University of Louisiana System

14th Annual ULS Academic Summit

at

Nicholls State University

Thursday April, 10th - Friday, April 11th
Thibodaux, LA

PROGRAM

ULS System: President and CEO: Rick Gallot

Dear Scholars, Educators, and Friends,

Welcome to the **Academic Summit**—a celebration of the pursuit of knowledge, the power of discovery, and the transformative impact of education. On behalf of the University of Louisiana System, it is my honor to recognize the extraordinary achievements of our students and the faculty who mentor, challenge, and inspire them.

Over the next two days, you will experience firsthand the brilliance, resilience, and commitment to excellence that define our UL System. Within our nine universities, learning is more than an academic exercise—it is a calling. It is the bridge between ideas and impact, between curiosity and creation. The projects showcased—spanning research, service-learning, visual arts, and the performing arts—are powerful testaments to the spirit of innovation that drives our students and faculty.

Each presentation is more than just a demonstration of academic rigor; it is evidence of how education changes lives and communities. Our students are not just learning—they are leading, solving real-world problems, and leaving an indelible mark on society. They remind us that knowledge is not meant to be kept in books but put into action, serving as a force for good.

I encourage you to immerse yourself in the ideas being shared, engage in the conversations that will shape tomorrow, and take inspiration from the dedication and talent that surrounds you. Though I am unable to join you in person, I have no doubt that these two days will be filled with moments of celebration, growth, and renewed purpose.

May this Academic Summit serve as a catalyst for future collaborations, deeper connections, and continued excellence in all that we do. Thank you for being part of this remarkable journey.

Sincerely,
Rick Gallot
President and CEO
University of Louisiana System

UNIVERSITY OF LOUISIANA SYSTEM

Nicholls State University President: Dr. Jay Clune

Dear Scholars, Faculty, and Guests:

Welcome to the Universities of Louisiana **Academic Summit**! It is a true honor for Nicholls State University to host this gathering of outstanding students, dedicated faculty, and academic leaders from across our great state. This summit celebrates scholarship, innovation, and collaboration—all defining characteristics of the University of Louisiana System and its nine institutions.

This event allows faculty and students to showcase their research, creative endeavors, and academic achievements while engaging with peers and mentors from diverse disciplines. The work presented here today reflects the dedication and talent that will shape the future of Louisiana and beyond.

At Nicholls State University, we take great pride in being the intellectual, economic, and cultural heart of the Louisiana Coastal Community, and we hope you get to experience that during your time at the Academic Summit. From the research at the new Coastal Center to the efforts to preserve our culture at the Center for Bayou Studies and the cuisine of the Chef John Folse Culinary Institute, nowhere is it more apparent that Nicholls is the hub for preserving the South Louisiana way of life.

Please take full advantage of the sessions, discussions, and networking opportunities throughout the summit. Engage with fellow participants, explore new perspectives, and be inspired by the shared wealth of knowledge. Our collective commitment to academic excellence strengthens our universities and the communities we serve.

On behalf of Nicholls State University, I extend my gratitude to all who have contributed to making this summit possible. To our presenters, mentors, and organizers—thank you for your hard work and commitment to higher education. I hope you enjoy your time on our beautiful campus and leave with renewed enthusiasm for your academic pursuits.

Best wishes for a successful and enriching summit!

Sincerely,
Jay Clune, PhD
President
Nicholls State University

MAPS

SCAN HERE FOR:

Nicholls Campus Map, Student Union Map, and the Event Parking Map

PODIUMPRESENTATION UPLOAD PERIOD:

Please report to your assigned room between 7:30AM - 9:00AM to upload your presentation file.

Universities of Louisiana ACADEMIC SUMMIT

THURSDAY, APRIL 10TH

14th Annual ULS Academic Summit
Nicholls State University

ARRIVAL

2:00PM - 3:30PM

Check-in / Poster set-up
-Bollinger Union Ballroom

3:30PM - 3:45PM

Welcome Address (Dr. Jay Clune, Nicholls State University)
-Bollinger Union Ballroom

3:45PM - 5:00PM

Poster Presentations
-Bollinger Union Ballroom

5:00PM - 6:00PM

Reception
-Lobby, Talbot Hall

5:00PM - 8:00PM

Art Exhibition
-Ameen Art Gallery, Talbot Hall

6:00PM - 7:00PM

Stage Performances
-Danos Theater, Talbot Hall

CLOSING OF DAY 1

FRIDAY, APRIL 11TH

14th Annual Academic Summit
Nicholls State University

ARRIVAL

7:30AM - 9:00AM

Check-in/ Poster viewing
-Bollinger Union Ballroom

9:00AM - 12:00PM

Podium Presentations
-Bollinger Union Rooms

9:00AM - 10:00AM
Session I- Concurrent Sessions I

10:00AM - 10:10AM
Break

10:10AM - 11:10AM
Session II- Concurrent Sessions II

11:10AM - 11:20AM
Break

11:20AM - 12:20PM
Session III- Concurrent Sessions III

12:20PM - 12:30PM
Break

12:30PM - 2:00PM

Lunch
Introductions- Dr. John Doucet, Nicholls
ULS Statement- Dr. Erica Calais, UL System
Keynote Speaker- Dr. Christopher Bonvillain, Nicholls
Awards
-Bollinger Union Ballroom

CLOSING OF DAY 2

SESSION I

Charlotte Bollinger Room

Technology 1

9:00AM-9:10AM- Augustine Manu-Frimpong

~Embracing the Future: "The Transition to Artificial Intelligence in Higher Education and Its Impact on Learning, Teaching, and Institutional Transformation," An Empirical Study of Grambling State University

9:10AM-9:20AM- Shae Wetzel

~Leveraging Artificial Intelligence: An International Collaboration to Preserve Historical Buildings

9:20AM-9:30AM- Njabulo Moyo

~Automation of Student Class Registration

9:30AM-9:40AM- Erick Diaz

~A Microchip Pipeline for Reading Brain Signals and Utilizing Machine Learning in Video Games

9:40AM-9:50AM- Robert Ponder

~Smart Advisor: An AI-Powered Personalized Book and Movie Recommendation System

Captain's Room

History

9:00AM-9:10AM- Fanny Goycochea

~Beyond the Border: Hispanic Heroes Shaping American History

9:10AM-9:20AM- Ella Mayfield

~Learn, Grow, Resist: Uncovering Patterns of Resistance Among Enslaved Children

9:20AM-9:30AM- Kyle Hargrove

~The Minoan Double-Axe, a Tool and Symbol for Life, Religion, and Wealth.

