanopore sequencing Technology, MinION, the entire viral genome was sequenced and studied for mutations. Mutations in genomic sequences were identified and classified. The peaks in each variant wave were found to be consistent with that of national trends. Additionally, a total of 148 viruses were sequenced, with 39 being Delta and 109 being Omicron.

Title: Degradative Effects of Selected MMPs on Articular Cartilage's Mechanical Properties
Presenters: Isabel Hebert, Dereck Nguyen, and Tanvir Faisal, Ph.D.
Faculty Advisor: Isabel Hebert
University of Louisiana at Lafayette
Oral Research Presentation

Osteoarthritis (OA) is a disease that can cause irreversible damage to articular cartilage, mainly at the joints of the knee, hands, and hips. It affects around 3 million people annually in the U.S. alone. Very little is known about the causes of OA, and the disease is difficult to detect in its early stages. Metalloproteinases (MMPs) are enzymes that have been found in the extracellular matrix of OA patients and are known to cause osteoarthritic damage. The degree of damage by specific MMPs is not known because by the time patients present with OA they have had irreversible damage to their cartilage that has gone undetected and the levels of MMPs unmeasured until diagnosed. In this research, the goal was to demonstrate the individual impacts of two enzymes: MMP 1, a collagenase, and MMP 9, a gelatinase. Collagenases cleave the collagen found in the cartilage and gelatinases degrade the cleaved cartilage pieces. Isolating these MMPs allows for more focused research since this field is not heavily researched in totality. Healthy articular cartilage cores from bovine knee samples were mechanically tested using an unconfined compression test. These samples were then degraded by either MMP 1 or MMP 9, a 0:1 and 1:0 ratio, and retested. These tests focused on the cartilage's compressive strength before and after being exposed to the degradative enzymes using the Young's Modulus and the peak load of the samples. These results were tested in five steps to mimic the uneven loads placed on human joints through movement, as there is almost never a constant tension on the joints of the knee or wrist. There was a total of 20% strain applied to the samples divided among the five steps. The results showed a relative decrease in the peak load and Young's Modulus in the samples exposed to MMP 9 and a much smaller decrease in the samples exposed to MMP 1. A relative decrease was also noticed in the results of force vs. time and stress vs. strain functions for the samples degraded by either enzyme.

Title: CFD Simulation of COVID Aerosol Dispersion in Indoor Environments
Presenter: Ghalib Siaka
Advisor: Dr. Ning Zhang
McNeese State University
Oral Research Presentation

Computational Fluid Dynamics simulations for the droplets' dispersion generated by a cough in an indoor background, droplets trajectory, and evaporation time are predicted to be related to the droplet's diameter and relative humidity. In general, medium-size droplets have higher axial penetration potential, and large droplets tend to settle on the ground due to gravity. Also, larger droplets take a longer time to evaporate. Smaller droplets tend to be suspended in the flow field with small penetration potential and tend to fade faster; smaller droplets < 10 evaporate completely early in the simulation. To study the effect of Relative Humidity (RH) on the evaporation rate, in particular, the present study offers three simulations, all with the same standard room conditions, only differ in relative humidity 20 % and 70%. Another source of variability is the cough-expired volume. This study adopts actual experimental work to establish two cough flow rate profiles. The Lagrangian discrete phase model is adopted and the species model to track and investigate the cough droplet dispersion and evaporation.

Title: Differences in Effective Patient-Provider Communication Measures between Current, Former, and Non-smokers
Presenter: Brian Washington, Jr.
Advisor: Dr. Celestin
University of New Orleans
Oral Research Presentation

Smoking is a leading cause of cancer and can prevent recovery after cancer diagnosis. Effective communication between patients and providers can promote smoking cessation and cancer prevention. This study examined differences in seven measures of effective patient-provider communication among current, former, and non-smokers based on the Patient-Centered Communication (PCC) framework. We merged nationally representative Health Information National Trends Survey (HINTS) data from 2013-2020 (n=22,954). Several PCC principles were examined, including: 1) the chance to ask questions, 2) attention to feelings and emotions, 3) shared decision making, 4) understanding treatment options, 5) receiving clear explanations, 6) having enough time, and 7) dealing with uncertainty. Weighted statistics characterized respondent sociodemographics, chi-square analysis determined differences by smoking status, and logistic regression analysis determined the relationship between smoking status and PCC measures after adjusting for covariates. Results of the analyses showed that, compared to non-smokers, current smokers reported less often that a healthcare provider 1) gave them the chance to ask all the health-related questions they had during the clinic visit (p=.0457) and 2) helped them deal with feelings of uncertainty about their health or healthcare (OR=0.683, 95% CI: [0.532, 0.877], p=0.0399). Current smokers had worse communication experiences with their healthcare providers than former and non-smokers. Future interventions should improve communication between smokers and providers and measure the effects on related outcomes.

Title: Pollinator Diversity on a Shortleaf Pine-Oak-Hickory Restoration Site
Presenter: Taygan Kohlman
Advisor: Natalie Clay
Louisiana Tech University
Poster Research Presentation

Pollinators play a critical role in increasing plant reproduction and increasing genetic diversity. Human land use changes often decrease plant diversity and pollinator species. However, ecosystem restoration can reverse these patterns. Northern Louisiana was historically dominated by shortleaf pine-oak-hickory forests but has been converted largely to loblolly pine forests with little-to-no herbaceous ground cover. The objective of this study is to determine how different management practices on a shortleaf pine-oak-hickory forest restoration site affect the pollinator diversity compared to no restoration. We predicted prescribed burning and herbicide treatment would increase pollinator species diversity and abundance. We sampled pollinators on three management regimes: 1) burned with active herbicide treatments for non-desirable plant species, 2) just burned, and 3) no restoration. At each site we set out 15 pan traps,

five pink, five blue, and five yellow bowls that contained ~200 ml of a water with soap. Pan traps were placed 5m apart in an "x" shape and left out for 24 hours. Sites were sampled twice as part of a pilot study. We found greater diversity, evenness, and richness where burning took place compared to the control plot with no restoration. Specifically, there were two additional orders of insects present and 1.5 times higher diversity in burned compared to the control sites. The differences between the burn plot and the burn herbicide plot were small. Understanding how restoration and forest management impacts pollinator communities allows stakeholders to make informed decisions about appropriate management strategies for desired outcomes.

Title: Developing a Coastal Community Database and Coding Healthcare Literature Using MAXQDA
Presenter: Kaitlyn Dalferes
Advisor: Dr. Gary LaFleur
Nicholls State University
Poster Research Presentation

Fulfilling my honors thesis through the Center for Bayou Studies at Nicholls State University, I have developed a project to study the medical health of Louisiana's coastal communities compared to neighboring inland parishes. To achieve this, I am participating in work supported by the Bureau of Ocean and Energy Management that aims to create a searchable database containing literature that features elements of living near the Gulf of Mexico. As a team member, I completed licensed training on the use of the program MAXQDA which allows qualitative oral histories to be coded, curated in a database, and quantitatively analyzed through the SPSS program. For my role in this larger project, I have used MAXQDA to compile, code, and analyze literature relevant to community health such as the effects of the Deepwater Horizon Oil Spill. With assistance from the project management team, I am comparing variables such as ethnicity, employment, health and demographics, socio-economic status, and environmental impacts between six coastal Louisiana parishes with five adjacent interior parishes. The six coastal parishes are from west to east: St. Mary, Terrebonne, Lafourche, Jefferson, Plaquemines, and St. Bernard. The five inland parishes selected are St. Martin, Assumption, St. Charles, St. James, and St. John. The coastal parishes, on average, have the positive impacts of higher education, lower unemployment, less poverty, and higher levels of economic well-being. However, there is a possibility that these parishes are also more likely to sustain negative impacts from hurricanes, coastal land loss, and environmental exposure to oil spills.

Title: Examination of nutritional immunity in MRSA urinary tract infections
Presenter: Sarah Guedry
Advisor: Ritwij Kulkarni
University of Louisiana at Lafayette
Poster Research Presentation

Methicillin-Resistant *Staphylococcus aureus* (MRSA) are Gram positive pathogenic bacteria that can cause urinary tract infections (UTIs) in humans. MRSA-UTIs are more commonly associated with the use of urinary catheters. Despite their low incidence, MRSA-UTIs are of considerable research interest as these infections are resistant to routinely used antibiotics.

A healthy urinary tract is a nutrient-limiting environment where colonizing pathogens, such as MRSA, transition to gluconeogenetic metabolism to utilize amino acids and small peptides found in urine. Previous work from our lab has shown that exposing MRSA to human urine induces expression of genes encoding gluconeogenesis enzymes. Based on these results, we sought to determine the effects of ablating gluconeogenesis and TCA cycle genes on MRSA pathogenicity. We used MRSA1369, a human UTI isolate. In a competition assay set up, we simultaneously infected female C57Bl6 mice with equal CFUs of WT and KO strains of MRSA and determined WT and KO CFUs recovered at 24h post-infection. Mice were infected via transurethral catheterization. The KO mutants specifically targeted TCA cycle enzymes fumC (fumarate hydratase) and sucD (succinyl coA synthetase) and lpdA (dihydrolipoamide dehydrogenase)

which catalyzes pyruvate oxidation. KO MRSA strains carry a gene for antibiotic resistance to erythromycin in their genomes. Competitive Index of WT and KO strains will be used for data interpretation.

Title: Promoting a Healthier Nation
Presenters: Ms. Jimmitriv Roberson
Advisors: Dr. Rory L. Bedford, Dr. Steve A. Favors, and Dr. Ellen D. Smiley
Grambling State University
Service Learning Presentation

In partnership with the Clinton Global Initiative, students from GSU's Earl Lester Cole Honors College worked with Grambling State University and other entities such as the CDC, EPA, cyber security experts, local hospitals, military veterans, and local and state officials to formulate a strategic plan to better mitigate issues regarding infectious diseases. The plan was developed to address emergencies such as the crisis faced during the onset of COVID-19. Special attention was given to ensuring that pertinent equipment and resources were identified to promote safety for the students, faculty, staff, and visitors. The students recognized the lack of state-of-the-art technology, equipment, and laboratory resources needed to conduct experiments to help develop solutions for global issues. After assessing the problem, in addition to the strategic plan to better mitigate issues regarding infectious diseases, they elected to also include a 10-year plan for a new STEM building and location on campus.

Title: Chaotic Thinking
Presenter: Jada McCoy
Advisor: Larry Schuh
McNeese State University
Visual Arts Exhibition Presentation

This piece is a screen print that represents the stressors in daily life and how those stressors can block creativity.

Title: Johann Sebastian Bach-Sonata No. 1 BWV 1001 Mvt. 2 Fuga-Allegro
Presenter: Ramses Cid Dominguez
Advisor: James Alexander
Nicholls State University
Performing Arts Showcase

Hi! My name is Ramses Cid. I am from the Dominican Republic. I am a current student at Nicholls State University. I am pursuing a Bachelor's Degree in Music Performance. The piece I'm going to present for this special event is the Violin Sonata No. 1 for violin solo in G minor by the Baroque composer Johann Sebastian Bach. I hope you enjoy it!

CONCURRENT SESSION A: MONEY AND MIND

9:30 a.m. – 10:45 a.m.
Zoom 2A

Title: "You're Playing the Wrong Game: Financial dreams delivered through the power of financial literacy."
Presenter: Danielle Duplay
Advisor: Dr. En Mao
Nicholls State University
Oral Research Presentation

Being financially literate involves being in tune with all aspects of one's financial life. This includes but is not limited to budgeting, investing, credit, saving for long- and short-term goals, major purchases such as an auto or home, insurance decisions, and estate planning. Many people work their whole lives without ever knowing how to handle their money. Two in three Americans are in debt (Statista, 2021) and half of the U.S. families have no retirement savings (Sainato, 2021). How is that possible when the U.S. is the most overworked developed nation in the world (Miller, 2022)? Are people playing the wrong game? With inflation at its highest level in four decades (Tepper, 2022), it is more important than ever for young adults and consumers to embrace financial literacy. In this study, we collected data from 312 students based on a survey designed to understand people's perception and knowledge of financial literacy. Key research questions include: When is it best to start teaching financial literacy in schools? Who influences students the most? What knowledge should be delivered? How should we deliver such knowledge? Financial literacy is an important life skill that is often ignored due to lack of understanding, complacency, or simply procrastination. With the right knowledge, everyone has the opportunity to thrive financially whether they make $10,000 or $200,000. The results of our study can help institutions like Nicholls State University to prepare students by delivering the right mix of financial literacy knowledge using the right methods.

Title: An Investigation into the Loan-to-Asset Ratios and their Relationship with Profitability and Geographic Location of Louisiana Community Banks
Presenter: Michael Hollman
Advisor: Eugenie Ardoin
University of Louisiana at Monroe
Oral Research Presentation

Community banks primarily earn money by making loans to individuals and/or businesses with the money deposited at their branches. Loans earn a higher rate of interest than the other assets that community banks are allowed to purchase. Therefore, there should exist an incentive for bank executives to make as many loans as possible, while maintaining just enough cash to service deposits and satisfy regulators. An analysis of the financial statements of Louisiana community banks from 2015 to 2019, shows evidence of a correlation between a higher loan-to-asset ratio (LAR) and return on equity (ROE). Despite evidence for a link between more loans and higher profitability, Louisiana community banks have an average LAR of 64.32% and standard deviation of 16.10%. This is a lower mean and higher standard deviation than would be expected if these banks were maximizing the amount of loans they made. There are multiple potential explanations for this phenomenon, including overly conservative bankers, discrimination against likely profitable borrowers, and differences in geographical supply and demand. This last explanation was offered by an industry expert interviewed for the project, who said that many areas in Louisiana had too many lenders pursuing a small number of profitable borrowers. This increased competition means many borrowers must lower interest rates in order to write loans or end up not making as many loans (lowering LAR and profitability).

In the second part of this paper, I provide evidence that geographic location does affect the LAR of Louisiana community banks. This does support the proposed theory for the high variation of LAR being

caused by regional discrepancies in supply and demand, but other factors may be more important or similarly relevant.

Title: Meta-analysis of anxiety levels in undergraduate students at Northwestern State University
Presenters: Bailey Perrilloux and Margaret E. Cochran
Advisor: Dr. Margaret E. Cochran
Northwestern State University
Oral Research Presentation

Psychiatric disorders affect mood, behavior, and thought; one extremely common class includes anxiety disorders. College students are hypothesized to be experiencing a mental health crisis, especially in terms of rising anxiety levels. This study compared trait anxiety results from the State-Trait Anxiety Inventory (STAI) from previous graduate Psychology theses at Northwestern State University of Louisiana to contemporary results to determine whether anxiety levels have increased in the undergraduate population since 1990. Additionally, current state and trait anxiety levels were compared to normative data. The 40-question STAI-Form Y was administered to 100 student volunteers recruited through the university's Student Messenger email service. A one-way ANOVA revealed that the means differed significantly between studies *($F_{4, 888}$ =* 48.886*, p* < .001). The Tukey-Kramer method for Tukey's HSD test revealed that the means from 2015 (*M* = 34.6, *N* = 79) and 1990 (M = 37.35, *N* = 20) were similar, as were the means from 1990, 2011 (*M* = 39.07, *N* = 314), and 2012 (*M* = 40.54, *N* = 381); however, consistent with the hypothesis, the mean from 2022 (*M* = 53.35, *N* = 99) was significantly higher than all other studies of interest. In addition, the means for both state and trait anxiety levels in the current study were significantly higher than the norms. This study indicates that there is cause for concern about the mental health of undergraduate students and implies that research should be done on a larger scale to determine the full extent of this issue.

Title: Diet Quality and Physical Activity Levels in Health and Non-Health Majors
Presenter: Desiree Kern
Advisor: Dr. Brigett Scott
Nicholls State University
Poster Research Presentation

Difference in study-focus of health and non-health majors may reveal a difference in the way these two sectors of college students view their health. A study assessing these differences can reveal a target population for improving health promotion, especially with the growing rates of overweight and obesity in this population. The purpose of this study is to determine if health-related majors are more likely to have higher diet quality and physical activity levels than non-health majors. Paper surveys were distributed to one large business class and three small health-related classes. The total sample size included two groups of 44 health majors and 54 non-health majors. The Healthy Eating Index (HEI) was used to assess the students' diet quality. All foods consumed by each student were scored from a 24-Hour Recall in accordance with the HEI scoring standards. Students' physical activity levels were scored using the Rapid Assessment of Physical Activity (RAPA) survey and scoring standards. The average HEI and RAPA scores were averaged by each group and compared to determine which group had higher diet quality and physical activity levels. On average, health majors' HEI scores (*M* = 40.9; *SE* = 1.9) were higher than non-health majors (*M* = 34.3; *SE* = 1.6). This difference was significant (*p* = 013): *t*(96) = 2.543. There were no statistically significant differences in RAPA scores in correlation with major. However, there was a correlation with higher HEI scores having higher RAPA scores. These results suggest that health majors are more likely to have higher diet quality than non-health majors.