9:30AM-9:40AM- Megan Paille

~Histography of the Habsburg Monarchy

SESSION I

Andrea Bollinger Room

Biology

9:00AM-9:10AM- Karishma Nathaniel

~Mitigation of Pollutants and Antibiotic Resistance in Bayou Folse Using a Constructed Wetland

9:10AM-9:20AM- Bryleigh Wickham

~PEDOT/CNT-Coated Glassy Carbon Microelectrode Arrays (GC-MEAs) for Real-Time Detection of Neurotransmitters in the Brain

9:20AM-9:30AM- Tanner Broussard

~An Assessment of Coyote (*Canis latrans*) Ecology Along Coastal Louisiana and Texas: Preliminary Results

Carnival Room

Service Learning 1

9:00AM-9:10AM- Haylee Shoemaker

~'Dollars & Sen$e' Service Learning Project

9:10AM-9:20AM-Dr. Suzanne Mayo

~"SERVICE LEARNING and LET US DREAM": The Impact of Global Leadership, Health and Social Issues in Educational Institutions Today.

9:20AM-9:30AM- Dr. Mary Ghongkedze

~The Role of Culture in Shaping Attitudes and Identity

9:30AM-9:40AM- Dr. Rikki Murff

~Union Parish Expo

9:40AM-9:50AM- Opeyemi Sajo

~Soph'smores -- Retaining Sophomore Honors Students

SESSION II

Charlotte Bollinger Room

Technology 2

10:10AM-10:20AM- Jared Talbot

~Boardshapes: Algorithmically Converting Images to Polygons to Represent Collision Shapes

10:20AM-10:30AM- Scott Whitman

~Using Numerical Optimization to Create Tiling Schemes for Attaining k-Coverage in Wireless Sensor Networks

10:30AM-10:40AM- Nishu Shrestha

~An IP Subnetting Visual Novel - Learning through Interactive Story Telling

10:40AM-10:50AM- Simant Bahadur Singh

~YoloTag: Vision-based Robust UAV Navigation with Fiducial Markers

10:50AM-11:00AM- Zaiba Daud

~Effective Implementation of ABB 4600 Industrial Robot for Automated Timber Inspection and Sorting

Captain's Room

Humanities

10:10AM-10:20AM- Sydnei Henson

~Clementine Hunter: Plantation Painter

10:20AM-10:30AM- Joseph Holman

~Hammond, America: The Duality of City Design

10:30AM-10:40AM- Amy Eastwood

~*Poor Things* and the Male Gaze as a Device to Mock Masculinity

10:40AM-10:50AM- Madison Mollere

~From Clay to Context: The Significance of Bricks in Archaeological Research

SESSION II

Andrea Bollinger Room

Chemistry

10:10AM-10:20AM- Carley Pinel

~Investigating the Presence of Forever Chemicals (PFAS) in Bayou Folse and in a Constructed Wetland

10:20AM-10:30AM- Katherine Ashurst

~Determination of the Effect of Hydrogen Peroxide Concentration on Treatment Efficiency of Perfluorooctanoic Acid (PFOA) Under Ultraviolet Irradiation

10:30AM-10:40AM- Carson Plaisance

~Ionic LIquids as Surfactants

10:40AM-10:50AM- Brody Heard

~Simulated Transient Absorption Spectroscopy of Polyacetylene: An Organic Semiconductor

Carnival Room

Service Learning 2

10:10AM-10:20AM- Abigail Monarch

~A Visual Exploration of the Grief of Growing Up

10:20AM-10:30AM- Emma Lockwood

~Shaking Up Science: Engaging Homeschoolers in Microplastic Exploration Through Hands-On Learning

10:30AM-10:40AM- Taylor Bailes

~Observing Cellular Nature

10:40AM-10:50AM- Holly Eubanks

~Ground-truthing Louisiana Waterthrush Habitat Suitability Index Model by Students in a Service-learning Course at Louisiana Tech University

10:50AM-11:00AM- Hannah Glover

~Student Organization Focus on Service Learning

SESSION III

Charlotte Bollinger Room

Physics

11:20AM-11:30AM- Elizabeth Dieguez

~Supercomputer Enhancements and Particle Physics Simulations in High-Energy Physics Research

11:30AM-11:40AM- Jesse Webb

~Azimuthal Decorrelation of Leading Jets in the ATLAS Detector

Andrea Bollinger Room

Health

11:20AM-11:30AM- Adrianna LeBlanc

~A General Case Study of Esophageal-Speech Intelligibility with Tracheostomy, in Relation to Adult with Campomelic Dysplasia and Pierre-Robin Syndrome

11:30AM-11:40AM- Brooke Jones

~Singing Before and During Menstruation: The Effects and Remedies

11:40AM-11:50AM- Sophia Foto

~Uncovering an Understanding: A Students Journey into Complex Labels

11:50AM-12:00PM- Kamden Perkins

~Simulation and Experimental Analysis of Radiation Shielding in Cancer Treatment Facilities

12:00PM-12:10PM- Jacques Laughlin

~Childhood Maltreatment and Childhood Trauma's Relationship to Working Memory

SESSION III

Captain's Room

No Session III

Carnival Room

Sociological Studies

11:20AM-11:30AM- Peyton Delayney

~Enhancing Workplace Productivity and Health Through Optimal Lighting Solutions: A Case Study

11:30AM-11:40AM- Kolby Rigsby

~Facility Layout Optimization for a Custom Machine Builder to Reduce Material Handling Time and Improve Productivity

11:40AM-11:50AM- Ty Russell

~Design and Development of a PLC Trainer for Hands-On Industrial Automation Learning

11:50AM-12:00PM- Ashtyne Monceaux

~How Personality Type Impacts Academic, Professional, and Social Activity Preferences of Engineering Students

12:00PM-12:10PM- Abbey Poirier

~Breaking Barriers: Dismantling the School-to-Prison Pipeline Through the Use of Positive Behavior Interventions

PERFORMING ARTS SHOWCASE

Performing Arts Showcase
Thursday, April 10, 6:00pm
Mary and Al Danos Theatre at Talbot Hall

Nicholls State University

String Quartet Op. 18 No. 1, Movt. 1
Ludwig van Beethoven (1770-1827)

String Quartet: Luhan Lucena, Ivo Gomes, Abraham Ruiz, Miqueias Santana,
Mentor: James Alexander

McNeese State University

Canned Heat
Eckhard Kopetzki (b.1956)

Luke Pacetti – Percussion
Mentor: Lonny Benoit

University of New Orleans

Idle Moments
Grant Green (transcr. Elijah Driggs)

Elijah Matthew Driggs – Guitar
Mentor: Brent Michael Rose

Grambling State University

Dancing with You for the Last Time
original dance choreography

Isaiah Johnson – Dance
Mentor: Kyle T. Zimmerman

PERFORMING ARTS SHOWCASE

Performing Arts Showcase
Thursday, April 10, 6:00pm
Mary and Al Danos Theatre at Talbot Hall

Louisiana Tech University

Prelude in G minor, Op. 23, No. 5
Sergei Rachmaninoff (1873-1943)

Katie Roberts – Piano
Mentor: Steele Moegle

Northwestern State University

String Quartet No. 12, Op. 96. in F major, "American"
Antonin Dvorák (1841-1904)

String Quartet: Oscar Carballo, Carlos Dias Del Valle, Ronald Zaldana, Jesus Calderon
Mentor: Sofiko Tchetchelashvili

University of Louisiana-Lafayette

He's Got the Whole World in His Hands
Ray Liebau (b. 1937)

UL Chamber Singers: Andrew Courville, Mary Kate Cramer, Ty Crump, William Davis, Ashlee Dixon, Caleb Dixon, Margaret Dun, Lance Dupre, Lily Green, Steven Guillory, Matthew Hawthorne, Joel Iler, Jackson Kenney, Madison Kyle, Teresa Luong, Parker McDonald, Ana McMurray, Aubry McMurray, Kamrin Miguez, Brenley Murry, Braeden Orgeron, Nicholas Pevey, Hailey Poche, Ashtyn Raxsdale, Gwyneth Rees, Daniel Richard, Natalie Romero, Timothy Sam, Kaelan Shipp, Katherine Smith, Luna Touchet, Kinsey Waits
Director: Dr. William Plummer

A Bath Without You

UNIVERSITY OF NEW ORLEANS

COLBY ADRIANO

This piece captures the moment of a man laying in a bathtub oblivious to the viewer's presence. There is a strong influence of 1970s interior design and a color palette reflective of that time period which evokes a nostalgic feel and highlights the timeless act of bathing. The top down perspective invites the viewer to explore the beauty of such a simple act of an everyday routine.

ABSTRACTS RECEIVED

Determination of the Effect of Hydrogen Peroxide Concentration on Treatment Efficiency of Perfluorooctanoic Acid (PFOA) Under Ultraviolet Irradiation

UNIVERSITY OF LOUISIANA AT LAFAYETTE

KATHERINE ASHURST

Perfluorooctanoic Acid (PFOA) is a perfluorinated carboxylic acid that is one of more than 3000 “forever chemicals” in the perfluoroalkyl substance (PFAS) family. PFOA has had environmental consequences because it is a non-biodegradable and bioaccumulative carcinogen. One method for the removal of PFOA is ultraviolet irradiation with hydrogen peroxide treatment. For the purposes of PFOA removal, peroxide can be introduced to the removal reaction in either batch or semi batch addition. The object of the peroxide is to aid in the removal of C8 and its breakdown products. The efficiency of removal of PFOA was analyzed using liquid chromatography and mass spectrometry. It was determined that the highest rate of removal was a product of the use of lower concentration of peroxide with semi batch addition. Semi batch addition is necessary because the peroxide level decreases as the reaction continues. Semi batch addition ensures that the peroxide level remains in a proper range throughout the reaction. High levels of peroxide without dosing were determined to be the least effective. This outcome also has greater fiscal efficiency. It was concluded that low levels of hydrogen peroxide with semi batch addition is the most effective treatment of perfluorooctanoic acid with ultraviolet irradiation.