Title: The Association between Adverse Childhood Experiences and Depression
Presenters: Lauren Brooks, Danielle Barnes, Alison Roy
Advisor: Hung-Chu Lin
University of Louisiana at Lafayette

Oral Research Presentation

Childhood trauma has been found to increase one's likelihood of developing adulthood depression (Chapman et. al, 2004). This study evaluated the associations between experiences of childhood emotional neglect, physical neglect, emotional abuse, and physical abuse and symptoms of depression. A sample of 205 participants (aged 18-30 years old, M_{age} = 20.5, SD_{age} = 3.17, 69.75% female) were recruited to complete the Childhood Trauma Questionnaire Short Form (Bernstein et al., 2003) and the Depression Anxiety and Stress Scale-21 (Lovibond & Lovibond, 1995). Findings demonstrated that scores on the Childhood Trauma Questionnaire (CTQ) subscales for emotional abuse (M = 10.02, SD = 5.08), emotional neglect (M = 10.02, SD = 4.78), physical neglect (M = 7.32, SD = 3.30), and physical abuse (M = 7.77, SD = 3.53) were positively correlated with depression (M = 5.13, SD = 5.51), r = .72, p < .001, r = .54, p < .001, r = .43, p < .001, and r = .30, p < .001, respectively. No significant differences were found between genders in depressive symptoms, childhood trauma, and the correlation between childhood trauma and depression. This study found a positive correlation between emotional abuse and neglect, and physical abuse and neglect in childhood with symptoms of depression in adulthood. The findings were consistent with prior research demonstrating the positive correlations between childhood trauma and depression. There may be implications for adulthood depression treatments by addressing childhood trauma.

Title: Police Officer Eye Training Program: Improving Field Decision Making Skills
Presenter: Meredith Fisher
Advisor: Todd Castleberry
Louisiana Tech University
Oral Research Presentation

The use of excessive and deadly force by law enforcement has become a focal point for local, state, and federal government, and the media. The purpose of this IRB approved study is to improve police officer responses to various scenarios by improving situational assessment, reaction time, and verbal and non-verbal communication. Volunteered police officers will first have a saliva sample collected for cortisol. Officers will then be presented with five different scenarios using a MILO Range Training Simulator. Officers will be evaluated on their time of movement, time of draw, time of shoot, number of total shots, and number of accurate shots. Additionally, each simulation will be recorded to assess their verbal and non-verbal communication. Lastly, officers will have a post-test saliva sample collected. Forty officers will be placed in an experimental group that consists of eye training for convergence, divergence, tracking, recognition, alignment, and depth perception. Training will be fifteen minutes per day, three days per week, for six weeks. Another forty officers will serve as the control group. Six weeks following the pre-test scenarios, all officers will return for post-test evaluations with five new scenarios. If successful, this study could be the first to demonstrate that minimal additional training could save many civilian and police lives. This study is being supported by the Lagniappe Ladies.

Title: Design Center Community Project
Presenters: Juan Castilla and Mirla Gonzalez Enriquez
Advisor: Mirla Gonzalez Enriquez, MFA
Northwestern State University
Service Learning Presentation

The Department of Fine + Graphic Arts Design Center services the community and the university by offering design work to clients in many sectors of the professional world. Students are selected to work in the Design Center based on their prior in-class performances and provide their services pro bono in exchange for real-world experiences in the design field. This presentation discusses the Design Center's creation of a new image for client and local musical artist, Afro Sensei, from Alexandria, Louisiana. This

client needed digital content created to advertise one of the singles released from his new album, B.G.C., 2022. The song, F.O.M.O., written and performed by Afro Sensei, represents how people are chained to social media, and how powerful and harmful this can be. Design Center participants met with the client regularly to review progress and are now very close to the final steps of the project following the client's needs. Work on this project began in September 2021. The project's completion is anticipated by the end of the Spring 2022 semester.

Title: Thriving to Mentor through Service-Learning
Presenters: Ms. Victoria Gray, Managing Director of Victory Group (Community Partner), Meleah Pea, and Dr. Rory L. Bedford, (Psychology) Director of Continuing Education and Service-Learning
Advisor: Dr. Ellen D. Smiley, Professor of Education & Dean, Earl Lester Cole Honors College
Grambling State University
Service Learning Presentation

Grambling State University's (GSU) Office of Continuing Education and Service-Learning and the Earl Lester Cole Honors College partnered with Victory Group's sub company THRIVE (the HBCU college and career readiness program) to assist with mentoring programs for 100 high school men and women from Houston, Texas. Students from GSU enrolled in the Honors Scholars and Service class competed against students from Morehouse, Texas Southern, Alabama A&M, and other Historically Black Colleges and Universities for an opportunity to serve as mentors. Students engaged in projects that promoted college readiness and persistence towards helping the high school students get admitted to the university of their choice. Students are introduced to a support system that is geared toward students successfully enrolling, persisting, and graduating. EmpowHERment and MENtor are two components of the program for the high school women and men, respectively. In addition to the college students who are selected to volunteer with Victory Group, alumni mentors are available to the students. One of the tasks in addition to establishing college readiness activities is to develop guidelines to determine how mentors are selected, screened, trained, on boarded, retained, tracked, and matched.

Title: Masked Descent
Presenter: Ryan Courville
Advisor: Rosemary Jesionowski
McNeese State University
Visual Arts Exhibition Presentation

The subject of this image is an individual that is losing a battle in her own mind and putting on a mask to hide the pain.

Title: "Ambivalence" from Senior Honors Thesis "I'm All Yours"
Presenter: August Lasseigne
Advisor: Kalo Gow
University of New Orleans
Performing Arts Showcase

"I'm All Yours" is an original one-woman, one-act show in the making, viewing the past legal confines of women worldwide and how that objectification translates to the treatment of female-presenting people today. The performance highlights one of the songs in the show, "Ambivalence," a piece written during the stages of falling out of love. The backing track was written using piano, then transcribed onto a digital interface by the presenter.

CONCURRENT SESSION A: SURF AND TURF

9:30 a.m. – 10:45 a.m.
Zoom 3A

Title: Synthesis and Characterization of Tetrahydroindenide Complexes of Ferrocene
Presenter: Stone Naquin
Advisor: Dr. Uttam Pokharel
Nicholls State University
Oral Research Presentation

Ferrocene and its derivatives play important roles in material chemistry due to their air-stability, reversible electrochemistry, and low toxicity. Right after the discovery of ferrocene, synthesis of its π-extended derivatives have been reported from the complexation of indenide ligand with Fe(II). However, these compounds were not fully characterized. In this project, we attempt to extend the π-conjugation of ferrocene starting from ferrocene itself. The reaction of ferrocene with succinic anhydride under Friedel-Crafts acylation conditions gives mono- or di-ketocarboxylic acids depending on the stoichiometry of succinic anhydride. Reduction of the keto group under Clemmensen's conditions followed by ring-closing gives ferrocene-fused cyclic ketones. We have separated the diastereomeric (racemic and meso) mixture of diketones using silica column chromatography and characterized both of them by IR, NMR, and single-crystal X-ray analysis. We have further reduced the keto group to methylene under Clemmensen's conditions to give cyclic structure with tetramethylene group attached to one or both rings of ferrocene. The molecular structure of tetrahydroindenide complex reveals the reverse indenyl effect where ipso carbons of cyclopentadienyl group are slightly pulled to Fe(II) in comparison to its remaining three carbons. We are currently working on the dehydrogenation of the ligands to extend the π-conjugation of cyclopentadienyl rings. Synthesis, spectroscopic characterization including molecular structures, and electrochemistry of the complexes will be discussed.

Title: Trematode Diversity as Host Species Diversity Indicator in Natchitoches, Louisiana, USA
Presenter: Sarah Sargent
Advisor: Dr. Cynthia Doffitt
Northwestern State University
Oral Research Presentation

Trematodes are parasitic flatworms that typically utilize three host species for completion of their life cycles, making them potentially favorable indicators for ecosystem biodiversity. Trematodes can use different combinations of vertebrate hosts, but all species require a molluscan host. Therefore, diverse assemblages of larval trematodes can be detected and quantified through molluscan host species sampling. This research aims to quantify trematode diversity in local aquatic mollusk populations and determine their potential as indicators of vertebrate host diversity. In September and October 2021, 458 aquatic snails were collected from the Natchitoches National Fish Hatchery (Natchitoches, Louisiana). All were observed daily for evidence of trematode infection, indicated by the release of cercariae (juvenile trematodes) from snail hosts. Infected snails were isolated and cercariae were collected. Out of 458 snails collected, 14 (3.06%) were infected. Average cercariae released from infected snails ranged from 244.6 to 5715 per day. Three morphologically distinct cercariae (furcocercous, armatae, and echinostome) were observed and identified based on morphological characteristics. Identification will be confirmed through DNA extraction and genetic testing. This will lead to further investigations involving trematode's potential as bioindicators through life cycle linkage and its correlation with host species richness.

Title: Is the Current Justice System Fair to Minorities?
Presenter: Jaelynn Knox
Advisor: Dr. Steve Favors
Grambling State University
Oral Research Presentation

The American justice system was established to provide due process, protections, and laws for all

Americans to adhere to. However, there are now, and have always been, significant disparities in how those protections are enforced based on factors such as race. The evidence of differential treatment and injustice in the "justice" system is overwhelming. The purpose of this presentation is to discuss racial disparity in the United States Criminal Justice system by highlighting policing of minorities, police brutality, collateral consequences post-prison, and disparities in court cases where minorities are wrongfully prosecuted or did not receive justice. The research focuses on the African American community and includes statistical information based on population and current events to highlight injustices in America. The data was collected by reviewing journals and newspaper articles. Every individual who is part of a minority group is at risk of injustice in America. Based upon the data reviewed for this study, the current justice system is not fair to minorities. It is going to take the American people coming together despite race, creed, or color to resolve this issue.

Title: Characteristics Important for Tropical Cyclone Development from Easterly Waves over the Atlantic Across Multiple Scales
Presenter: Connor DeLaune and Ken Leppert
Advisor: Ken Leppert
University of Louisiana at Monroe
Poster Research Presentation

Over the Atlantic, tropical easterly waves (TEWs) are important for tropical cyclone development (TCD). This project has two goals related to improving our understanding of TCD from TEWs. The first goal is to determine what conditions across multiple scales best distinguish waves which develop storms (i.e., developing waves [DWs]) from those that do not (i.e., non-developing waves [NDWs]). The second objective is to determine what impact larger-scale conditions have on smaller scales relevant to TCD. To accomplish these goals, TEWs were first subjectively identified between the coast of Africa to 100°W and from 5°N to 20°N for July-October during 2008-2018 using satellite-derived moisture data from the University of Wisconsin–Madison. Then TEWs were separated into DWs and NDWs using the National Hurricane Center's Tropical Cyclone Reports. Composites of various meteorological variables across multiple scales are being created for DWs and NDWs using NASA Reanalysis and satellite data and National Oceanographic Atmospheric Administration satellite data. Results from wave-scale composites indicate that DWs are generally associated with more favorable conditions for TCD (e.g., greater low-level spin, upper-level divergence, mid- to upper-level moisture, etc.) relative to NDWs. However, convective instability and wind shear (besides deep-layer zonal shear) are slightly more favorable for NDWs. Another key result is that variables related to atmospheric motion provide a greater distinction between DWs and NDWs than moisture and temperature variables. Ongoing work involves the creation of composites across the smaller, convective and larger, synoptic scales to determine if results vary across different scales.

Title: Effects of Bark Beetle-Attacked Wood on Leaf Litter Invertebrate Biodiversity
Presenter: John Carrier
Advisor: Natalie Clay
Louisiana Tech University
Poster Research Presentation

Bark beetle infestations are an increasing occurrence in forest habitats around the world. The increase is resultant of rising global temperatures expanding the survival potential of bark beetles. The effects of these infestations on soil and litter ecosystems, which contains half of the Earth's biodiversity, remains largely unstudied. Trees are killed by the bark beetles which generates dead wood for brown food web (i.e., decomposer) organisms to colonize from the surrounding soil. Bark beetles introduce fungal associates to host trees that can attract termites, which are ecosystem engineers and important wood decomposers. The presence of termites attracted by bark beetle-attacked trees could lead to increased litter invertebrate biodiversity because presence of fungi and termites should increase potential nutrient resources and habitat structural complexity. To test the prediction that bark beetle-attacked wood has

increased leaf litter invertebrate biodiversity, a bark beetle-attacked, and healthy Loblolly pine tree were felled in South Mississippi, and trees were cut into 8 cm length logs. After 2 years, leaf litter invertebrates were collected below five bark beetle-attacked and five unattacked logs. Berlese funnels were used to extract invertebrates from the leaf litter and species diversity was calculated. Preliminary results suggest that species diversity and abundance is higher in bark beetle-attacked samples. These results demonstrate that bark beetle outbreaks are capable of increasing diversity of decomposer-based ecosystems via the attraction of termites as an ecosystem engineer.

Title: Microorganism's Success Based on Endolithic Microenvironmental Conditions
Presenter: Adam Hymel
Advisor: Dr. Sherry Krayesky-Self
University of Louisiana at Lafayette
Poster Research Presentation

Rhodoliths are a coralline red alga that inhabit benthic zones of shallow seas including the Gulf of Mexico. They have been shown to provide key habitats for many life stages of microorganisms and, in turn, are vital to the health of benthic ecosystems. Understanding the system in the wake of stressors such as acidification will allow researchers to gain insight into this micro community. How rhodoliths and their dependent microorganisms react to acidification can have a cascade of effects in marine ecosystem's function and diversity. To test Rhodoliths' response to acidification, we will expose them to 3 different conditions of acidity. We will take 1ml samples from each tank and analyze them on a spectrophotometer at absorbance wavelengths corresponding to common macroalgae absorbance wavelengths. At the end of the study, we will run a single factor ANOVA to tell us if the differences in the mean absorbances across the three groups, for a given wavelength, are statistically significant and compute the variance within each group.

Title: Mapping Oak Trees on Nicholls' Campus using Global Navigation Satellite System and Geographic Information System
Presenter: Brandon Silva
Advisor: Dr. Balaji Ramachandran
Nicholls State University
Service Learning Presentation

This is a service learning project undertaken for GEOM 309 Advanced Geographic Information Systems (GIS) course in Geomatics. The main purpose of this project was to identify the location of oak trees on Nicholls' campus and associated attributes using a mapping grade Global Navigation Satellite System (GNSS) receiver. The goal was to obtain accurate location (±30 cm), Diameter at Breast Height (DBH), tree health, estimate age, and report any damage to the trees. Finding the location of each tree was done by using mapping grade handheld GNSS receiver with a minimum of 6 satellite signals to achieve the desired accuracy. DBH was determined by using a Surveyor's Tape measuring circumference at 4.5 feet from the ground. The collected GNSS data was post processed using National Geodetic Survey (NGS) Continuously Operating Reference Stations (CORS) correction data. The resulting accuracy of the collected data were within less than 30 cm or better. The corrected data was then brought into ESRI ArcGIS Pro where small detail adjustments were made with respect to a high-resolution campus imagery (2 cm to a pixel). In total, 145 oak trees were collected and their DBH, age, and health were documented. By performing this project, methods in project planning, GNSS survey best practices, and integrating with GIS were learned.

Title: Movie Night Shenanigans
Presenter: Elizabeth Touchet

Advisor: Corbin Covher
Northwestern State University
Visual Arts Exhibition Presentation

I created this piece by recycling an old television. I made movie night shenanigans with my family in mind. We never really got to spend much time together. When we could we watched a movie and chowed down on some delicious movie snacks (sometimes spilling them everywhere). I am inspired by the idea of transforming spaces to give off different emotions by walking into the space or imagining that you are in it. I am also inspired by my family; I have made multiple pieces with their essence in mind. This particular piece happens to have the essence of each of my immediate family members.

Title: It All Just Trickles Down
Presenter: Dara Calmes
Advisor: Cristina Molina
Southeastern Louisiana University
Visual Arts Exhibition Presentation

In *It All Just Trickles Down* I attempt to process the events of my childhood. Hot, sticky summer nights with the buzz of a television in the background, an argument in the kitchen reaching thunderous levels, and cigarette smoke curling around three children snuggled in a bunk bed in a bedroom with no door. Nurture versus nature. My mother's addiction struggles, a nasty divorce, and Child Services split me and my brothers between different households. One of my brothers would eventually pass away in a car accident. Like the shattered windshield of a car wrapped around a light post, trauma trickled down through the cracks. Every rehoming I endured or rehab letter I received made the cracks spread further, like the Louisiana sun splitting the glass to its limits. Mom got sober seven years ago and Tyler's been dead for over a decade. My relationship with my mom now is in a place of love and forgetting. In the pursuit of creating artwork pertaining to my trauma, I initially started making material about my mother, but found it to be limiting. I reached out to my youngest brother, Spike, who I haven't had a relationship with in over fifteen years. He remembers very little, be it his age or his brain acting in self-defense. I promised him unconditional love and quality time, as well as answers to questions he had. The exchange of these photographs is a cathartic experience for us. We meet in places where he's comfortable and talk about anything he has on his mind. The images show a deep connection between two individuals rekindling their familial bond. All around us have done their mourning and found a way to move on; the grief left in our hands to figure out how to mold. We spent so long focused on surviving that neither of us has fully processed anything from our childhood. So now we watch it all just trickle down, but at least it's together. My brother is my muse, my grieving partner, and a young man walking like a calf into adulthood.

Title: Gratitude for Horn Octet (2007), by Douglas Hill (b. 1946)
Presenters: Caroline Braswell, Lee Dunford, Maggie Eubanks, Hannah Hauptman, Katelyn Ivanyisky, Jeremi Jenkins, Daniel Kennedy, Jackson Lair, Chris Perdue, Katherine Phillips, & Neill Roshto
Advisor: James Boldin
University of Louisiana at Monroe
Performing Arts Showcase

Performance recording of Gratitude for Horn Octet (2007), by Douglas Hill (b. 1946), by the University of Louisiana Monroe Horn Ensemble. Gratitude is the third movement of the larger work Recollections for Horn Octet and was composed for the hornist Michael Ozment in the summer of 2007 in memory of his father Dwight Wesley Ozment. Gratitude begins with an introspective chorale, then builds into a harmonious, sweeping, heartfelt melody, interrupted and complemented by many individual voices telling their own grateful stories.

CONCURRENT SESSION A: FOR THE LOVE OF ART & LITERATURE

9:30 a.m. – 10:45 a.m.
Zoom 4A

Title: Ekphrasis to Character Art in Dungeons & Dragons Storytelling
Presenter: Caroline Shepherd
Advisor: Dr. T. Davina McClain
Northwestern State University
Oral Research Presentation

I explore the relationship between the role that ekphrasis plays in *Dungeons & Dragons* and tangible game-centric art that can be created from it by creating illustrated character reference sheets based on verbal conversations with players with varying game experience. *Dungeons & Dragons* is not merely the context for the content of the ekphrasis, however; the game drastically changes the nature of the descriptions to fit the players' storytelling endeavors while remaining backed and bound by the game's mechanics and rules. To properly analyze how descriptions in *Dungeons & Dragons* influence the illustrative process, it is therefore necessary to first understand the unique nature of these descriptions and how the structure and execution of the game influences them. An analysis of both how ekphrasis is manipulated and defined by *Dungeons & Dragons* and how players' use of this kind of ekphrasis influences the visual result of their character descriptions is explored by interviews with 30 anonymous participants who were willing to share their gameplay preferences and experience in relationship to how they use descriptions in addition to their describing one of their in-game characters.

Title: Preliminary analysis of antibiotic resistant bacteria, antibiotic resistance genes, and contaminants in sludge following Hurricane Ida in Southeast Louisiana, U.S.A.
Presenter: Mary Grace Robichaux
Advisor: Dr. Ramaraj Boopathy
Nicholls State University
Oral Research Presentation

On August 29, 2021, Hurricane Ida made landfall as a catastrophic Category 4 hurricane in Southeast Louisiana and left extensive damage to homes and businesses, with almost total demolition of the power grid of lower Lafourche and Terrebonne Parishes. Due to the push of water into Barataria Bay, Terrebonne Bay, and Bayou Lafourche from storm surge, the Gulf Intracoastal Waterway overtopped and leaked sediments and sludge into a community in Larose, Louisiana. In this study, sludge samples were collected, and the occurrence of antibiotic-resistant bacteria was monitored. This survey of antibiotic-resistant bacteria and genes was accomplished using Kirby-Bauer Assay as well as polymerase chain reaction techniques for the presence of antibiotic resistance genes and for human polyomavirus BK, an anthropogenic marker for human fecal contamination. Sludge samples were also tested for levels of antibiotic contaminants, using HPLC, and heavy metal contaminants using ICP-OES. A community survey was used to survey the presence of health-related side effects coinciding with the appearance of the sludge. The results of this study show the presence of human polyomavirus BK. The sludge also showed significant levels of antibiotics across the Larose neighborhood, along with the presence of sul1 and sul2, sulfonamide resistance genes, and tetA, a gene for tetracycline resistance. The community survey showed a range of health-related side effects, with significant amounts of exposure of sludge to residents. ICP-OES analysis revealed an elevated presence of heavy metal contamination, exceeding recommended soil limits set by the World Health Organization.

Title: PCR Amplification of FGFR1 Transgenic Mice Confirms Genotypes
Presenter: Glenae Nora
Advisor: Dr. Karen M. Smith
University of Louisiana at Lafayette

Oral Research Presentation

The purpose of this study is to characterize specific subsets of brain cells within mice models, for both control (FGFR1 Flox/Flox + Nes: Cre+) and target gene (FGFR1) conditional knock out (cKO) for later use in experiments with High Fat Diet (HFD) vs Normal Fat Diet (NFD), feeding behaviors circuitry, and microglial activity. The Hypothalamus is responsible for regulating feeding behaviors. Specifically, Tanycytes, located along the third ventricle of the Hypothalamus and their change in physiology and morphology in the target gene for this cell being deleted. For my contributions to this project, I performed Polymerase Chain Reaction (PCR) to aid in genotyping experimental mice for studies examining FGFR1 LoxP mice and Nes: Cre Recombinase traits. Mice tails clippings were attained during weaning and then DNA samples were isolated using previously established lab protocol. DNA samples were then placed into individual PCR tubes containing PCR primers, dNTPs, and Taq Polymerase. This master mix was then placed into a Thermocycler to amplify potential target sequences using both Nes Cre and FGFR1 Flox/Flox specific primer sets. Gel electrophoresis was then used with Ethidium Bromide staining to examine banding patterns for genotyping of PCR amplified products. It was shown that all mice DNA isolated samples were positive for FGFR1 Flox/Flox. Three mice (two males/one female) were identified as Nes: Cre positive and FGFR1 Flox/Flox positive. Mating pairs were established for these three double positive mice. They were mated with mice who were homozygous Nes: Cre Recombinase negative to identify genotypes of parents based upon breeding pairs offspring ratios. SOX2 expression is a stem cell ID marker which Tanycyte express. Staining was performed to measure Tanycytes under both conditions. It was found that cKO mice on HFD expressed lower SOX2 positive cells in the Dentate Gyrus and Paraventricular Nucleus of the Hypothalamus.

Title: Evaluation of Physical Fitness and Skill of Collegiate Dancers
Presenter: Alexandra Crovetto
Advisor: Todd Castleberry
Louisiana Tech University
Oral Research Presentation

Collegiate dancers are oftentimes critiqued by their physical composition and visual appeal. To date, no studies have been conducted on the effects physical fitness has on the skill of a collegiate dancer in Hip-Hop, Pom, and Cheer routines. The purpose of this study was to examine the relationship between a dancer's fitness and execution of technical dance skills throughout various routines. Collegiate dancers (*n* = 13) completed nineteen evaluations. The tests were height, weight, Body Mass Index, percent body fat, skeletal muscle mass, body fat mass, waist circumference, hip circumference, leg length for left and right, sit and reach, external hip rotation for left and right leg, hip abduction for left and right leg, Star Excursion Test, Functional Movement Screen, vertical jump, grip strength for left and right hand, passe releve for left and right leg, Wingate, push-ups, and sit-ups. Once evaluations were completed, participants were judged and scored on three dance routines: Pom, Hip-Hop, and Cheer. Through further evaluation of the Star Excursion Test, the anterolateral movement negatively correlated with scores for Pom, Hip-Hop, and Cheer routines. No other relationships were observed between any other variables. A negative correlation between the anterolateral movement of ankle stability and the various routines suggest dancers with less anterolateral stability score higher than those with more anterolaterally ankle stability. Because Pom, Hip-Hop, and Cheer require sharp movements and quick changes in body positioning, a possible decreased angle of pennation may result in higher dance performance.

Title: The Impact of COVID-19 on College Education
Presenter: Samantha Bazil
Advisor: Steve Favors
Grambling State University
Oral Research Presentation

Many colleges were obliged to switch from face-to-face classes to hybrid or online classes because of the

COVID-19 outbreak. The focus of this research was to determine the impact of COVID-19 on college education. In total, 59 Grambling State University undergraduate students were surveyed. Their thoughts on the modifications COVID-19 had made to their educational experience during or before the Fall 2021 semester were evaluated. In the Fall of 2021, a confidential questionnaire was utilized to collect data, and it was administered via Google Docs. From October 21, 2021, to October 25, 2021, it was distributed via WhatsApp and GroupMe. The survey's findings differed from the expectations in some ways. Despite the ongoing COVID-19 pandemic, university students in face-to-face, online, and/or hybrid classes at Grambling State University maintained high scores. Although it was assumed that 75% of people would have a negative impact on COVID-19, just 71.2% said they did. Many students' mental health appeared to be unaffected by the coronavirus pandemic, although many students struggled to pay their tuition and fees. In comparison to the 50% assumption, just 10.5% put no effort into online education. This study improved the understanding of COVID-19's impact; however, a follow-up survey in Spring 2022 with additional students will give more information regarding the impact on a larger scale.

Title: Understanding XML, XSLT Transformations in the Early Ruskin Manuscripts Archive
Presenter: Silvan Pradhan
Advisor: Dr. David Hanson
Southeastern Louisiana University
Poster Research Presentation

Our objective is to develop XSLT that will render XML-encoded transcriptions of handwritten manuscripts into an HTML format for legible study on web browsers. The archive, The Early Ruskin Manuscripts (ERM), is a student/faculty collaborative research project in the Department of English, Southeastern Louisiana University, directed by Dr. David Hanson. The archive showcases facsimiles and edited transcriptions of manuscripts by the nineteenth-century art and social critic, John Ruskin. As its methodology for transcribing and annotating the manuscripts, the project utilizes XML, a text-based encoding metalanguage containing information and meta-information, expressed through tags. While XML follows structural rules, it allows flexibility in devising tags. Therefore, to ensure worldwide consistency in XML-encoded academic projects, in 1994 a consortium of humanists, social scientists, and linguists founded the Text Encoding Initiative (TEI) to standardize text-encoding guidelines for electronic projects, ensuring their interoperability and preservation. Another requirement of TEI is that the XML encoding stand apart from proprietary platforms, including web browsers. Therefore, TEI/XML relies on Extensible Styles Language Transformation (XSLT) to transform XML data into HTML format. This type of transformation specifies the transformation parameters and the location of an XSLT stylesheet, which is applied to the edited XML document. We will meet our objectives successfully if we encode the manuscript transcriptions using well-formed TEI/XML, and if we transform the XML into HTML using XSLT, which we design to enable scholars, not just to read the transcriptions legibly, but also to analyze the text structures and physical characteristics of the manuscripts in depth.

Title: Rebranding the NSU Music Department
Presenters: Devin Gremillion and Mirla Gonzalez Enriquez, MFA
Advisor: Mirla Gonzalez Enriquez, MFA
Northwestern State University
Service Learning Presentation

This specific project is rebranding the identity of the Music Department as part of a graduation project for this Spring 2022 semester. The goal of this project is to attract and recruit students graduating from high school who are interested in some areas of music studies that are not usually advertised within this program. The new concentration is labeled under Music Business; this degree is designed for students interested in music marketing, arts administration, or music production. The project will propose a new brand image for the program producing a new logo and color scheme. We are using Adobe programs to execute this project as well as producing photography that we'll use on advertising. We are designing this new image following guidelines from a previous project that did the new logo for CAPA, Art Department

a few years ago. This new branding, logo was also designed by students in our design program.

Title: Rebranding the NSU Biological and Physical Science Department
Presenters: Gretchen Spier and Mirla Gonzalez Enriquez, MFA
Advisor: Mirla Gonzalez Enriquez, MFA
Northwestern State University
Service Learning Presentation

This specific project is rebranding the identity of the Biological & Physical Science Department as part of a graduation project for this Spring 2022 semester. The goal of this project is to attract and recruit students graduating from high school that are interested in this program. The project will propose a new brand image for the program producing a new logo and color scheme. We are using Adobe programs to execute this project as well as producing photography that we'll use on advertising. We are designing this new image following guidelines from a previous project that did the new logo for CAPA, Art Department a few years ago. This new branding, logo was also designed by students in our design program.

Title: "Displaced"
Presenter: Maxwell Crochet
Advisor: Joseph Holsappel
Nicholls State University
Visual Arts Exhibition Presentation

Hurricane Ida had a huge impact on my life which caused me and my family to relocate temporarily to my grandfather's house. I stayed in an entertainment room for months with only a couch to sleep on and a pool table. The main light source was taken from a vintage bar lamp that hung over the pool table. I wanted to capture the yellow lighting because of how it was affecting its surroundings. The natural tones from my face were manipulated as well as the environment around me. I incorporated another powerful light source that hit my face from another angle. I chose red lighting as a secondary light source because of an irrevocable anger I was experiencing during that time despite the inevitability of the effects of the hurricane.

Title: The Season of Mar
Presenter: ShaMar White
Advisor: Rodrecas Davis
Grambling State University
Visual Arts Exhibition Presentation

My work is based on "The Ascent of Ethiopia" (1932) by Lois Mailou Jones. I like the subject matter and the meaning behind the painting. With my interest I made my own version of her painting. This painting shows black excellence and creativity but in an Egyptian way. You have music being shown with notes and instruments, art with brushes and a man painted and drama with masks and someone performing. With my drawing I used the same blue and green theme from "The Ascent of Ethiopia." Those are two of my favorite colors. I also put things that interest me in the drawing like shoes, hats, and music and anime references. I replaced the sun with a UFO and space background. Although the painting was done in the 1930s, it still has a strong message and meaning today.

Title: "Pegasus" by Hank Levy
Presenters: Joshua Hebert
Advisor: Michael Brothers
Southeastern Louisiana University
Performing Arts Showcase

The University Jazz Ensemble performed this chart as part of a Tribute to Stan Kenton concert on November 4, 2021. This piece is part of a larger recording and video project for submission to outside events and student music awards. This recording and video were from the first of two scheduled sessions on January 28, 2022.

CONCURRENT SESSION A: ENTERTAINMENT MEETS SCIENCE

9:30 a.m. – 10:45 a.m.
Zoom 5A

Title: Wastewater Surveillance
Presenters: John Thomas and Lescia Valmond
Advisor: Paul Kim
Grambling State University
Oral Research Presentation

SARS-CoV-2 is a virus that causes severe acute respiratory syndrome and rapidly spreads through respiratory droplets. It is also excreted in feces and as a result can be detected in the wastewater. Wastewater epidemiology is used to detect the presence of viral molecules at a community level and can provide real-time information about the amount of virus present.

Title: Effect of carbon dioxide enrichment on the post-ecydsial shell-calcification of the blue crab, Callinectus sapidus
Presenter: Yusra Soorya
Advisor: Dr. Enmin Zou
Nicholls State University
Oral Research Presentation

Carbon dioxide (CO2) enrichment in seawater because of increased use of fossil fuels can possibly cause detrimental effects on the physiological processes of marine life due to CO2-induced Ocean acidification. This research project investigates the effect of CO2 enrichment on post-ecydsial shell calcification in Crustacea using the blue crab, Callinectes sapidus, as the model crustacean. Given the fact that shell-calcification of crustaceans relies on a Ca2+, 2 H+ antiporter in the apical membrane of epithelium cells in the gill, it is hypothesized that CO2 enrichment would inhibit Ca 2+ ion uptake, leading to forestallment of post-ecydsial shell calcification. This experiment will use two groups of 10 soft shell crabs each, with one group exposed to regular seawater with a consistent pH of 8.20 and the other group treated with CO2-acidified seawater with a pH range of 7.80 to 7.90. After a period of 7 days, samples of exoskeleton, hemolymph, gill, and hepatopancreas will be collected from the surviving acclimated crabs. These samples will be used to quantify the amount of calcium and magnesium in the shell with the use of the ICP-OES instrument. It is expected that the calcium and magnesium content in the shell of the experimental group tissues will be lower than that for control group.

Reconnaissance, Inter-Aircraft Combat, Bombing, and Close Air Support: The Development of Airpower and Airpower Strategy During the First World War
Presenter: Lauren Guillory
Advisor: Dr. Craig Saucier
Southeastern Louisiana University
Oral Research Presentation

The First World War began just over a decade after the first powered flight of a heavier-than-air aircraft, yet it established the four critical roles of reconnaissance, inter-aircraft combat, bombing, and close air support for airpower that would see their full potential in the Second World War. Reconnaissance was the first role for airpower that the various militaries envisioned. Prior to the outbreak of the war, the militaries of the European Great Powers included reconnaissance in maneuvers, establishing a solid foundation for early reconnaissance flights in the war, later augmented by the development of powerful cameras. Inter-aircraft combat developed out of the effort by the belligerent powers to prevent enemy reconnaissance planes from flying over their territory. This role spurred the invention of faster aircraft armed with machine guns and gave rise to the popular mythology surrounding the aces. Bombing, like reconnaissance, developed early in the war, but it was not highly effective due to technology restraints. The war saw the development of strategic bombing to inhibit one's opponent's ability to conduct war and to frighten the civilians into demanding peace. Close air support was the last to be developed and remained underdeveloped until the Second World War. The three main Western European powers - Britain, France, and Germany - each developed comprehensive strategies to utilize airpower that emphasized either offensive or defensive deployment and adapted those strategies to meet the demands the war placed upon them.