ABSTRACTS RECEIVED

Surface and Electrochemical Characterization of Poly(oxyphenylene)-Coated Mild Steel and 17-4 Stainless Steel

UNIVERSITY OF LOUISIANA AT MONROE

HOLLEN AULDS

CO-AUTHOR: JENNA ETHERIDGE

Poly(oxyphenylene) (POP) coatings were electrochemically deposited onto mild steel and 17-4 stainless steel substrates using a two-platinum cathode setup at various voltages and deposition times. The corrosion resistance of the POP-coated samples was evaluated in 3.5% NaCl using electrochemical impedance spectroscopy (EIS) and open-circuit potential (OCP) at room temperature, with measurements taken every other day until coating failure. Equivalent circuit modeling was used to interpret EIS and OCP results for the coated films. Cyclic voltammetry (CV) was also performed every other day in 2 mM $K_3Fe(CN)_6$ in 3.5% NaCl to monitor surface degradation over time. Surface thickness measurements ranged from 3 to 11 µm, with attention given to thinner or porous regions contributing to early corrosion. POP coatings applied at ≥5V and with deposition times ≥15 minutes demonstrated superior adhesion and high electrochemical stability on both mild steel and stainless steel substrates. These samples remained intact for extended periods, indicating strong corrosion resistance.

ABSTRACTS RECEIVED

Observing Cellular Nature

LOUISIANA TECH UNIVERSITY
TAYLOR BAILES

Visual media is a bridge that connects everyday people to scientific concepts. Research and pattern can be combined to promote education and curiosity in individuals from every walk of life. In this study, I seek to explore the visual and conceptual connections found between cellular structures and larger natural forms. I am developing a series that translates microscopic observations into large-scale paintings. Skeleton landscapes spring forth trees built from the osteons found within bones, while microscope slides are upscaled into large gradient paintings that highlight the hidden wonders of the microscopic world through bacterial formations and other organic structures. The purpose of this is to provide interesting and safe material for any person to engage with and learn without the need for access to a laboratory or protective wear.

ABSTRACTS RECEIVED

Comparing Fouling Community Development in Two Saline Environments Along Louisiana's Coast

UNIVERSITY OF NEW ORLEANS

HILLARY E HERNANDEZ BARRERA

Fouling communities, include barnacles, bryozoans, and crabs, which colonize submerged human-made structures (e.g., docks, seawalls). These communities are a food source and enhance three-dimensional refuge for higher trophic levels, yet they also potentially harbor and spread nuisance species. Thus, understanding their ecology is crucial with rapid increase in submerged infrastructure in environmentally dynamic systems. We compare the development of fouling communities in two saline environments along Louisiana's coast: Shea Penland (SP), a fresher area, to more saline waters at Grand Isle (GI). We hypothesized community development would differ between sites and through time due to the influence of salinity on species diversity and physiology. At each site, twenty plates (10 x 10 cm) were deployed in January 2023 to allow organisms to colonize and from April to September, five plates were collected at 3, 5, 6, and 8 months. Species presence and abundances were analyzed using point-intercept method. Bray-Curtis Index of Dissimilarity was used to compare community composition. A Permutational Analysis of Variance indicated communities differed between sites and among intervals. Initially, plates at GI were colonized by barnacles and encrusting bryozoans. By month 6, organisms were covered in sediment, and by month 8, coverage declined. At SP, erect bryozoans covered plates at 5-months, but at 6-months, barnacles occupied 100% of plates. By month 8, barnacles were dead and covered in bryozoans. Louisiana's fouling communities developed differently despite similarity in substrate and time of year. Future research should investigate associations between abundances with variations in salinity and temperature.

THE UNIVERSITY of NEW ORLEANS

ABSTRACTS RECEIVED

Ghanaian Odonata: Regional Species Distributions, Wing Morphology, and Flight Behavior

LOUISIANA TECH UNIVERSITY

LILLIAN BLANCHARD

We collected 1,895 dragonflies and damselflies (Odonata) across Ghana. We collected several families of dragonflies and used Libellulidae to assess the morphological characteristics of their wings related to different flight behaviors. Different dragonfly taxa are classified as perchers or fliers based on their flight styles, and these differences are correlated with variation in wing morphology. To assess the wing surface in greater detail, we scanned them using an SEM (scanning electron microscope). We scored the SEM images of the wings to organize and compare differences and similarities among perchers and fliers. We also conducted a comparative analysis of the pterostigma in both fliers and perchers. The pterostigma is an understudied organ at the wingtip of odonates, thought to improve stability by reducing flutter in flight. We hypothesized that fliers would have larger pterostigma than perchers due to their increased flight demands. For each specimen studied, we used ImageJ to obtain area measurements of the pterostigma, forewing, and hindwing. An ANOVA found that perchers and fliers are significantly statistically different in their pterostigma size, but contrary to what we hypothesized. The inverse results have led us to question whether our current understanding of odonate flight and the pterostigma are accurate. Lastly, we have created the first Species Distribution Models for Ghanaian odonates.

ABSTRACTS RECEIVED

Modulation of Inflammatory Proteins and Cancer Cell Survival in TIB73 Mouse Liver Cells Exposed to Pentachlorophenol

GRAMBLING STATE UNIVERSITY

LOUIS BOAHENE

CO-AUTHORS: MICHAEL ADOFO, ALBERT NYAUNU

Clinical studies have revealed a troubling link between inflammation and chemotherapy resistance in cancer patients, posing a significant hurdle for healthcare professionals striving to create effective anticancer treatment strategies. Inflammatory response proteins, commonly referred to as cytokines, are significantly present in about 40% of human cancers, including common types such as breast, colon, and small lung tumors. When inflammatory gene proteins are activated in the body, they give rise to an inflammatory microenvironment—a unique setting where cancer cells often use their specialized signaling mechanisms to evade destruction by chemotherapeutic agents. To explore this phenomenon in detail, we conducted experiments exposing TIB73 mouse liver cells to varying concentrations of pentachlorophenol (PCP), a wood preservative known to induce inflammatory responses. Our research revealed that key pro-inflammatory cytokines—such as IL-1, phos-NF-kB, phos-ATF2, STAT3, and TNF-α—are present throughout various stages of cancer progression and drug resistance, creating an environment that nurtures cancer cell growth. The data gathered from our study suggest that the PCP-treated TIB73 mouse liver cells indeed generate a hostile cancer microenvironment through inflammatory gene proteins.

Interconnected

UNIVERSITY OF NEW ORLEANS

CAMERON E BONI

I wanted to create a piece that shows the loss of humanity as the digital world and internet continually develop. Old technology becomes a relic as we become more connected and almost idolize the virtual space. This artwork invites viewers to reflect on their own relationships with technology. As we embrace innovation, what do we risk leaving behind? How do we preserve the essence of humanity and maintain meaningful connections in a world where screens often replace faces?

ABSTRACTS RECEIVED

Comparative Survey of Student and Employee Interest in Sustainability at UNO

UNIVERSITY OF NEW ORLEANS

EMMA G BOURGEOIS

This research project compares results from a survey given in 2023 and 2024 to UNO students and employees about sustainability. The purpose of this project is to learn of student and employee interest and general attitude towards establishing greener practices on campus and to compare results collected from the same survey given in 2023 and 2024 to examine any changes in overall campus community behavior. The data collected will be used to determine what sustainable practices are desired by our community with the hope of being implemented on campus.

THE UNIVERSITY of NEW ORLEANS

ABSTRACTS RECEIVED

An Assessment of Coyote (*Canis latrans*) Ecology Along Coastal Louisiana and Texas: Preliminary Results

MCNEESE STATE UNIVERSITY

TANNER BROUSSARD

Coyotes (*Canis latrans*) in southwest Louisiana have been referred to as Gulf Coast canids because they share genetic similarities with the extirpated red wolf (*Canis rufus*) and are similar in size to known red wolf-coyote hybrids. Thus, these individuals may represent a unique hybrid population. The objectives of this research are to investigate coyote spatial ecology, survival, genetic variation, diet, and disease prevalence. During 2024-2025, coyotes were captured in southwest Louisiana using foothold traps with offset jaws. For each individual, external measurements and blood samples were collected, and a GPS collar was fitted to their neck. Each collar is programmed to collect 4-6 locations/day until collar failure (1–2 years). Currently, seventeen coyotes (8 M, 9 F) have been collected. Mean external measurements are: hind foot length (20.1 ± 1.2), body mass (16.1 kg ± 2.24), skull width (9.3 cm ± 0.84), and tail length (35.7 cm ± 3.24). Preliminary morphometric data from this population is similar to known coyote-red wolf hybrids, although skull width is smaller than that of typical eastern coyotes. Future research will continue to trap and monitor additional coyotes in southwest Louisiana and southeast Texas.

ABSTRACTS RECEIVED

String Quartet No. 12 Op. 96 in F major: "American"

NORTHWESTERN STATE UNIVERSITY OF LOUISIANA

OSCAR CARBALLO

CO-PERFORMERS: CARLOS DIAZ DEL VALLE (VIOLIN 2), RONALD ZALDAÑA (VIOLA), AND JESUS CALDERON (VIOLINCELLO)

composer: Antonín Dvorák

Antonin Dvorak's String Quartet No. 12 in F Major, Op. 96, commonly known a the "American Quartet" is one of his most beloved chamber works. Composed in 1893 during his stay in the United States, specifically in Spillville, Iowa, the quartet reflects both his Czech heritage and his fascination with American musical influences. The piece is characterized by its lyrical melodies, rhythmic vitality, and folk-like themes, which some attribute to African American spirituals and Native American music that Dvorak encountered in America. The second movement presents a heartfelt and melancholic theme, and the finale brings the piece to a spirited and triumphant close. The American Quartet remains a staple of the string quartet repertoire, admired for its warmth, accessibility, and synthesis of cultural influences.

ABSTRACTS RECEIVED

Tenebris

UNIVERSITY OF NEW ORLEANS

BRANDON CLARK

This is a self-portrait using graphite on black paper. I made it to embody how I felt in the moment of creation. It was dark time to say the least. That is where the name Tenebris comes from; it translates to darkness in Latin. It is also the etymological precursor to the term "tenebrism" which is used to describe the darkening or obscuring of something in painting. I employed this concept to create a minimal but precise portrait, suggested only by a faint light source from the side.

ABSTRACTS RECEIVED

The Impact of Mental Health on Overall Quality of Life and Physical Health in Adolescents with Type I Diabetes

NICHOLLS STATE UNIVERSITY

RYLIE CLEMENT

Type I diabetes is a chronic condition that is primarily diagnosed in younger children or adolescents that requires around-the-clock care and attention, heavily impacting the physical and mental aspects of a patient's life. This literature review was conducted by Rylie Clement, student nurse from Nicholls State University, to highlight the impact that such a condition has on the well-being of the individual involved, while also discussing the benefits and importance of providing a holistic treatment approach, with a heavy focus on nursing education. The studies analyzed found that there is a strong relationship between diabetes and mental health conditions, such as depression and anxiety, with a subsequent poorer blood glucose control in affected individuals. Additionally, it was found that when providing a collaborative treatment of Cognitive Behavioral Therapy (CBT) with primary nursing education, improved glycemic control and long-term overall health effects resulted. Furthermore, it was concluded that the physical impact of diabetes alone contributed to mental distress, causing a cycle of challenges to the individuals affected. By acknowledging the dual-impact that this condition has, nurses and other healthcare providers can provide a more cohesive treatment plan that will better improve patient outcomes. This research highlights the significance of early education through a holistic approach, especially in adolescent years, as well as on early mental health support for individuals diagnosed with type one diabetes.