Title: The Effect Peer Mentoring Has on Mindset
Presenter: Hiba Fazal-ur-Rehman
Advisor: Sherry Krayesky-Self
University of Louisiana at Lafayette
Oral Research Presentation

This presentation provides background information and details regarding a future project of mine. The project revolves around the concept of mindset and how assuming a role as a peer mentor impacts the mindset of students at the University of Louisiana at Lafayette. Thriving is the focus point of my project in regards to mindset. Dr. Laurie Schreiner defines thriving for college students as being engaged in all aspects of university life, including academically, socially, etc. The peer mentors who will be the subject of this project are mentors from a university organization called Academic Mentoring Matters (AMM). AMM serves as a free peer-to-peer tutoring program for students in biology, chemistry, computer science, and psychology courses. My proposal and application have been sent to the IRB to be approved before I can begin. I have also completed the survey that will be answered by peer mentors. Along with the survey responses, I will also ask for access to GPAs. This will allow me to gain a more holistic view of individuals and draw more accurate conclusions about them in regards to thriving. This project will give insight into the ways in which being a peer mentor affects the mentee. This could result in helpful structural manipulations to organizations on campus or even in classrooms.

Title: Bias in Disaster News Coverage
Presenter: AnaClare Barras
Advisor: Tracy Standley
McNeese State University
Oral Research Presentation

In times of crisis, society relies on reporters and journalists to give us the information we need. As disasters and emergencies are becoming more commonplace and more devastating in our world, we place our faith in journalists and reporters to accurately and honestly report the news. During these times of emergency, journalists often convey a bias when covering a disaster, which influences their selection of information and the sources they choose to include. This study delves into the news coverage surrounding Hurricane Katrina in New Orleans, Louisiana, in 2005, from 5 major news organizations. A content analysis was conducted with a convenience sample accessed through the McNeese online library database. It was revealed that much of the news coverage during and after Hurricane Katrina was wildly biased, based on these sources. Journalists allowed emotionally-driven

rumors to find a place in their news reporting without doing any fact checking. Rarely did these reporters seek proof for any of these outrageously exaggerated claims. This is a prime example of bad journalism. Though some of these highly dramatic rumors may have occurred, despite the lack of evidence, they were reported in such a way to lead the public to believe these instances were rampant throughout the area of New Orleans, rather than isolated incidences of tragedy. Many of these news organizations later issued apologies and corrected their mistakes. Though it is only human to feel some bias, it is the duty of journalists to seek the truth and report it, which, after the tragedy of Hurricane Katrina, many journalists failed to do.

Title: Feminist and Gendered Rhetoric is Disney's *Frozen*
Presenter: Holly Penta
Advisor: Dr. T. Davina McClain
Northwestern State University
Poster Research Presentation

Frozen contains strong female characters and emphasizes the importance of sisterly relationships and love while exploring forgiveness. The movie is portrayed as a highly feminist movie and the main characters, Ana and Elsa, are seen as strong female role models for children. Some aspects of the movie are huge improvements to the standard Disney princess model, namely, the romantic relationship between Ana and Kristoff remains a subplot and neither Ana nor Elsa is saved by a man. However, upon careful analysis of Ana and Elsa based on character design and personality and an analysis of plot points reveals that even though Disney's intention was to be more feminist, *Frozen* is still tainted by sexist rhetoric and ideas. Feminist rhetoric, narrative, and intertextuality, specifically presupposition, are used heavily in the analysis. The focus is on analyzing gendered rhetoric and viewing the movie through a feminist lens.

Title: Synthesis and Biological Evaluation of Pyrazoles, Isoxazoles and Pyrazolones: in vitro Cytotoxicity Studies on Human Melanoma and Non-melanoma Cancer Cells
Presenters: Uchechi Owunna, Ramesh Bista, Samuel Boateng, Tithi Roy, Jean Christopher Chamcheu, and Siva Murru
Advisor: Siva Murru
University of Louisiana at Monroe
Poster Research Presentation

Skin cancers are high-risk and aggressive type of cancers with a rising incidence of new cases with a high number of deaths. Current therapeutic interventions are associated with side effects, cost invasiveness, and bioavailability issues. These challenges necessitate the continued development of novel anti-cancer agents. When designing anticancer molecules, heterocycles are a good choice as they have the ability to interact with targets and disrupt the biological pathways associated with cancer progression. Moreover, the relative ease in modifying pyrazole and pyrazolone rings with additional substituents allows them to cover a broad area of chemical space. Accordingly, we chose to develop microwave assisted synthetic methods to access these highly useful heterocyclic compounds. We have developed two alternate approaches for 1,3-diaryl pyrazoles i.e. microwave assisted and metal catalyzed approaches. We have initially developed an efficient microwave assisted synthetic approach by optimizing the reaction conditions such as solvent, microwave power, and reaction time. A series of pyrazole compounds were prepared using arylhydrazines and dicarbonyl compounds. With the goal of achieving higher regio-selectivities, we have developed a room temperature Co-catalyzed approach. All the synthesized compounds were evaluated for in vitro anti-cancer activity against melanoma (GFP-A375 and SKMEL-28) and non-melanoma (GFP-A431 and SCC-12) cell lines with HaCaT keratinocytes as a control. Some of the compounds exhibited significant decrease in cell growth/viability compared to positive controls Celecoxib and Cisplatin.

We have synthesized and evaluated a series of pyrazole and pyrazolone compounds, and identified a set

of potential anti-cancer agents.

Title: Diabetes Awareness through Social Media
Presenter: Brianna Giles
Advisor: Dr. Paul Kim & Dr. Suzanne Mayo-Theus
Grambling State University
Oral Research Presentation

As of 2021 the seventh leading cause of deaths in the United States is diabetes. Diabetes is a chronic disease that affects how your body takes the foods that you eat and turns it into energy for your body to use. Once the food in your body is broken down into sugar it is released into your bloodstream and is known as blood sugar. When your blood sugar increases it signals your pancreas to release insulin. Diabetes occurs when the pancreas can no longer make insulin or when the insulin that is produced by the pancreas is not properly utilized. Although there is no cure for diabetes, it can be controlled, which is why it is important to be aware and spread awareness of one of the leading causes of death in the United States. Through social media and networking, I will be bringing awareness against diabetes to my peers at my university. In order to prevent or control diabetes it is ultimately a lifestyle change that can be difficult for most. To help motivate my peers I will be sending out daily quotes, meal preps, and exercise routines via social media platforms such as Instagram and Twitter. November is known as diabetes awareness month, but it is important to bring awareness all year long. “November in March” is a diabetes awareness event that I will hold in the cafe where students are able to learn more information about this disease.

Title: “Faire Le Marché”
Presenter: Emma Lefevre
Advisor: Trisha Rabalais
Nicholls State University
Visual Arts Exhibition Presentation

This is a branding project for a festival that is to take place in New Orleans. The name of the festival “Faire Le Marché” is the original roots for the phrase “makin’ groceries.” It is a festival to celebrate the history and produce of the French Market. The inspiration and technique used for creating this project came from hand painted grocery store signs. Developing and using the technique to paint the signs was a large part of this project. The target audience is people looking for locally grown groceries and those wanting to learn about the history of the city. To create the design, paper, paint, and brushes were used in a hand painted lettering style.

Title: Festival Poster
Presenter: Avonlea Cooper
Advisor: Tom Galmarini
McNeese State University
Visual Arts Exhibition Presentation

The piece focuses on a poster campaign for the SWLA Hot Air Balloon and Camping Festival.

CONCURRENT SESSION A: HISTORY AND CLASSICS

9:30 a.m. – 10:45 a.m.
Zoom 6A

Title: Hollywood’s Whitewashing of the American West
Presenter: Kelsi Chapman
Advisor: Linda Martin
Nicholls State University

Oral Research Presentation

From its inception in 1910s In Old California, the western film genre has featured an all-white cast of cowboys. Despite the rich history of Spanish, Mexican, African American, Native American, and Chinese cultures in the American west, their stories are either misrepresented or entirely ignored. “Cowboy Culture” in Hollywood shorthand is identified by a pair of spurs, a lasso, a lariat, a bandana, and the one essential: the cowboy hat. These tools of the cowboy trade were first introduced by Spanish Colonialists. None of the first cowboys was white. Ranch owners were Spanish and ranch hands were Native Americans. Two-hundred years later as Americans pushed west, one in 3 cowboys was a vaquero; one in 4 was African American. The iconic Hollywood Cowboys, however, are John Wayne, Gary Cooper, Alan Ladd, James Stewart, all white, to the man. Black frontiersman, Britt Johnson, was played by John Wayne in The Searchers. Tomahawk features a character based on Black frontiersman Jim Beckwourth yet cast by white actor Jack Oakie. The Lone Ranger, based on the first Black U.S. Deputy Marshall, was cast in all his iterations, big screen and small, by white actors. When people of color were cast in these mid-century Westerns they were often there to serve as blood-thirsty antagonists to support the Cowboy-as-hero mythology. When cast as servants or faithful sidekicks, their characters supported the White Savior narrative. Collectively, these Hollywood Western tropes paint a very white picture of the American West.

Title: Investigation of Synthetic Pathways to Strictly Control Size in the Growth of Strontium Titanate Nanoparticles
Presenters: Jakob Schanzer, Alexis Blanco, and John Wiley
Advisor: John Wiley
University of New Orleans
Poster Research Presentation

Strontium titanate nanoparticles have been extensively studied for various applications including those in photochemistry and catalysis. An investigation into synthetic pathways to control the size distribution of strontium titanate nanoparticles was performed using various levels of surfactant, oleic acid. It was found that nanoparticles of a desired size (approximately 25 nm) and cuboid-like structure were attainable by modifying the ratio of surfactant to starting material by approximately 10:1. Additionally, pathways using precursors of strontium acetate and strontium nitrate were investigated, where the strontium nitrate precursor produced a more monodispersed solution when compared to strontium acetate. Investigations are currently being performed as to whether changing to a different surfactant or a mixture of two surfactants will improve monodispersity. Results for the various reaction steps will be presented and the influences on maximizing monodispersity discussed.

Title: The influence of soil composition on the persistence of nine of common herbicides used in Southeast Louisiana soils
Presenter: Dallas Bergeron
Advisor: Dr. Darcey Wayment
Nicholls State University
Poster Research Presentation

Herbicides are widely used to control unwanted plant growth in crop fields, and it is important to know the rate at which they degrade in soil for use in agriculture. Herbicide persistence in soil depends not only on microbial growth, but also on soil properties such as soil composition (relative amounts of sand, silt, and clay), and the organic-matter content. Clay is more likely to bind organic molecules and water due to its makeup of very small particles compared to silt loam, which is made up of larger particles and smaller clay content. This project investigates the persistence of common herbicides used in Southeast Louisiana sugarcane fields and, in particular, the role that soil composition plays with regards to two different soil types, by monitoring herbicide levels over time. The two soil types are silt loam and clay and the nine herbicides used were mesotrione, sufentrazone, metribuzin, hexazinone, flumoxazine, diuron, metolachlor, pendimethalin, and trifluralin. These herbicides vary in their water solubility (0.22-

10,700 mg L-1) and in their LogP values (0.11-5.40). The experiment was conducted under laboratory conditions; soil samples were analyzed for herbicide levels at eight different time points over a span of 100 days. The herbicides in the soil samples were extracted with acetonitrile and analyzed in triplicate using high performance liquid chromatography (HPLC) with gradient elution, acetonitrile/water (0.02% TFA) and UV-Vis detection. Method validation results were excellent with recoveries ranging from 93% - 106%. These results will help area sugarcane growers better understand the efficacy of these herbicides.

Title: Postcards From Home
Presenter: Nohemi Montelongo
Advisor: Cristina Molina
Southeastern Louisiana University
Visual Arts Exhibition Presentation

Postcards from Home is a current work of art created with stop-motion. This documentary-style video is meant to inform and educate viewers about topics surrounding Mexican culture and the immigrant experience. A focus on language, assimilation, and identity are themes that are present throughout the five-minute video. Personal artifacts, primarily photographs, cloth materials, and kitchenware from the interviewee are used in this animation to richly tell the narrative. This is the first part of a short series I will continue working on with other immigrants.

Title: The Great Loss
Presenter: Larrencia Smith
University of New Orleans
Visual Arts Exhibition Presentation

I simply chose the Cerulean Warbler because of the dramatic decline in their population over the last 40+ years. Cerulean Warblers tend to nest in mature eastern deciduous woods and spend the winters in South America's Andes. Because of the constant habitat destruction, their populations have plummeted substantially. Cerulean Warblers are now uncommon, due to their numbers decreasing by 72% between the years of 1970 and 2014. In my painting, the Cerulean Warbler is just making a small pit stop on a Bourbon Street street sign. It might look incomplete because the light post isn't fully colored in, and the beads aren't colored in. The reason for it is to symbolize the population fading away and it will unfortunately become a distant memory--almost like the coast of Louisiana will soon become... (painting submitted for consideration for larger mural on campus in the spirit of the Audubon Mural Project).

Title: "Over the Rainbow" by H. Arlen (arr. Miyagawa)
Presenters: Jake English (graduate assistant); on Euphonium are
Remi Blanchard, Rafael Melgar Caceres, Dr. John Dunn, Jordan Elliot, Jake English, Manuel Riego Fernandez, Austin Head, Emily Murphy. And on Tuba are Taylor Carrell, Barrett Hodgson, Ivan Longoria, Ethan Maynard, Koral Richard, Caleb Santora
Advisor: Masahito Kuroda (and director of the low brass ensemble)
Northwestern State University
Performing Arts Showcase

"Over the Rainbow" by Harold Arlen was made popular by the singing of Judy Garland in the 1939 movie "Wizard of Oz". We decided to perform this beautiful arrangement, because of the powerful and moving message this music holds. It speaks of the power of hope and to be able to look beyond the current situation to know the life, our life, will get better. Having to live through the past 2 years with the pandemic was difficult on everyone. We all experienced the hardship or loss, and perhaps at times, the feeling of losing hope. For us it was the loss of hope that we might not be able to play live music again with fellow musicians for the people who loves to listen to. Despite this feeling, we gradually began to see the light at the end of the tunnel. NSU Euphonium-Tuba Studio has, despite all odds, produced musical performances through the pandemic. In the beginning, we were a virtual ensemble participating

international virtual performance projects such as “Song for Health” by Dutch composer Steven Verhelst. Slowly, as we return in person, all six-feet apart with mask and bell covers, still limited live audience, restriction began to lift, and we were able to perform more. The hope was returning. As the live performances increased and live audience grew, our hope grew as well. Now that we can perform on stage again, we can pay tribute to that feeling of hope, that somewhere over the rainbow, our troubles will melt away. And we will all experience the hope again. Please enjoy Northwestern State University Euphonium-Tuba Ensemble performance of “Over the Rainbow”.

CONCURRENT SESSION B: THINK IT, BUILD IT, LAUNCH IT

11 a.m. – 12:15 p.m.
Zoom 1B

Title: RockOn! Workshop at McNeese State University
Presenter: Canlin Patrick Dionne
Advisor: Dr. Zhuang Li
McNeese State University
Oral Research Presentation

A McNeese team of three, one faculty advisor and two students, completed the RockOn! payload design in 2021 sponsored by the Louisiana Space Consortium. Due to the COVID-19 pandemic, this year’s RockOn! program was virtual. The team received all the materials in April 2021. Even though McNeese State University was still under reconstruction after the two major hurricanes in fall 2020, the three members completed all the online training sessions and system integrations in less than a month. The rocket payload was launched at NASA’s Wallops Flight Facility in the Terrier Improved Orion Sounding Rocket on June 25, 2021. The rocket was reached a height of 73 miles. The rocket payload recorded data for 6.4 hours including temperature, humidity, pressure, accelerations, flight orientation using a gyroscope, and radiation levels using a Geiger counter. The payload was mailed back to McNeese in July. Students analyzed the data and wrote a report detailing the results and analyses. Through such a hands-on program, the McNeese team gained knowledge in sensors, microcontroller, electronics, power supply, and mechanical design.

Title: The Haunted Halls of UNO
Presenter: Norman Bennett
Advisor: Dr. Ben Samuel
University of New Orleans
Oral Research Presentation

The Haunted Halls of UNO is a mixed reality application made for the Hololens 2 device. This free roaming app enables the user to experience a virtual haunted house while walking the halls and rooms on the 3rd floor of the Math building at UNO.