ABSTRACTS RECEIVED

Brain to Bone: The Physiological Effects of Psychological Stress on Bone Health

UNIVERSITY OF LOUISIANA AT LAFAYETTE

KARLY DAIGLE

Mental health is a growing area of focus, with increasing efforts to raise awareness about the impact of stress on the brain. However, psychological conditions extend their effects beyond the brain, influencing various physiological systems. This review explores the adverse effects of prolonged emotional stress, psychological disorders, and mental health struggles on bone health. By integrating insights from ten scholarly sources, this research examines the complex interplay between psychological stress and bone metabolism, focusing on the roles of the gonads, adipose tissue, immune cells, and the parathyroid gland in maintaining skeletal integrity. Additionally, the review highlights how stress-induced behaviors such as poor diet, substance abuse, and sedentary lifestyles may also exacerbate bone deterioration. With relevance to forensic anthropology, this study investigates how skeletal remains can reveal insights into the emotional well-being of deceased individuals. Understanding the physiological markers of chronic stress on the bones can offer valuable information about the deceased's psychological state, contributing to a more comprehensive understanding of their life circumstances and the events leading to their death. Ultimately, this review aims to conceptualize the intricate connection between mind and body, demonstrating how mental health profoundly influences physical health, with significant implications for both medical and forensic fields.

ABSTRACTS RECEIVED

Effective Implementation of ABB 4600 Industrial Robot for Automated Timber Inspection and Sorting

NORTHWESTERN STATE UNIVERSITY OF LOUISIANA

ZAIBA DAUD

CO-AUTHORS: NORMAN MARTINEZ REYES AND PHILLIP EVANS

This study aims to optimize the integration of robotics into the timber processing industry, balancing automation with cost-effectiveness and safety. The findings will provide valuable insights into improving manufacturing efficiency, reducing labor-intensive tasks, and enhancing defect detection accuracy. The successful implementation of the ABB 4600 robot will serve as a benchmark for future automation projects in similar industrial settings, contributing to the broader advancement of smart manufacturing and human-robot collaboration.

ABSTRACTS RECEIVED

A Spatiotemporal Analysis of the 1965 Palm Sunday Tornado Outbreak

UNIVERSITY OF LOUISIANA AT MONROE

SAWYER DELATTE

The United States experiences more tornadoes than anywhere else in the world. While many tornadoes occur in isolated events, the majority happen within tornado outbreaks, where multiple tornadoes spawn within the same meteorological system. Historically, the two largest tornado outbreaks to impact the United States are the 2011 and 1974 Super Outbreaks. It is these events that exist at the front of mind for most Americans. Often overlooked, however, is the 1965 Palm Sunday Outbreak, which resulted in fewer recorded tornadoes than the most famous events, but actually included a higher relative percentage of violent tornadoes. With this in mind, here I present a detailed analysis of the 1965 Palm Sunday Outbreak across space and time. The goal is to provide an improved understanding of the spatial and temporal factors associated with the tornadic event, while also providing a template for analysis that can be applied to other historical data for a deeper understanding of the relationship between humans and tornadoes in the United States.

ABSTRACTS RECEIVED

Enhancing Workplace Productivity and Health Through Optimal Lighting Solutions: A Case Study

NORTHWESTERN STATE UNIVERSITY OF LOUISIANA

PEYTON DELAYNEY

CO-AUTHORS:STEVEN WIGGINS AND JOSEPH LAUGHLIN

This study examines the impact of lighting conditions on employee performance and well-being at a client's workplace in Natchitoches, Louisiana. The research aimed to determine whether improved lighting could enhance productivity, reduce fatigue, and promote overall health. Findings revealed that optimal lighting, particularly daylight-like illumination, significantly improved worker efficiency and comfort. Natural light also provided psychological benefits that enhanced safety and well-being. To implement these improvements, the study recommends adding more lights or installing skylights in key areas. Sharing these findings with the client's leadership and planning the next steps for implementation are advised. These upgrades are expected to create a healthier and more productive work environment. This study highlights the critical role of proper lighting in supporting employee performance and workplace satisfaction.

ABSTRACTS RECEIVED

A Microchip Pipeline for Reading Brain Signals and Utilizing Machine Learning in Video Games

SOUTHEASTERN LOUISIANA UNIVERSITY
ERICK DIAZ
CO-AUTHORS:TRENT LAW AND BRENNAN KIMBRELL

This project presents a brain-computer interface system that utilizes EEG signals to control a character in a Python-based game. The EEG circuit consists of two forehead electrodes and a reference electrode placed on the earlobe. The signal undergoes preprocessing through six key stages: amplification, a 60Hz notch filter, a 7Hz high-pass filter, a 1Hz high-pass filter, a 40Hz low-pass filter, and a 120Hz notch filter. The processed signal is then transmitted to an Arduino for digitization and sent to a Python script, where a Fast Fourier Transform algorithm is applied to the signal. The filtered frequency determines the character's movement: high-frequency signals move the character to the right, while low-frequency signals move it to the left. In addition, we plan to use four different machine learning algorithms to determine which algorithm is the most accurate and efficient in uncovering which Monster Hunter: World weapons have hidden elements. The four machine learning algorithms we will be testing in this project are ANN (Artificial Neural Network), SVM (Support Vector Machine), DT (Decision Tree), and K-NN (K-Nearest Neighbors).

ABSTRACTS RECEIVED

Supercomputer Enhancements and Particle Physics Simulations in High-Energy Physics Research

LOUISIANA TECH UNIVERSITY

ELIZABETH DIEGUEZ
CO-AUTHORS:TIMOTHY DRODDY AND KAMDEN PERKINS

High-energy particle physics software, such as Geant4 and Fluka, is used in the design of the MOLLER (Measurement of Lepton-Lepton Electroweak Reaction) experiment that seeks to make an ultra-precise measurement of the weak mixing angle using parity violation asymmetry in electron-electron scattering. The MOLLER experiment will be carried out at the Thomas Jefferson National Accelerator Facility in Newport News, VA. Undergraduate students involved in this project in the Louisiana Tech Center of Applied Physics Studies (CAPS) were supported by an NSF grant, with Dr. Beminiwattha as the principal investigator. As part of their work, they upgraded an on-campus supercomputer with CentOS 7 operating system and installed all the software to do the necessary computations. For example, they will, locally at Louisiana Tech, determine the undesired background radiation that will be present from various nuclear reactions when the experiment takes place. To better understand and improve the experiment, they will be able to compare the results between Geant4 and Fluka. This presentation will discuss improvements made, challenges encountered during the computer upgrade, and their impact on the project.