Title: Development of Project Night-Lite
Presenters: Cesar Catin, Christian Hughes, Kalan Washington, Cordarius Banks, Russel Washington, and Pittman Wright
Advisor: Lane Elien
Grambling State University
Oral Research Presentation

As part of the requirements of ETC430 Senior Project II course at Grambling State University, our team of students has developed Project Night-Lite with the objective of honing their skills in the areas of circuit design, fabrication, and product development. Project Night-Lite is designed to be used on a night stand

to provide moderate light in sleeping quarters. It has a simplistic design and provides red, green, blue, and white light which can also be programed via Bluetooth for additional features. In this work, the team conducted market research and a literature review, to compile project references and select features for their product. The system design and specifications for the project guided the process of component selection, circuit design, simulation, PCB design, PCB fabrication, package design, and 3D printing. The result is a prototype that fully implemented the features of the product idea. The design consists of a 3D printed package, custom DC power supply, custom LED board with led drivers, a microcontroller, and Bluetooth module. The methodology used was the iteration of the process: design, simulate if possible, complete analysis, fabricate, test, and integrate. The results of efficiency testing, impact testing, thermal testing were obtained. Development costs, recommendations for future work, and cost projections for mass production were then completed.

Title: Remote Observer of Many Interesting Events-4 (ROOMIE-4) LaSPACE-LaACES Student Ballooning Project
Presenters: Bryce Henry, Ethan McMullan, and William Lamonte
Advisor: Dr. Ahmad Fayed
Southeastern Louisiana University
Oral Research Presentation

The objective of this project was to design a balloon payload that utilizes sensors for taking temperature, light, pressure, and humidity readings at the edge of the atmosphere (around 100,000 ft). To accomplish this goal, the team needed to develop a system that interprets input from multiple sensors and stores that data for analysis upon return of the payload. The team also needed to design a suitable housing for the payload that can withstand the extreme temperature and pressure of space, as well as the rigorous turbulence of flight. In the process of completing this project, team members have developed many useful skills such as soldering, electronics, Solidworks, programming, and 3D printing. This project also provided students with experience in working on a team, which they will be able to utilize in their engineering careers. In this project, team members are working with the Louisiana Space Grant Consortium (LaSpace), which is a NASA-adjacent organization focusing on the advancement of Aerospace technology. Upon completion and proper testing of payload, the team will travel to the NASA Columbia Scientific Balloon Facility in Palestine, Texas to launch their payload.

Title: Cu/Ni and Cu/CuNiCo Bilayer Interfaces
Presenter: Peter Ford
Advisor: Xiang Chen
Louisiana Tech University
Oral Research Presentation

CCAs are emerging alloys with multiple elements mixed in high mole fractions, typically between 5%-35%. Due to their highly disordered lattice structure, CCAs promise high yield strength with acceptable ductility caused by high lattice friction. In general, dislocations are ubiquitous line defects in crystalline materials essential in determining their mechanical properties like strength and fatigue resistance. The behavior of dislocation motion, however, is highly dependent on material's microstructures such as the heterophase interfaces pertinent to the precipitation/dispersion hardening in CCAs. In this work, we conduct Molecular Dynamics simulations to investigate, at atomic scale, the details of dislocation-interface interaction and the resulting stress-strain relation. The model material system is a face centered cubic (FCC) structured ternary CCA – CuNiCo, layered with Cu single crystal to form a Cu/CuNiCo bi-crystal. For comparison, a non-CCA bilayer Cu/Ni is also studied. Mechanical loadings are applied to both systems and then the systems are relaxed. When the simulation results are viewed, it shows the two bilayer systems share almost identical elastic behavior but have dramatic differences in their plastic responses. One major difference is the CCA bilayer interface tended to have more "rugged" dislocations opposed to smooth dislocation lines of the non-CCA interface. These results provide insight into

designing future CCAs prime for studying. We can use this methodology to do further studies into different CCA interfaces and material systems.

Title: Aeromonas spp. Prevalence in Natchitoches, LA Waterways
Presenters: Kristin Smith and Brianna Winston
Advisors: Dr. Jerry Brunson, Dr. Li Ma, and Mr. JD Cox
Northwestern State University
Poster Research Presentation

Aeromonas species are gram-negative, hemolysin positive, facultative anaerobic bacteria shown to infect several species of aquatic life, mainly fish. The Southeastern United States catfish industry alone loses millions of pounds of fish annually due to Aeromonas infection which is a major concern for Louisiana's $5 million annual fish industry. Therefore, our objective for this study was to determine the prevalence of Aeromonas species in four major waterways in and around the city of Natchitoches, Louisiana to determine whether they are reservoirs of Aeromonas spp. that could lead to infection of local fisheries. The identification and isolation of waterway bacteria were accomplished through plating on Ampicillin-dextrin agar and Matrix-Assisted Laser Desorption/Ionization-Time of Flight (MALDI_TOF) analysis. Statistical analyses were performed using ANOVA, student t-test, and Bonferroni multiple comparisons to gather concentration data of Aeromonas species in these waterways. Results showed that Aeromonas had the highest prevalence in surface sampling for two of four waterways, Sam Sibley and Cane River Lake. Of the total Aeromonas species isolated from the waterways, *A. jandaei, A. veronii,* and *A. hydrophila* were the most prevalent alongside *Pseudomonas aeruginosa*. A Polymerase chain reaction of the 16s rRNA region was done to confirm the results of the MALDI-TOF of those four species. Results from our gel electrophoresis confirmed the purity and concentration of our PCR products. Future directions will investigate antibiotic sensitivity profiles of select strains, and the use of bacteriophage and antibiotic combination therapies to reduce fish loss and the economic impact of Aeromonas.

Title: Digital Forensics
Presenter: Loindsay Jaiyesimi
Advisor: Y B Reddy
Grambling State University
Poster Research Presentation

Digital forensic science is a field of forensics that focuses on the recovery and investigation of materials and data that are found in digital devices related to cybercrime. The main goal for digital forensics is to identify, preserve, analyze, and document digital evidence. The evidence found is important and is frequently used in the court of law. Digital investigators face challenges within their field, some of which include the rising volumes of data that needs to be collected and analyzed, along with the increase in anti-forensics techniques. The goal of my research is to advance digital forensics tools to handle multiple phases of forensics and collect big data. The system developed can collect reconnaissance information, decrypt data that is encrypted, and perform object detection on the images collected. To further this research, I also integrated the developed system with Cloud native serverless platform. Advantages of this integration include simpler build, compile, and deployment of code as well as improved latency, lower overall expenses, improved scalability of recourses, and reduced overhead and backlog of data.

Title: Choudrant Master Plan: The Pursuit of Smart Small Town Growth
Presenters: Jenna Roblee, Ashley White, and Yuan Zhou
Advisor: Robert Brooks
Louisiana Tech University
Service Learning Presentation

The third year for architecture students, at Louisiana Tech, across the board is the most memorable. The winter and spring quarters make up the Design-Build studio: an immersive experience that is extremely

different from the usual architecture studio. Design-Build takes all the skills one has learned so far and uses them to physically produce a design for a real client. Up until this point our projects in architecture have been exclusively hypothetical; Design-Build gives us the opportunity to bring our ideas into the real world. In 2021, the studio went beyond a single design and construction project to identify future project opportunities working with the Village of Choudrant on a long-term vision for their community. Although originally exclusively a design project, the Choudrant Master Plan was so well received that it has given Design-Build a wide variety of future project directions. Our presentation will explore how this style of service learning allowed our project to be a catalyst for smart growth in this small community and uniquely impactful opportunity for our team.

Title: The Roof
Presenters: Rowan E Lambert, Lydia Barbry, Larrencia Smith, & Courtney Harris
Advisor: Kathy Rodriguez
University of New Orleans
Visual Arts Exhibition Presentation

The purpose of this study was to replicate a non-objective image mixing chromatic blacks. I learned color mixing, how to create values, and how different applications of brush strokes and paint create movement on the canvas. I first applied titanium white with a fan brush using swift strokes to mimic the sky. The “concrete” body on the lower left of the painting is tinted blue, red, and green chromatic black. The shadows on the cylindrical forms are tinted red, while highlights are tinted blue. With part of a sponge, I dapped titanium white across the main “concrete” body. This was meant to replicate the grainy texture in the reference image. I applied the darker, intersecting lines last. I reapplied more layers of titanium white with a fan brush, this time tinted with yellow.

I explored how even the orientation of the painting can change how it is perceived. I saw the white negative space as a door when the painting was vertical, but now as horizontal, I saw a window. I felt that the white negative space would benefit from a “subject” to create more depth within. In order to stay true to the objectives of the study, I continued to use non-objective, abstract shapes with color. The red, blue, and yellow adhere to the primary colors needed to mix chromatic blacks. This study helped me find meaning in abstraction, as well as how the application of subtractive color represents form on a two-dimensional surface.

Title: History Vessel
Presenters: Virginia Tyler
Advisor: Daniel DiCaprio
University of Louisiana at Lafayette
Visual Arts Exhibition Presentation

My work explores the ideas of personal history in the ways that family influences impact who we are. We are the experiences we have had, as well as the stories of relatives before. Sometimes the relatives we have never met are the ones that have had a say in our history the most. It is an odd feeling to value the choices they have made without knowing any alternative outcomes. My work expresses this by developing my connections to the past through vessels and images.

Title: Tsunami: 2021 Mazda Art Car Design Winner
Presenter: Bess DeFord
Advisor: L.Collier Hyams
Northwestern State University
Visual Arts Exhibition Presentation

This project was the winner of the 2021 Mazda Art Car Design competition. I was inspired by “The Great Wave of Kanagawa” but I decided to take a simpler approach in order to modernize the design. The

process wasn't too complex. I first drew on the design and then we all painted many layers of black around the design. Once we added in the color we outlined each section of the wave in order to get a more cartoon look. Overall I think my vision for the car turned out fairly well.

CONCURRENT SESSION B: GROWTH AND CHANGE

11 a.m. – 12:15 p.m.
Zoom 2B

Title: Food Science Students Design Disease Specific Oral Supplements Using Curricular Knowledge
Presenter: Brittany Burford
Advisor: Simone Camel
Louisiana Tech University
Poster Research Presentation

Future Registered Dietitian Nutritionists' education aims to develop critical thinking, research, and practice skills. Advanced Food Science students were tasked with designing affordable, oral supplements with expanded flavor profiles by integrating of food science, medical nutrition therapy, food service, and research concepts. Supplements were formulated to provide specific nutrient profiles for disease conditions, analogous to commercial products. Recipe standardization, sensory evaluations, data analysis, and reformulations were performed. External students and faculty participated in sensory evaluations over three laboratory periods. Target nutrient goals met, improvements in sensory scores, and ease of preparations were evaluated. Sensory evaluations for 17 supplements included an average of 13 panelists. Overall supplement ratings (range: 0-5) improved 30.5%. Nutrient and cost targets were met by 40-50%. Ease of preparation (summed number of ingredients and preparation steps) averaged 7.79 (range: 6-11). The most frequent number of preparation steps was six (36.84%). An average of 1.5 specialty ingredients per supplement were included in final recipe formulations. Faculty evaluations noted that 58% of recipes could be altered to further decrease costs. Students' reflections indicated additional value found in the project, commenting: "The most valuable aspect of the research project was the opportunity to apply my knowledge to a real-world scenario. It showed me what I am capable of as a dietetic student," and "the creative flavors made us all think outside the box for substitutions and flavor additions" and "It was one of the hardest classes I have taken and I felt extremely challenged to do better all the time."

Title: An analysis of 3D printing materials for Generative Design applications
Presenter: Richard Williams
Advisor: Mehmet Bahadir
Southeastern Louisiana University
Oral Research Presentation

Additive manufacturing (AM), also known as 3D printing, is a fabrication method that creates parts layer-by-layer based on the shape information provided as a Computer-Aided Design (CAD) file. Any 3D CAD model created using a CAD software program can be 3D printed regardless of how complex the shape is. However, the printing orientation of the parts with respect to the build plate directly affects the orientation of layers which causes the parts to have an anisotropic structure. The aim of this study is to identify the mechanical characteristics of 3D-printed parts at different printing orientations. For this purpose, standard test coupons, according to ASTM 638, were created at 0°, 30°, 60°, and 90° orientations using Fused Deposition Modeling (FDM) and Stereolithography (SLA) 3D printing technologies. Nylon, ABS, microfiber-reinforced nylon, continuous fiber-reinforced nylon, and photosensitive polymer were selected for printing materials. Mechanical characteristics of 3D printed parts were evaluated through tensile testing. The tensile testing of the printed parts showed that the print orientation affects the tensile strength and total deformation of 3D printed parts with FDM technologies. The effect is more significant when the print orientation changes around the short edge

than orientation changes around the long edge. The printing orientation did not significantly impact the strength of parts printed with the SLA technology. The results of this study will help design engineers and researchers be able to employ appropriate 3D printing technologies for the materials selected and determine a better product shape and printing orientation.

Title: Conflicting Gender Roles and Androgyny in James Joyce's *A Portrait of the Artist as a Young Man*
Presenter: Eva Hosking
Advisor: Jana Giles
University of Louisiana at Monroe
Oral Research Presentation

In James Joyce's novel *A Portrait of the Artist as a Young Man*, the main character, Stephan Daedalus, is depicted as growing up and changing throughout many years of his life. Like with many adolescents, this growth comes with a search for identity. During this search, Stephen more or less accepts the gender stereotypes that are imposed on him within the patriarchal society he was born in, but as the novel progresses, Stephen is shown by Joyce to diverge from these gender roles. The reader can see this in the way he acts towards masculinity in his younger years and in the way he relishes in the beauty and comfort of the women around him. He looks to the women as being closer to heaven, but in reality they are showing him the positivity in being open to his own emotions. On his journey to becoming an artist he starts to embrace this concept. He begins to realize and question his own androgyny in the mix of male and female gender roles that he exhibits attributes of. Through connections to both Simone de Beauvoir and Sigmund Freud, this essay analyzes how James Joyce suggests that the reality of the complete conformity to a gender role is unlikely and displays how the confinement of gender roles and their expectations can have a very negative impact on different individuals growing up within this type of patriarchal society.

Title: Identifying Endolithic Community Members from Inside Rhodolith Forming Coralline Algae
Presenter: Robert Collier
Advisor: Sherry Krayesky-Self
University of Louisiana at Lafayette
Poster Research Presentation

Rhodolith Forming Coralline Algae create a microhabitat for various stages of single-celled algae, haptophyte and dinoflagellate, life cycles. Molecular cloning techniques are a cost-effective way to determine the presence of single-cell inhabitants endolithically in rhodoliths. Bacteria *E. Coli* cells were transformed with amplified DNA extractions from internal rhodolith materials. *E*. *coli* cells containing vectors have shown positive PCR results with tufA primers. With sequencing and analysis of sequences currently taking place, further research should be performed using other primers such as cox1 and UPA primers to provide further evidence of the endolithic inhabitants of the rhodoliths.

Title: An Effective Machine Learning Method to Predict Residues of DNA- and RNA-Binding Protein
Presenter: Aasish Rijal
Non-presenting Collaborator: Md Wasi Ul Kabir
Advisor: Md Tamjidul Hoque
University of New Orleans
Poster Research Presentation

DNA- and RNA-binding proteins have diverse roles in various biological processes. Their functions include controlling transcription and translation, DNA repair, splicing, apoptosis, and mediating stress responses. DNA- and RNA-binding proteins are important for biological research and understanding many diseases' pathogenesis, yet most of them still need to be discovered. This study aims to develop a machine learning method to accurately predict DNA- and RNA-binding residues. To develop the model, various properties of the protein sequences, such as amino acid type, physicochemical properties, PSSM values

of amino acids, structural properties, torsion angles, and disorder regions, have been studied. We follow the pipeline of developing an optimum machine learning method which includes feature engineering, feature selection, parameter optimization, experiment with different machine learning (ML) methods, and ensemble ML methods. To evaluate the proposed method, we have used two independent test datasets. The experimental results show that the proposed method outperformed the state-of-the-art methods.

Title: W3.CSS - What is it? How does it work?
Presenter: Kelsey Davis
Advisor: Dr. Minh Huynh
Southeastern Louisiana University
Poster Research Presentation

The purpose of this study is to explore what W3.CSS is, demonstrate how it works, and explain why it is better than CSS. W3.CSS is a modern Web development framework of CSS. It offers users many simple but powerful ways to enhance the appearance as well as the functionalities of websites. Its ease of use is perhaps most noticeable when comparing with CSS. The examples from this presentation will provide a good comparison between CSS and W3.CSS. While CSS is complex and strenuous for new users to learn, W3.CSS offers an alternative way to achieve a professional web design level without the cumbersome and difficult coding. The best way to learn W3.CSS is learning by doing, often known as prototyping method in Computer Science. The simple WebApp presented is an example and a result of prototyping a web page with functionalities of an App. The aim is to showcase how W3.CSS was used to build a WebApp with less code but not with less features. W3.CSS is a great framework for website development. Its flexibility and ease of use are among W3.CSS's advantages. Furthermore, W3.CSS and its powerful library are built to work with Javascript and HTML so much time can be saved in the development of powerful yet simple web applications. W3.CSS is also useful for responsive Web design because it works well on almost all of the browsers running on all different devices including PCs, MAC, and smartphones.

Title: Art is Healing
Presenter: Ms. Kim Jones
Grambling State University
Service Learning Presentation

After a spate of traumatizing violence occurred on campus during after-hours social events on one of the most popular weekends of the year, the impact it had on students was swift and engulfing. The mood across campus shifted 180 degrees, from feelings of festivity to those of solemnity, fear, and anxiety. Students' sense of security had been shattered, which led many to immediately return home at the request of worried parents. Those students who remained on campus were grappling with unprocessed feelings triggered by the tragedy which laid bare the negative repercussions of the pandemic. This was the environment that I asked the class to reconfigure their scheduled individual performances to reflect what they and/or their peers were grappling with in varying degrees. Each student performed using the artform of their choice: dance, acting, and/or singing. Their target audience was the campus community. Their work addressed issues dealing with themes on depression, loneliness, feelings of guilt, lack of self-confidence, low self-worth, fear, and/or an inability to really connect with others who understood them. Student Counseling Center contact information, posted on cards, were handed to audience members. The experience was cathartic for the students' performers. They became aware that the acknowledgement of their negative emotions amidst the backdrop of what had occurred on campus, was the first step towards healing.

Title: Reimagining the Food Pantry Experience at Louisiana Tech
Presenter: Abigail Hennington and Emery Johnson
Advisor: Simone Camel

Louisiana Tech University
Service Learning Presentation

Food pantries are becoming common across U.S. college campuses, and Louisiana Tech University is no exception. Individuals experience emotions of shame, embarrassment, and awkwardness when accessing a pantry and often feel that healthier food options are not possible. Stigmatization is also a concern of those needing assistance. This project aimed to minimize these emotions by creating a pantry environment that supports dignity and a "food shopping" experience with options. It also sought to improve the functionality of the pantry footprint with the key goal of enabling students to move freely throughout the pantry and to have food options seen easily. To do this for the Good Nutrition Food Pantry, we utilized color theory and nudge theory, and were guided by the theory of planned behavior. A student team, one Nutrition and Dietetics and one Architecture major, interviewed key stakeholders and collaborated with faculty to develop a plan for reimagining the pantry. The proposal included reorganization of shelving and cabinetry, color scheme alterations, workflow improvements, relocation of cold storage, and creating a project priority list sensitive to available funding. The plan also designated space for display of education materials as well as a shopping bag station. Floating shelves and integrating pull-out worktables are proposed. A visual rendering of the recommendations and priority lists were presented to collaborators with positive results. Implementation will not only improve the functioning of the pantry but will also help to bridge the gap between individuals' longing for food security and wanting to maintain dignity.

Title: Joy Pop
Presenter: Leasha Hillhouse-Bartnick
Advisor: Deborah Lillie
Nicholls State University
Visual Arts Exhibition Presentation

Finding joy in simple things is open to interpretation as joy for one individual may not be the same for another. Does one find joy in taking a moment of stillness or by walking through the vibrant streets in a city? Finding joy in simple things, for me, is the sensation of being enveloped in immense happiness. Whether it is seeing a squirrel cross the street on a power line or even inhaling deeply on a cold, crisp day, I know this type of joy is bespoke to me. Yet, during a period of anxiety and depression, I forgot about the simple moments that brought me joy. I often overlooked, brushed over, or simply did not want to bother with anything tenuously joyous. However, one day, by coincidence, I put on a pair of sunglasses. To my wonder, I saw rainbows when I looked outside the windows. A new sensation came over me; a realization that this was the first time I truly felt pure joy that came from somewhere deep—an inner childlike source that caused a bellow of laughter. From that day forward, whenever I drove anywhere, I would put on the sunglasses that brought the rainbows and it gave me a new sense of motivation for change. Joy Pop is a series of photographs that allowed me to further explore the colours on the visible light spectrum while also trying to evoke the emotions of peace, serenity, and joy. The colour palette incorporates the visible light spectrum (the rainbow) and calming pastels. The visible light spectrum was inspired by the colours of the chakra. Chakras, being the energy centre of the human body, are associated with emotions of happiness, creativity, love – depending on where one focuses their energy. I also chose pastels as I wanted to convey the feeling of lightness and softness with their less saturated hues. This created a sense of nostalgia and also became the catalyst for me to reflect more on joyful memories from my childhood. Joy Pop also encouraged me to explore composite photography and I believe this interchange allowed me to successfully portray the inner essence of joy. It was also important for me to render the images in a way that depicted surrealist yet photorealist qualities so that there was a lucid dreamlike essence when viewing the images—this can be seen through the oversized moon, colour palette and golden orb interlaced within the photographs. The final images for Joy Pop are the culmination of synthesizing all of the elements into a cohesive body of work.

Title: Boundary Weave

Presenters: Theresa Neef
Advisor: Anne Bujold
University of Louisiana at Lafayette
Visual Arts Exhibition Presentation

My current work explores the medium of painting as both object and image. Through the investigation of a painting's structure, materiality and surface, I prompt the viewer to consider it as a physical object. Displayed in various stages of completion and accompanied by studies and source material, the works reveal the process of their assembly. Painstakingly rendered grid patterns reference structure and industrial processes, while gestural marks serve as a counterpoint by pushing past the surface into the illusory territory of painting. The resulting image is engaged in a dialogue that echoes the process of its creation.

Title: Kamryn Murphy Senior Capstone Presentation, Singer-songwriter
Presenters: Kamryn Murphy, Austin Stafford, Gabe Rivera, John Cook, Paul Auttonberrry, Hayden Blount, Maddie Prattini, Dakova Becks, Dayne Armstrong
Advisor: Shayla Blake
Louisiana Tech University
Performing Arts Showcase

This clip is from my senior capstone presentation. In the full presentation, I performed country, pop, originals, and classic rock. This clip is from the pop set, and captures the song "I Will Survive" by Gloria Gaynor. Throughout the full presentation, there are costume changes, special effects, and more. This clip does feature a quick change and instrumental solos. This was the first performance of its kind in Louisiana Tech School of Music history, and in fulfillment of the new music industry studies degree. For this presentation, I was accompanied by my personal band, and I programmed the setlist, coordinated lighting, special effects, and the overall flow of the program.

CONCURRENT SESSION B: CAUSE AND EFFECT

11 a.m. – 12:15 p.m.
Zoom 3B

Title: Effectiveness of Lavender Aromatherapy in Reducing Canine Stress in a Veterinary Setting
Presenter: Ariana Yelverton
Advisor: Megan Broadway
University of Louisiana at Monroe
Oral Research Presentation

Aromatherapy has been shown to provide significant calming effects to people suffering from high stress through interactions with the limbic system. Lavender has previously been investigated to reduce animal stress in some settings and shows promising results. This study focuses on the effects of lavender diffusion aromatherapy on reducing dog stress through recording 20 dogs' responses in a veterinary setting. The canines were recorded for a one-hour session upon arrival between 7:00-8:00 a.m. The dogs were in holding kennels during the recording. The behaviors including canine position, vocalizations, posture, activity, head level, and alertness were monitored. This study will report the differences in behaviors between dogs that were and were not exposed to the lavender aromatherapy.

Title: "Hillbilly Thomist": Flannery O'Connor's Thomistic Aesthetics and Implications for High School

Literature Pedagogy
Presenter: Abbey Broussard
Advisor: Dr. Rondo Keele
Northwestern State University
Oral Research Presentation

I examine sources of 20th century southern author Flannery O'Connor's aesthetic theory, reconstructed from her letters and essays, and their pedagogical implications. O'Connor's thought on the nature of art in general and the art of fiction in particular is primarily influenced by St. Thomas Aquinas, whose comments on the role of art and the artist she encountered in Jacques Maritain's 1920 study Art and Scholasticism. Maritain's Thomistic definition of art as "reason in making," the fine arts being those arts whose primary aim is the beauty of the product and its contemplation by the observer, is paralleled in O'Connor's thought by the idea that fiction must embody "mystery through manners." O'Connor's description of fiction writing as a "reasonable use of the unreasonable"– combining her Thomistic sense of the intellectual (rather than emotional) basis of art with her often shocking, grotesque subjects– informs not only her own writing process but also her notion of how fiction should be read, interpreted, and taught. I analyze the implications of O'Connor's aesthetics, namely her claim that meaning of fiction is experienced rather than abstracted meaning, for high school literature pedagogy.

Title: Crabtivating Behavioral Analysis: the Impacts of Fipronil Pesticides on Blue Crab (*Callinectes sapidus*) Behavior
Presenters: Sadie A. Rawls
Advisor: Jennifer M. Hill
Louisiana Tech University
Oral Research Presentation

Pesticides are carried into coastal habitats where they can impact organismal physiology, movement, and behavior. Ecologically and economically important crustaceans, such as blue crabs, may be influenced by pesticide exposure, ultimately affecting important behaviors such as foraging, navigation into commercial traps, and reproduction. Yet, there are few studies that examine pesticides impacting ecologically important blue crab behaviors. We examined feeding behaviors, including handling and total feeding time, and orientation behaviors including righting time before, during, and after exposure to fipronil pesticides (0, 0.5, 1, 5 ug/L). We also measured time to cease movement after pesticide exposure. Feeding assays showed that the lower fipronil concentrations and control crabs successfully consumed snails, while crabs exposed to 5ug/L individuals did not. Similarly, righting times suggest impairments to higher concentrations compared to the lower concentrations but was highly variable. Crabs exposed to 5ug/L of fipronil demonstrated erratic movements and paralysis/stiffness, which resulted in longer times to stop moving after entering the tanks and after disturbance. However, crabs exposed to lower fipronil concentrations exhibited orientation and movement patterns similar to controls. Consequently, fipronil in higher concentrations is likely to impair crab foraging and behavior which could affect blue crab populations resulting in economic losses and ecological impacts. As fipronil is rarely assessed in water quality surveys and fipronil use is increasing, we suggest regular monitoring for fipronil pesticides in estuarine environments.

Title: Dating Patterns During the 2019 Novel Coronavirus
Presenter: Barbara A. Thompson
Advisor: Dr. Steve Favors
Grambling State University
Poster Research Presentation

With over 102 million confirmed cases according to the World Health Organization [WHO], the 2019 novel coronavirus [COVID-19] has drastically impacted the world. As the virus continually presents unprecedented, global challenges, economic and social disruptions increase. More specifically, COVID-19

has drastically affected the dating scene. Due to social distancing measures limiting in-person interactions, previous and new creative methods of meeting and dating people exist. Particularly, the pandemic has led to a significant increase in online dating. Boredom, curiosity, and loneliness all contribute as motivating factors for singles to explore dating applications such as Tinder, OkCupid, and Hinge. However, as more individuals flock to online dating outlets, dating patterns within certain dating applications have recently changed as well. In this research study, the effects of the 2019 coronavirus on social interactions was explored; particularly, whether COVID-19 produced positive effects such as individuals connecting more and seeking meaningful, committed relationships, or if COVID-19 produced negative effects such as an increase in breakups amongst couples and less online dating. Moreover, a twelve-question survey was distributed to Grambling State University students electronically via text, email, and social networking apps. The data both disproved and proved some assumptions. Additionally, the data illuminated a decrease in interaction and no reports of contracting COVID-19 from a potential or current partner. Resultantly, a decrease in transmission rates may occur. Ultimately, dating during the pandemic may have a positive effect mentally, emotionally, and physically.

Title: The Future of Out-of-Wedlock Births
Presenter: Madilynn Bulot
Advisor: Sarah Skinner
University of Louisiana at Lafayette
Poster Research Presentation

This study examines the influence of women's economic changes in the United States on the incidence of out-of-wedlock births in the U.S. over time. The data were obtained from various sources including the CDC, BLS, and U.S. Census from the years 1980 to 2018. It was found that mothers' labor force participation rate and the fertility rate had significant impacts on out-of-wedlock births. However, while these societal norms had a positive correlation in the first few decades since Roe v. Wade, the technology shock has died down while these trends have continued their path, and women are now choosing to both work and be mothers rather than one or the other.

Title: The Effect of Face Coverings on Memory Recall of Associated Words
Presenter: Taylor Herbert
Advisor: Christana Parker
Southeastern Louisiana University
Poster Research Presentation

In recent years since the COVID-19 pandemic has started, the use of face masks to prevent the spread of germs has hindered communication. The research was aimed at discovering how verbal communication was affected by face coverings and how well the information was retained by listeners. We gathered approximately 130 participants, both men and women age 18 and older, who are family and friends of the research team. Our study was a between-subjects, one-way multi-groups design with three levels of the independent variable: the presence of a mask, no mask, and an audio-only condition. DRM word lists were used to test memory recall of presented words, highly associated lure words, and non-presented words in those lists. A one-way analysis of variance was used to analyze the data. A correlation was also done to observe any patterns between the age of the participants and their memory recall. Because previous research has shown that masks affect the recall of sentences (Truong et al., 2021), I predicted that the presence of a mask would decrease memory recall and increase false recall of the associated lure words compared to those hearing lists without a mask, but not more than participants not seeing any facial features in the audio only condition. I also hypothesized that, as age increases, memory recall would decrease and false recall of the associated lures would increase, since research shows that

memory structures in the brain deteriorate with age (Small, 2002).

Title: The Northwestern State University Student Food Pantry: Feeding Student Success
Presenters: Sarah Bissell, Kacy Young, Hannah Davis, and Jessica Mullican
Advisors: Reatha Cox, MA and Denise Bailey, MSW, LMSW
Northwestern State University
Service Learning Presentation

Established in 2015, the NSU Student Food Pantry began as a student led initiative to reduce the impact of hunger among fellow students. It began as a social work class project and over the last 7 years has evolved into something much bigger than imagined. Join us for a discussion about the evolving role of volunteers involved along the way from the initial approval process to identifying a location on campus. Volunteers have stocked shelves, helped raise awareness, and even raised funds by kissing a pig. In the last year, student groups, alumni, and community partners have each donated to the pantry their time, food, and monetary gifts. Collectively, these contributions have helped to combat food insecurity by providing temporary emergency assistance in the form of healthy, culturally appropriate non-perishable food items to students in need.

Title: Puffrog
Presenter: Kristen Kortright
Advisor: Marjan Khatibi
Nicholls State University
Visual Arts Exhibition Presentation

The goal of this project was to create a character based on two or more animals. For this character, I combined a rain frog with a puffer fish to design a creature called a puffrog. The texture from the rain frog's skin as well as the spikes of a puffer fish can both be seen on the character. I added antennas to make a more interesting silhouette. The character was drawn in front, back, side, and three-fourths views to depict what he looks like from all angles. This was an important reference to keep the proportions of the character consistent when animating him. The character description tells the basic story and personality traits of the character, describing him as small and tough but easily annoyed. Different poses and facial expressions show his personality and how he moves and behaves, which are also important references for animation.

Title: Larva
Presenters: Chris DeCoux
Advisor: Anne Bujold
University of Louisiana at Lafayette
Visual Arts Exhibition Presentation

The word that inspired my piece was "larva". In the design phase, I was drawn to the forms of cocoons and their symbolic meaning of transformation. The deconstruction of one form to create another. I formed a cocoon shape with two plywood vessels attached mouth to mouth and cut open. The interior elements are escaping the vessel in haphazard ways that make the form off balance. The wires exert tension on the interior as they try to push the vessel apart. The center of the vessel is pierced by the interior wooden band that pulls the weight of the sculpture forward toward tipping. The small balance stone in the base of the vessel is loose and can be moved to reestablish the center of gravity. Change can be dangerous and unsettling. Without support during transformation, one runs the risk of failure or destruction, but the support must be appropriate to the situation. Maintaining rigid support for a moving form can cause catastrophic failure for all involved. The vessel went through several designs and redesigns and the scars of those changes have been left in the final form.

Title: A performance and discussion on Francis Poulenc's Sonata for Clarinet and Piano, Mvt. I
Presenter: Sarah Medwick (accompanied by Dr. HaeJu Choi)
Advisor: Benjamin Cold
McNeese State University
Performing Arts Showcase

Francis Poulenc's "Sonata for Clarinet and Piano" is an important work of solo clarinet literature, and is considered a standard for advanced students. McNeese State University clarinet performance major, Sarah Medwick, will discuss the process of studying, practicing and performing this important work alongside her primary professor, Dr. Benjamin Cold (Assistant Professor of Woodwinds, McNeese State University). This discussion will focus on some of the obstacles (from both a technical and musical perspective) encountered while preparing this work. The presentation will conclude with a recently recorded performance of the entire first movement, performed by Sarah Medwick (clarinet) and Dr. HaeJu Choi (piano).