ABSTRACTS RECEIVED

Idle Moments

UNIVERSITY OF NEW ORLEANS

ELIJAH MATTHEW DRIGGS

As our society's lens constantly shifts to and from different styles of music and the field constantly evolves, it is important that we take the time to appreciate and learn from the individuals who have paved the way for us. That is why I have taken the time to transcribe Grant Green's 1965 record, Idle Moments. I will be performing Grant Green's solo on the title track and discussing what makes Grant Green, from my findings, a fundamental master of the guitar. Through transcription, we have the opportunity to learn from musicians whom we may never otherwise be able to hear from, and that is what I hope to have accomplished through this.

THE UNIVERSITY of NEW ORLEANS

ABSTRACTS RECEIVED

Formation of Environmental Persistent Free Radicals to ZnO at Room Temperature

NORTHWESTERN STATE UNIVERSITY OF LOUISIANA

MALAYAH EALEY

Environmentally persistent free radicals (EPFRs) are a significant concern due to their stability and potential health impacts. These radicals are formed through the interaction of organic compounds with transition metal oxides during thermal processes such as combustion and pyrolysis. This research aims to elucidate the mechanisms of EPFR formation, their stability, and their environmental and health impacts. Using density functional theory (DFT) and other computational modeling techniques, we simulate the interaction between organic molecules (e.g., phenols) and metal oxide clusters (e.g., NiO, CuO, ZnO) to identify stable intermediates and products. Energy calculations provide detailed profiles of the reaction pathways, including transition states and activation energies. Structural analysis helps predict how radicals are stabilized on metal oxide surfaces, forming persistent complexes. The reactivity of EPFRs is assessed by modeling their ability to generate reactive oxygen species (ROS) such as superoxide, hydrogen peroxide, and hydroxyl radicals. Environmental chamber studies simulate various conditions to predict the stability and reactivity of EPFRs, providing insights into their long-term persistence and toxicity. This research contributes to a comprehensive understanding of EPFRs, informing strategies to mitigate their environmental and health impacts. By advancing our knowledge of EPFR formation and reactivity, we aim to develop effective measures to reduce their presence in the environment and protect public health.

ABSTRACTS RECEIVED

Poor Things and the Male Gaze as a Device to Mock Masculinity

NICHOLLS STATE UNIVERSITY

AMY EASTWOOD

Yorgos Lanthimos' 2023 film *Poor Things* is surrounded in discourse about whether it is a feminist film that promotes the freedom, rights, and bodily autonomy of women, or one that completely fails to do so because it reverts to images, tropes, and fantasies that evoke the male gaze. Although critics can debate if Lanthimos succeeded in making Poor Things a feminist film, there is no doubt about what his intentions were. In an article published by TIME, it quotes him as saying, "Power is the story of a woman," and explains that this belief is why he chose to tell this story from the perspective of the main character, Bella." (Lang, 2.) Thus, Lanthimos purposefully uses the masculine gaze and cliché tropes that appeal to a male audience to draw our attention to these stereotypes, and ultimately reverses our expectations, with the result being a mockery of masculinity and misogyny, and in turn the success of his intentions to create a feminist film.

ABSTRACTS RECEIVED

Signal Optimization for a Capacitive Sensing Device

LOUISIANA TECH UNIVERSITY

HANNAH ELLIOTT

Multiphase phenomena play a critical role in many natural and engineered processes that are vital to the sustenance and quality of human life, such as biological functions, water cycles, resource management, power plants, refrigeration systems, manufacturing, and food production. A major scientific barrier to understanding these processes and achieving greater efficiencies is the limited understanding of multiphase phenomena at the small length and time scales associated with the moving contact line, which is the three-phase region where solid, liquid, and gas phases coincide. A practical means of achieving contactless moving contact line detection is through capacitive sensing, in which metallic features create a sensing field whose capacitance changes when a phase interface passes through it. This concept has been demonstrated previously with sessile and impacting droplets using microfabricated sensors. However, the signal noise generated by the existing circuitry that supports these sensors limits this sensing schemeâ€™s applicability to very few fluids and thus represents a major limitation for capacitance sensing. In this work, we present a new circuit design capable of reducing this electrical noise and enhancing the detection limits and overall performance of contactless capacitance sensing of moving contact lines and the science behind multiphase phenomena. It is shown that a cascading operational amplifier system consisting of an RC oscillator and a differential amplifier provides the highest level of noise reduction, and that overall noise is reduced compared to the existing solution.

ABSTRACTS RECEIVED

Ground-truthing Louisiana Waterthrush Habitat Suitability Index Model by Students in a Service-learning Course at Louisiana Tech University

LOUISIANA TECH UNIVERSITY

HOLLY EUBANKS

In hospitals that perform radiation cancer treatments, the electrons produced by electron linear accelerators are used to treat patients from different angles. The radiation shielding effectiveness of the shielding walls has been investigated for a few beam orientations using Fluka, a simulation software for high-energy particle physics. For some orientations, the simulated radiation was compared to measurements performed as part of a Louisiana Tech Medical Physics class. The results of this comparison, discussed in this presentation, will help improve the understanding of Monte Carlo simulations.