CONCURRENT SESSION B – LEARNING AND LEADERSHIP

11 a.m. – 12:15 p.m.
Zoom 4B

Title: Genotoxicity of Oil Photoproducts in Aqueous Environments
Presenter: Lena Messina
Advisor: Dr. Matthew Tarr
University of New Orleans
Oral Research Presentation

Previous studies have investigated acute toxicity of oil photoproducts in aqueous environments. Little research exists on the genotoxicity of such compounds. In this study, an Ames Test was used to examine the genotoxicity of Macondo (MC 252) and surrogate (A0067T) oil photoproducts. A 200 µL oil film on 10 mL of pure water was irradiated in a jacketed beaker kept at 27˚C. Irradiation times ranged from 6h to 48h, and a 48h dark control was included. The aqueous fraction was collected and filtered through a 0.2 µm membrane. S. typhimurium cultures TA98 and TA100, which test for frameshift and base-pair substitution mutations, were grown for 16h at 37˚C. Each sample was tested with both strains as well as with two different incubation treatments. For the first treatment, samples were incorporated together with bacterial culture into the top agar before being poured onto minimal media plates and incubated for 48h. The other treatment included a preincubation of the bacterial culture with the sample for 20 min at 37˚C before being mixed with the top agar. Both treatment groups used 100 µL of bacterial culture, 200 µL sample, and 2 mL top agar per plate. A positive control of a known mutagen specific to each bacterial strain was also included. Autoclaved pure water was used as a negative control. All treatments were completed in quadruplicate. After 48h of incubation, the plates were removed and photographed. The center of each plate was imaged and analyzed in ImageJ. Colony counts were checked manually to eliminate automatic counting errors. Results showed an increase in genotoxicity with increasing irradiation time. A vanishing background lawn on plates with preincubation indicated that acute toxicity may also be present under certain conditions. The observed acute toxicity correlated with irradiation time. The results demonstrate that photoproducts exhibit genotoxic effects, potentially impacting the long-term impacts of oil photoproducts in aqueous environments.

Title: Identification of Microplastics in Waterways of Southwest Louisiana
Presenter: Alec Ortego and Catherine Landry
Advisor: Caroline Hennigan, PhD
McNeese State University
Oral Research Presentation

Microplastic pollution of aquatic systems is an important issue worldwide due to potential physiological effects on aquatic flora and fauna. However, to our knowledge, no studies have been conducted to measure the level of microplastic pollution in aquatic systems of Southwest Louisiana. This study assessed the presence of microplastics in waterways of Southwest Louisiana. Four waterways were evaluated for microplastic pollution: Prien Lake, Lake Charles, Calcasieu River, and Contraband Bayou. Samples were collected twice a month for three months during the summer of 2021. The water samples were filtered and microplastics were then counted and categorized by type: fiber, fragment, film, and beads. Microplastics were present in each sample ranging from hundreds to thousands. The location with the highest amount of microplastics on average was Calcasieu River, and the location with the lowest amount was Lake Charles. Fibers and fragments were the most prominent type of microplastics found. Our research shows a substantial amount of microplastics present in the waterways sampled in Southwest Louisiana. Further research will be conducted to determine the microplastic prevalence in tissues and their physiological effects on aquatic organisms.

Title: Transition to Virtual De-Implementation of Feeding Practices in Early Care and Education Settings
Presenter: Megan Germillion
Advisor: Julie Rutledge
Louisiana Tech University
Oral Research Presentation

Early Childhood Educators' (ECEs) feeding practices have an influence on their students' health habits. In partnership with ECEs, we developed de-implementation strategies to reduce the use of detrimental feeding practices and replace them with evidence-based ones. This presentation documents the transition from in-person to virtual (4/2021-Present) delivery of de-implementation support necessitated by COVID-19. We completed four distinct PDSA (Plan-Do-Study-Act) cycles, each with targets: (1) registration and selection of feeding practice goals, (2) delivery of resources associated with goals, (3) virtual engagement with peers in the learning collaborative, and (4) communication with the facilitator. 13 ECEs participated in PDSA cycles. Effectiveness of each cycle was measured by the percent (%) of ECEs who completed each phase's target activities. Surveys assessed usability and acceptability of the virtual platform (5-point scale, 1 = "Strongly disagree" to 5 = "Strongly agree"). Open-response survey items were collected from Evidence-Based Quality Improvement meetings at the end of each PDSA cycle. Analysis revealed 100% of ECEs (N=13) registered and selected goals; 88.8% viewed resources; 23% engaged with peers; and 92% communicated with the facilitator. Mean survey values reflect a positive user experience with responses indicating ECEs "Agree" with statements regarding the platform's usability (minimum M=3.71, maximum M=4.31). Qualitative coding identified 5 themes: Ease of Use, Preferred Features, Resource Usage, Technical Issues, and Need for Instruction Improvements. Feedback was used to improve the training, registration, and technical assistance. The study illustrates applications of stakeholder-partnered PDSA cycles for transition of de-implementation strategies from in-person to virtual delivery.

Title: Geocoding Utility Meter Locations for Terrebonne Parish Consolidated Government
Presenter: James Jones, III
Advisor: Dr. Balaji Ramachandran
Nicholls State University
Oral Research Presentation

Terrebonne Parish Consolidated Government (TPCG) has 14,000 utility meter customer addresses whose locations were not known and needed to be located and recorded for use in the local municipal electric system that provides electricity to a large portion of Terrebonne Parish. This could be accomplished with a Geographic Information System (GIS) by using its spatial analysis capabilities and geocoding to determine their positions. Geocoding is a process of giving nonspatial data a spatial component. Using Esri's ArcGIS Pro mapping software address locators were created using different combinations of reference data of various formats (USPS and URISA). These locators were used to geocode the listed

addresses. Customer addresses were provided in a comma separated value (csv) data format. This format did not include any spatial data, rather only the name of the address where the property is located. With this, different attributes of their address could be used to better determine the correct location. The developed geocoding workflow helped successfully match 13,752 out of 13,859 customer addresses. The geocoded addresses helped TPCG utilities department to visualize their customer locations in relation to their existing utility network GIS dataset. A process was found that optimizes the results of geocoding large amounts of addresses using more than one reference data set. This benefits organizations and municipalities using data that requires location information in applications that include post-disaster mitigation, trash pick-up, emergency response, school bussing, etc. This allows for better analytics in the data and informational systems that enables informed investigation and decision making.

Title: Heterosexual and LGB+ Students' Rape Myth Acceptance & Bystander Intervention
Presenters: Haley Dunagin, Dylan A. John, BS, and Amy L. Brown, PhD
Advisor: Amy Brown
University of Louisiana at Lafayette
Poster Research Presentation

Objective: With the issue of sexual victimization disproportionately affecting students across college campuses in the United States, the current study sought to examine differences in rape myth acceptance (RMA), bystander intentions, and bystander opportunities based on sexual orientation. Based on prior research by Hoxmeier et al. (2020), we predicted that LGB+ participants would report greater bystander opportunities to intervene. Participants: Undergraduate students (*N* = 251) with a mean age of 19.2 were enlisted through a southern university's SONA subject pool. Most participants were heterosexual (84%), while 16% identified as LGB+ (lesbian, gay, bisexual, asexual, and other). Methods: Data were collected using the Updated Illinois Rape Myth Acceptance Scale (McMahon & Farmer, 2011) to assess rape myth acceptance and a modified version of the Sexual Assault Bystander Questionnaire (Hoxmeier et al., 2017) to assess the participants' intentions and opportunities to intervene as bystanders. Results: T-tests were used to examine differences between heterosexual and LGB+ participants for each of the variables examined. We found that LGB+ participants reported lower RMA and greater bystander intention than their heterosexual counterparts. However, there were no significant differences in bystander opportunities and opportunities reported by participants were relatively low. Conclusion: These findings demonstrate differences based on sexual orientation in rape myth acceptance and bystander intentions, but not for bystander opportunities. Due to the limited number of LGB+ participants in the current sample, we were unable to examine differences across different sexual orientations. Even though the results did not support our prediction, this study suggests the need for future research to examine how and why rape myth acceptance, bystander intentions, and bystander opportunities may differ based on sexual orientation.

Title: Wellness Wednesdays
Presenter: Dr. Kevin Washington
Grambling State University
Service Learning Presentation

The Social and Behavioral Sciences focuses, in part, on the social and psychological well-being of humans. In this era of a global pandemic, the disciplines of Sociology and Psychology has been seeking a way to facilitate the health and mental wellness of people globally. College students have also had to make significant adjustments. Wellness Wednesdays is a project spear-headed by Grambling State University s Media offices and conducted by the Sociology/Psychology Department on two levels. On one level the department faculty present PSAs on mental-wellness and the department's students, along with Department Head, present a topical/thematic Wellness Wednesdays talk show. The talk show is aired on the campus radio station and is hosted by Mass Communication personnel. Relevant topics from Suicide among Black Females, to Adjusting to College Life during COVID to Addressing the stigma of mental

health among African Americans are discussed. Students discuss their research topics and present mental health strategies for mental wellness to their cohort. The philosophy of Wellness Wednesdays is for the department that is focused on mental health to provide the campus with content promoting psychological wellness. Student have a chance learn in the classroom and then apply some of what they learn in the world.

Title: The Journey Starts Here: The Benefits of Hands On Learning
Presenters: Ashleigh Ogden, Curtis Gremillion, William Higginbotham, and Kyle Sieberth
Advisor: Brad Deal
Louisiana Tech University
Service Learning Presentation

In the Winter of 2021, our Design/Build Studio of 3rd year architecture students arrived at Camp Alabama, the home of MedCamps, a non-profit organization that hosts a free summer camp for children with severe disabilities. We were asked to develop the new entrance to the camp, and in doing so not only created a functional environment for the camp employees, but a meaningful and memorable experience for the campers. The result consisted of a 75-foot tower, a drive-through portal, and an entrance gate. All of this was accomplished through the immersive service-learning experience of our Design/Build Studio. Through this class we learned quickly how to work as an effective team, problem solve in the field, and think creatively to develop a truly amazing experience for the kids at MedCamps despite limited time, money, and resources. The most important lesson we learned, however, was the value of working toward a goal that was bigger than ourselves and more important than a grade. None of this could not have been accomplished without the hands-on, collaborative, and fast-paced nature of the studio. Through these experiences, we gained a deeper understanding of many processes directly relevant to a professional environment that a typical classroom setting simply cannot reproduce—these being responding to harsh deadlines, strict budgets, client expectations, unexpected setbacks, and the real-world consequences of our design decision. Our presentation will explore how this style of hands-on learning gave us the experiences that will shape us and MedCamps for years to come.

Title: Mind's Eyes
Presenter: Bailey Weiss
Advisor: Cristina Molina
Southeastern Louisiana University
Visual Arts Exhibition Presentation

My current body of work explores my subconscious through entering a meditative state. This is achieved by depicting images of dreamlike geometric landscapes. My paintings are done exclusively in neutral and earth tones and are painted in oil on medium size canvases. I combine the ideas of sculpture and drawing into my painting process. My concept of a dreamlike landscape is highly influenced by the process used to work up to the final piece. My work depicts geometric figures or landscapes that seem to both obey and defy our understanding of how an object should interact with its foreground, middleground, and background. I purposefully flatten parts of the geometric shape while also bringing forward spots with extreme unrealistic highlights. The process is an important part of how the concept evolves. I begin the process by meditative drawing and meditative sculpting of the figures. Then, I explore how the geometric sculpture looks in different harsh lightings. I then cut the drawing up into smaller pieces that resemble the shapes of the sculptures. I begin to paint the geometric forms while both looking at the figure sitting in front of me and painting only from memory. I muddy down my colors as the things we see in our mind would not be bright colors nor would there be strong borders. I explore how objects and ideas look in our mind’s eye while connecting to the physical.

Title: Hyungwon's Fight Club
Presenter: Megan Boenig
Advisor: Jacob Dugas

McNeese State University
Visual Arts Exhibition Presentation

The intention of this piece is to study the human form in a realistic way with a heavy emphasis on color and lighting.

Title: CYBRPNK2021
Presenters: Kelly Rick
Advisor: Jamie Baldridge
University of Louisiana at Lafayette
Visual Arts Exhibition Presentation

Cybrpnk 2021 was the first assigned attempt in a mixed-reality project that allowed the time and freedom to experiment and is a presentation on how we process more concepts unconsciously than we realize. Intrigued by the comparable imagery of microchips and aerial shots of Earth's civilization, the Cybrpnk2021 project attempts to exhibit the cross-dimensional connections between architecture, technology, capitalism, human spirituality and nature. During the production of the short film, the significance of preserving one's culture and staying grounded in one's truth proved to be a lesson of growth and provided an understanding of the implications regarding full immersion and in result, my artistic visions are now being driven towards community-oriented projects that aspire to provide "cajun wisdom."

Title: Cultivated Reflections – The Uncomfortable Truth, dedicated to the Honorable Judge Kentanji Brown-Jackson
Presenter: Victoria Eggleston, student lead presenter and spoken word; Vocalists are Angel Barnes, Neveah Kline
Victoria Eggleston, Jhalya Davis, Dwedee Kobbah, Mercedes Swift, Andreanna Wright; Dancers are Ebony Crawford, Gaja Ford, Aa'sialynn Fuller, Octavia Hill, Kaelyn Kelly, Taylor Williams, Zlyan Harris.
Advisor: Teshia Lincoln
Grambling State University
Performing Arts Presentation

This collective work, Cultivated Reflections – The Uncomfortable Truth, explores uncomfortable truth through different art mediums, from painting to sculpture, music to dance, as well as song. African Americans, through art, have found voice and light through the visual and performing arts, and through this montage, this continued to be expressed today. This montage journey utilizes the spoken word, song, and movements that speak to power through the soul of African American women through an evolution of movements in American history as it comes to life at this present time.

CONCURRENT SESSION B – TECH, TALK AND MAGIC

11 a.m. – 12:15 p.m.
Zoom 5B

Title: The current shortage of hospice social workers: Findings from Louisiana
Presenter: Jaci Templet
Advisor: Dr. Dean Kostantaras
Northwestern State University
Oral Research Presentation

Medicare coverage for hospice services began with the Tax Equity and Fiscal Responsibility Act of 1982,

following the hospice movement in England during the 1950s. As the United States population ages, the growth of the hospice business is outpacing that of the workforce. Hospice social worker (HSW) employment in Louisiana was examined, in response to the nationwide shortage. A survey was created for Louisiana HSWs to identify issues they perceive to be factors in the shortage, in addition to a case study of the PI's field work agency. Factors in the HSW shortage, as well as suggestions for intervention, were identified by analysis of the current literature alongside the survey data. Three major aspects of the shortage (application rate, hiring rate, and retention rate) emerged as potential barriers to HSW employment. Issues affecting one or more of those aspects were identified: role ambiguity and conflict, lack of workplace resources such as peer support or counseling, overwhelming caseloads, the limitations of the end-of-life setting, the discounting of social services by employers, and poor interdisciplinary teamwork. Interventions were proposed based on the study results: improvement of social work and interdisciplinary education, more thorough documentation of social work roles, measures to improve interdisciplinary communication, stronger regulation of caseload size, and greater utilization of lower-licensure social workers. It was determined, by the degree of overlap between literature review and study data, that the situation in Louisiana reflects that of the United States at large.

Title: Why is there a Difference in Nurse and Doctor Vaccination Rates?
Presenter: Payton Shells
Advisor: Dr. Steve Favors
Grambling State University
Oral Research Presentation

According to news reports there are many nurses who are working in healthcare agencies who refuse to get vaccinated for COVID-19. At the same time, the vast majority of doctors working in healthcare agencies have taken the vaccine. Because of this discrepancy, this paper will focus on identifying possible reasons why these differences exist. For this study, a questionnaire was developed and circulated on campus to obtain the opinions of 50 Grambling State University students.

Title: Inducing Heritable Changes in Hawaiian Flies Using CRISPR/CAS9 Technology
Presenter: Ismail Ismail and Joan Kim
Advisor: Joel Atallah
University of New Orleans
Poster Research Presentation

Hawaiian Drosophila forms huge radiation of close to a thousand species within the family Drosophilidae. To understand the genetic mechanisms underlying the evolution of diversity within this radiation, we are seeking to genetically modify them with CRISPR/Cas9. Inducing heritable changes by CRISPR/Cas9 technology requires meticulous molecular work as well as care for these flies. Drosophila Grimshaw is a Hawaiian picture wing species around 20-50 times the size of a model *Drosophila melanogaster* fly. The method we are currently using is a newly developed technique called Receptor Meditated Ovary Transduction of Cargo (ReMOT Control). This approach targets oocytes for gene editing without individual embryonic microinjections and is cheaper, faster, and easier to implement. As part of our Tolmas scholar internship, we have carried invitro activity assays to tests the technique and helped optimize the fly injection protocol. This work was also funded by the Louisiana Board of Regents (grant number: LEQSF(2017-20)-RD-A-26 to Joel Atallah) and an internal UNO SCORE award.

Title: Flange Turner/Clamp Pairing Productivity Enhancement in Joist Manufacturing Process
Presenters: Ethan Johnson, Jacob Gary, and John Starks
Advisor: Dr. Nabin Sapkota
Northwestern State University
Poster Research Presentation

The Weyerhaeuser company in Natchitoches approached the Engineering Technology team at NSU to

find solutions and improvements for two of their truss-making processes. The first issue was, during the transition process from the rip saw to the inspection platform, flanges are falling “facedown” instead of on their “side.” After observing the process and conducting on-site interviews with the technician, operators, and engineering team, the team’s recommendation is to slow the conveyor on the arm that transfers the flanges from the ripsaw to the platform to reduce the momentum of the falling flanges. After the inspection, the operator manually flips these flanges back face down for the next transition process. This is an ergonomics concern, and the team has designed a device that will automatically flip these flanges one at a time as they transition to the next platform. Another issue was finding a more efficient way to stop hang-ups causing machine downtime once the inspected flanges travel into a clamp that drops them one at a time onto the next conveyor. The hang-up starts when the flange rotates during the fall through its designed chute onto the next conveyor. Through a motion and time study technique, the team identified that only one size out of the five made at Weyerhaeuser causes hangs up. The team has made a new design to address these occurrences where the chute it falls in can be adjusted according to flange size. The proposed solution and designs are awaiting budget approval for implementation.

Title: Woodard Hall Beautification Project
Presenters: Kerington Bass, Kyleigh Bass, and Sonni Tarver
Advisor: Dr. Paul Jackson
Louisiana Tech University
Service Learning Presentation

The sidewalks that traverse the area outside the northeast entrance of Woodard Hall are highly traveled by students. At this particular location is a triangular-shaped landscape bed that has been unsightly and devoid of plants for many years. To beautify the space, a service learning project was developed in the 2021 fall quarter between the College of Education and the School of Agricultural Sciences and Forestry. The main objectives of the project were to provide a real world applied learning experience for students in the Landscape Design and Contracting class, to create an outdoor space that is inviting and functional, and to emphasize the importance of a low maintenance design for Louisiana Tech grounds staff. The project began with students measuring the space and researching plants that met the objectives. Each student was directed to accurately draw a design to scale on graphing paper. The designs were presented orally, and one design was chosen to serve as the blueprint for the finalized design of the bed. Over several laboratory sessions, the landscape bed was prepared with a soil mix, and plants were placed in locations to match the design. Throughout the project, students were exposed to real-life scenarios that are possible within the landscaping industry. The plants chosen for the space will provide attractive colors and functional usage throughout the year with reduced amounts of labor for maintenance. Knowledge gained from the course was used to work through the entire process from design to implementation.

Title: Using Oral History to Increase Course Relevancy and Student Engagement
Presenter: Dr. Edward L. Holt
Grambling State University
Service Learning Presentation

History is the study of the past, which too often is inaccessible to our students. This presentation will demonstrate the ways that, through the methodologies associated with oral history, educators can leverage family and community members in order to make history come alive. It will first discuss the framework of the oral history service learning project used in the Grambling State University History Department. It will then look at methodological and pedagogical best practices associated with oral history. Finally, it will provide examples of students’ work that demonstrate active-learning and, through reflective assessment, highlight the added benefits of deeper student engagement with the material as well as an increased relevancy for the content to the student’s life.

Title: Sharp Objects
Presenter: Michaela Carroll
Advisor: Meghan Fleming
McNeese State University
Visual Arts Exhibition Presentation

This oil painting is representative of a body of work revolving around the everyday experiences of chronic pain. This work specifically deals with a want for communication and connection.

Title: Sprite Advertisement
Presenter: Anna Poe
Advisor: Michael Yankowski
Northwestern State University
Visual Arts Exhibition Presentation

Advertisements are comprised of images and words designed to grab attention and promote a product. My research focused on what makes advertisements effective. The first step I take when creating a product advertisement is to investigate the brand to identify color schemes, typefaces, slogans, logos, etc. I can utilize to represent the product and brand identity. Once I have an idea for how I will present the product, I begin taking the photographs I will use for my advertisement. After editing the photographs, I add wording and other elements into the design that represents the product. The first step of researching the product is crucial. Gaining knowledge about the product and defining features included in the marketing scheme make for a more successful advertisement.

Title: Grape Soda Not Grapes
Presenter: Larrencia Smith
Advisor: Kathy Rodriguez
University of New Orleans
Visual Arts Exhibition Presentation

I made this photograph while at a community farm in a predominantly Black neighborhood in North Baton Rouge. The farm, at the time this picture was made, was covered in gorgeous wildflowers and early fall vegetables. The farm was started in order to provide fresh produce to residents of the community, as well as encourage learning and facilitate education about sustainable growing practices. Like many similar neighborhoods, this area of Baton Rouge is riddled with corner stores that don't sell fresh produce, and only one local grocery store. The nearest grocery stores, including an Albertsons and a Whole Foods, are up to 5 miles away. This issue is known as The Grocery Gap, where low-income, "urban" communities of color lack access to healthy foods; yet another largely overlooked product of systemic racism. I made this photograph in the early evening light with my Fujifilm digital camera, while on a mental health stroll that I, as a resident of the neighborhood, often take through the farm and its nearby park. Whether on my phone or my camera, I often feature and never hesitate to document the moon; it is always a beautiful subject. The photograph is simply showing my point-of-view as I walked through the tall okra plants of the farm. This photograph is unedited and straight from the camera, as a personal style of mine is to use the camera to document what I see, instead of editing the image to be what I wish I saw.

Title: Mr. Magic
Presenter: Jacob Rhymes with ULL Jazz Combo II
Additional presenters: Timothy Smith on saxophone, Ruben Rosabal on guitar, Tyler Sonnier on bass, and Jackson Barousse on drums.

Advisor: Garth Alper
University of Louisiana at Lafayette
Performing Arts Presentation

Mr. Magic is jazz/funk song, considered a classic and is a part of every jazz musician's repertoire, that was made popular by Grover Washington Jr. Numerous rehearsals were needed to work out the musical details, create a smooth rhythmic flow between the instruments, and determine which students would take improvised solos over the chord progression. Discussions and rehearsals dealing with accompanying the soloists took place. Visual cues among the musicians were devised to allow for a smooth transition between soloists. As with many jazz pieces, after the improvised solos, the group returned to the original melody. An ending was devised and rehearsed.

CONCURRENT SESSION B: CAUSE AND EFFECT

11 a.m. – 12:15 p.m.
Zoom 6B

Title: Should College Tenure be Eliminated?
Presenter: Samika Benjamin
Advisor: Dr. Steve Favors
Grambling State University
Poster Research Presentation

Tenure is a system providing an indefinite appointment that can be terminated only for cause or under extraordinary circumstances such as financial exigency and program discontinuation. Its principal purpose is to safeguard academic freedom, for all who teach and conduct research in higher education. Recently, however, there has been controversy surrounding college tenure relevancy, attesting that it is too costly, and it shields incompetent/complacent faculty.

This study aims to investigate the pros and cons of college tenure, and Grambling State students' opinions on the matter, to determine whether it should still be enforced in the United States. The method used to gather the information was a questionnaire which was completed by a total of 50 students. The survey results conveyed that the students veer towards pro-tenure, for 60% disagreed that tenure lowers professors' productivity and enthusiasm to teach, and only 40% believe college tenure too costly. After review of the literature and survey results, it can be concluded that college tenure is still relevant, for tenured staff are valued by the students and in conducting research free from bias for the purpose of growth and development. In conducting future studies of college tenure, ensure that survey sample is provided with general information regarding the topic, the sample size should be increased to a minimum of 100 students, and it should also be inclusive of student in Predominantly White Institutions to ascertain their opinions for tenure is an issue not only on black college campuses but nationwide.

Title: Operation Analysis of Small Parts Inventory Storage and Retrieval System
Presenters: Norma Trejo, Natalie Henry, Nicole Henry, and James Gillyard
Advisor: Dr. Nabin Sapkota
Northwestern State University
Poster Research Presentation

The purpose of this study is to update the current storage and retrieval system for small parts at Alliance Compressors and create an efficient visual system. The problem is a lack of visibility in the quantity and location of the small parts. Alliance employees want to be able to quickly identify the part and know how many there are of each part in storage. Fifty-one component parts make up the compressor, but the team will be focusing on one: part 032-0628-00 (the TOD retainer). The number of TOD retainers per box is 4,000. Alliance likes to keep 250,000 of these TOD retainers on hand. The team has created

phases/steps that will be followed diligently to come to a solution for the stated problems. These steps consist of taking accurate cycle times and analyzing them to see if any of the material handlers will be able to integrate an additional role into their schedule. The team has come up with two possible solutions. The first simple solution will act as a benchmark for testing and analyzing if the visual system works better than the current system. The second solution will be set up once the team has received good results from the data and feedback from the workers for the first solution.

Title: Translation initiation factors from early-branching eukaryote *Giardia lamblia* can form multifactor complex in vitro
Presenters: Bryan Strong, Zachary Wiggins, Francis Kwarteng, Zachery Shaw, Breanna Gottschalck, and Srinivas Garlapati
Advisor: Srinivas Garlapati
University of Louisiana at Monroe
Poster Research Presentation

Eukaryotic translation initiation process involves binding of pre-initiation complex to the 5'end of the mRNA mediated by protein-protein interactions between 5' cap bound eIF4F complex and eIF3 (in mammals) or eIF5 (in yeast) of the pre-initiation complex. The scanning for a start codon placed in a proper sequence context (Kozak sequence) is mediated by several protein-protein interactions between initiation factors eIF1, eIF2, eIF3 and eIF5, in addition to eIF4G. It has also been demonstrated that initiation factors eIF1, eIF2, eIF3 and eIF5 form a multifactor complex (MFC) in the absence of 40S ribosome, indicating that these complexes act together to stabilize pre-initiation complex formation and start codon selection. *Giardia lamblia* is an early-branching eukaryote that lacks eIF4G, a scaffold protein in eIF4F complex, and have mRNAs with very short 5' untranslated regions (UTRs). Preliminary observations have suggested that the pre-initiation complexes are recruited to the initiation codon without a prior scanning mechanism in Giardia, apparently due to short 5'UTRs. However, Giardia cells have all the initiation factors that are necessary for scanning process. To determine whether the lack of scanning mechanism is due to lack protein-protein interactions between initiation factors eIF1, eIF2, eIF3 and eIF5, and GST-pull down assays were performed. These assays were used to determine detect MFC formation in *Giardia lamblia*.

Title: A Brief Astronomical History and Analysis of Saturn's Rings
Presenter: Benjamin Meleton
Advisor: John Shaw
Louisiana Tech University
Poster Research Presentation

There is no other planet in our solar system quite as dazzling nor stunning than that of Saturn. Specifically, our eyes are drawn to the incredible rings whose nature is both chaotic, yet representative of pattern. For centuries, Saturn's Rings have baffled astronomers as to their formation, the spectrum of their colors, or even the identification of what they are exactly. The rings of Saturn offer viewers on Earth a chance to study cosmic disk phenomena, such as those in which planets form. Although many bodies possess ring systems, Saturn's was the first observed and studied by astronomers. Observation and exploration of Saturn can be divided into three categories: ancient observations before telescopes, telescopic observations starting in the 17th Century, and the modern observation by probes and advanced telescopes. This report exists as a summary of the history of observations and research made with respect to Saturn's rings during those latter two periods starting with Galileo Galilei and ending with

modern-day understanding. This paper includes discussions of astrophysical phenomena that are pronounced in Saturn's Rings; such as aggregation and disaggregation, electrostatic charge, their composition, and more related aspects.

Title: Environmental Ethics in the High School Classroom
Presenter: Robyn Harlow
Advisor: Dr. Dan Shahar
University of New Orleans
Poster Research Presentation

Working under Dr. Dan Shahar of the philosophy department, I designed a course on ethical consumption and sustainability aimed at high school students. The course combines lessons on relevant background information, seminar-style discussions, and student-led projects to combat and respond to the concerns discussed.

Title: Spare No Expense: An Empirical Analysis of the Relationship Between School Expenditure and Student Achievement, featuring a Case Study of Louisiana
Presenter: Victoria Wells
Advisor: Dr. Bryan Zygmont
Louisiana Tech University
Poster Research Presentation

Most students spend thirteen years, minimum, in a classroom attempting to secure a better, or at least more stable, future for themselves. As such an investment, is money alone enough to make meaningful gains on student success? Some legislators argue that schools do not need more money; they just need to spend it more wisely. Per pupil expenditure (PPE) is a reliable ear-marker for how school resources impact student success: increased school funding, in theory, should have a significant relationship with student achievement. This study seeks to establish statistically significant relationships between PPE and high school graduation rates, as well as college enrollment rates. Addressing a very relevant shortcoming in the existing literature, this study focuses on those two rates because they have real-world consequences on students' socioeconomic futures and opportunities. To test my hypotheses, I performed two analyses—an OLS regression on national panel data spanning every even year from 1996 to 2016 and a random effects GLS on TSCS data spanning 2012 to 2019 for a state-level case study of Louisiana. These analyses used data compiled from existing datasets the National Center for Education Statistics, National Center for Higher Education Management Systems, and data obtained directly from the state Department of Education. Preliminary results affirm my hypotheses and support the claims that increased PPE has significant positive impacts on high school graduation and college enrollment for freshly graduated high school seniors. These findings support the existing scholarship that schools with increased overall funding are able to greatly improve their students' future real-world success.

Title: STI Prevention and Contraceptive Usage
Presenter: Wesley Wilkerson and Mary Katherine Eastman
Advisor: Sherry Peveto
Louisiana Tech University
Service Learning Presentation

The purpose of the service-learning project was to educate college students about the dangers of sexually transmitted diseases and ways to prevent the spread of those diseases and prevent unwanted pregnancies through proper contraceptive use. The project was conducted as an information booth set up in the grassy area outside the Cafeteria and Tolliver buildings, the two most frequented locations on the Louisiana Tech Campus, to reach the most students possible. During the eight hours of the service learning project, approximately 50 students voluntarily visited the booth. They received education regarding STIs, where and how to be tested for them, and how to prevent unwanted pregnancies. Along

with education, the participants in the project were able to receive free condoms to help prevent unplanned pregnancies and the transmission of sexually transmitted infections. Execution of the service learning project indicated the need for on-campus access to contraceptives and education concerning preventing the spread of sexually transmitted diseases, supported with evidence of the number of condoms taken by participants in the project and the engagement of students on the campus. In addition, this project provided the students who participated with accurate information on preventing sexually transmitted diseases, where to go to get tested for them, and proper use of barrier contraceptives.

Title: Rebranding the NSU Theatre and Dance Department
Presenters: Natalia Zapata Yonoff, Student and Mirla Gonzalez Enriquez
Advisor: Mirla Gonzalez Enriquez, MFA
Northwestern State University
Service Learning Presentation

This specific project is rebranding the identity of the Theatre and Dance Department as part of a graduation project for this Spring 2022 semester. The goal of this project is to attract and recruit students graduating from high school who are interested in this program. The project will propose a new brand image for the program producing a new logo and color scheme. We are using Adobe programs to execute this project as well as producing photography that we'll use on advertising. This experience has led to new opportunities as Lead Designer of the yearbook and Visual Editor of the newspaper. These projects share a clean, innovative, and cohesive message that accurately depicts contemporary college life.

Title: Fursuits of Happiness
Presenter: Ashley Boudreaux
Advisor: Jonathan Clayton
Northwestern State University
Visual Arts Exhibition Presentation

The presentation discusses the creation of two, full-body, adult-sized fur suits by the artist.

Title: Moving Forward
Presenter: Teresa Blake
Advisor: Ross Jahnke
Nicholls State University
Visual Arts Exhibition Presentation

"Moving Forward" seeks to tell a person's story through the use of still life. With this piece I take my own spin on the portrait by depicting a close friend using objects and plants. My goal is not to be as accurate as possible, but to leave my work subjective as to let the viewers make their own story depending on their relationship to these objects. Despite this, each plant and object have a deeper meaning. The use of ferns symbolizes my subject's youthfulness and confidence while the amaryllis flowers symbolize pride and strength. The mirror symbolizes a desire to fit in and be liked. The alligator eye is there to represent fear but also healing in the life of my subject. I kept my color palette cooler to be more sentimental and memorable. "Moving Forward" is a five-color crayon reduction made by using paper cutouts placed under the screen to create texture and movement.

Title: The Horsemen Demolished the Rain

Presenters: Olivia Allen
Advisor: Cristina Molina
Southeastern Louisiana University
Visual Arts Exhibition Presentation

The Horsemen Demolished the Rain is an anthology series of world poetry that studies a broader perspective on our relationship with conquest, war, famine, and death, spanning across geographic location, culture, and time through the visceral artform of poetry. Each one of the four books contains twenty, cited poems from various poets, with ten of those poems in each book being accompanied with an illustration by me. The illustrations depict the imagery put forth by the poet and my take on the stanzas, making the study of interpretation circular.

Title: Little Blue Heron
Presenters: Lydia Barbry
Advisor: Kathy Rodriguez
University of New Orleans
Visual Arts Exhibition Presentation

I wanted to do something that was simple and elegant, yet dynamic enough to draw attention. I accomplished this by employing a simple three-point composition, and choosing the little blue heron which has traditionally elegant proportions. Additionally, the limited palette is economical in terms of its ability to be recreated at a larger scale. Simultaneously, the values of my color selection allow the light-colored bird to pop against a dark background (painting submitted for consideration for larger mural on campus in the spirit of the Audubon Mural Project).

Title: Friendly Fire
Presenters: Emily Burns
Advisor: Brian Kelly
University of Louisiana at Lafayette
Visual Arts Exhibition Presentation

My work expresses my father's PTSD from war and my severe anxiety that developed because of our relationship. I use symbolism and metaphors to express the effects of our relationship and the negative experiences I have had throughout my childhood. As a child, I was not aware of the harsh reality of war and the effects on soldiers and their families when the soldiers returned. I create firsthand experiences from seeing my dad's post-war behavior where he hides the horrific situations he endured.