ABSTRACTS RECEIVED

Uncovering an Understanding: A Students Journey into Complex Labels

SOUTHEASTERN LOUISIANA UNIVERSITY

SOPHIA FOTO

Understanding diagnostic labels is essential for speech-language pathologists, as these classifications impact access to services, patient advocacy, and equitable care. This project examines the complexities of diagnostic categorization through an advocacy-focused reflection portfolio. By analyzing subpopulations such as dyslexia, language/literacy disorders, and cluttering, this study explores how clinicians navigate these labels, their real-world implications, and their influence on communication access and inclusion. The portfolio's structured reflections informed by peer-reviewed research, ASHA guidelines, and community-based perspectives allowed for the exploration of (1) the role of diagnostic labels in shaping clinical advocacy, (2) ethical considerations in ensuring accurate and inclusive labeling, (3) the impact of cultural and societal biases on diagnosis and service delivery, and (4) the necessity of critical self-reflection in promoting equitable clinical practices. This presentation will highlight the evolving nature of diagnostic classification and its profound implications for advocacy, access, and social justice in speech-language pathology.

ABSTRACTS RECEIVED

The Role of Culture in Shaping Attitudes and Identity

GRAMBLING STATE UNIVERSITY

DR. MARY GHONGKEDZE

CO-AUTHOR: ASHLEY MARSHALL

Black History is a time to acknowledge and appreciate the beauty in our God given differences in culture and tradition. For February 2024, the class of ED 325 Teaching Reading in Elementary schools, are aware of the importance of exploring an understanding of traditional values, customs, and beliefs that shape peoples' identity. Candidates engage in activities to develop skills of cultural competence as future teachers from Grambling State University. Consequently, to develop how different traditions shape our identities the ED 325 class in collaboration with the North Louisiana Council Members chose to celebrate the day with the students at Lincoln Prep School.

ABSTRACTS RECEIVED

Student Organization Focus on Service Learning

SOUTHEASTERN LOUISIANA UNIVERSITY

HANNAH GLOVER

CO-AUTHOR: ROSE BYRD

The Southeastern Louisiana University (SLU) Honors Society Association (HSA) is an academic organization designed to recognize, grow, and support students who demonstrate excellence throughout their time at the University. In HSA, our objective is to help better the academic careers of SLU students and engage them in community service events. Our organization is meant to help students with their studies, leadership goals, and community involvement. HSA has been a part of a handful of service and academic events, including, making care packages for veterans, writing letters to healthcare providers, and expanding our horizon by improving our connections and participating in workshops that aid us in better understanding different disabilities; fostering empathy and inclusion. HSA does not participate in these events for reputation and recognition purposes but instead for the self improvement of SLU students. This presentation will highlight the activities and services that the HSA hopes will inspire other students to take part in service learning activities.

ABSTRACTS RECEIVED

Temporal and Temperate Effects on the Behavior of *Ardea alba* (Great Egrets) at Chaplin Lake

NORTHWESTERN STATE UNIVERSITY OF LOUISIANA

HOLLON GOWER

CO-AUTHOR: CHRIS AKER AND BLAKE INABNET

Observing and analyzing behavior allows researchers to better understand how animals interact with their environment, respond to changes in ecological conditions, and adapt to environmental pressures. Great Egrets are a prominent example of an indicator species, as their behaviors can reflect the health and stability of the ecosystems they inhabit. Our hypothesis was twofold: (1), we predicted there would be a difference among behaviors, and (2) we anticipated that the frequency of certain behaviors would be influenced by changes in the environment. In this study we attempt to understand whether Egret behavior changes are indicative of changing environmental conditions. We focused on Great Egrets visiting Chaplin Lake at NSU. We conducted systematic observations to document their behaviors and analyze how these behaviors varied with environmental conditions. We observed that Great Egrets were significantly more active during moderate to high temperatures, particularly in the late afternoons. While there were significant differences in the frequency of behaviors, it was contrary to our initial predictions that wading behavior would be more prevalent; however, resting and preening emerged as the most common behaviors. Overall, our study highlights the importance of temperature as a factor influencing the behavior of Great Egrets, while also emphasizing the need for further research to explore additional environmental variables.

ABSTRACTS RECEIVED

Beyond the Border: Hispanic Heroes Shaping American History

SOUTHEASTERN LOUISIANA UNIVERSITY

FANNY GOYCOCHEA

CO-AUTHOR: FATIMA MARTINEZ

Hispanic individuals have made significant contributions to the United States, yet their impact is often overlooked. Through perseverance and dedication, they have shaped civil rights, law, science, sports, and the arts, breaking barriers and helping build a stronger nation. This exhibit reveals how leaders such as César Chávez, Dolores Huerta, Sonia Sotomayor, Alexandria Ocasio-Cortez, Lin-Manuel Miranda, Celia Cruz, Rita Moreno, Judy Baca, Ellen Ochoa, José M Hernández, Julia Alvarez, Katya Echazarreta, Roberto Clemente, Jorge Ramos, Óscar de la Hoya, and Jaime Jaquez Jr. overcame adversity, reshaped their fields, and expanded opportunities for all Americans—demonstrating that perseverance and civic engagement are essential to national progress.

To bring this history to life, we will embody two of these figures—one of us as Dolores Huerta, the other as Sonia Sotomayor—visually representing their presence and influence. Using historical analysis, interviews, and multimedia integration, this exhibit provides a firsthand look into the struggles and triumphs of these individuals, offering insight into their journey and legacy. From advocating for social justice and expanding legal opportunities to breaking boundaries in science, journalism, and entertainment, these individuals created opportunities that benefit all Americans. Their achievements exemplify resilience, dedication, and civic responsibility, reinforcing that true success is built by those who take action. This exhibit provides an opportunity to explore the contributions of these remarkable figures and appreciate their lasting impact on American history. Their legacies serve as a reminder that determination and commitment are essential in shaping the nation's future.

ABSTRACTS RECEIVED

The Minoan Double-Axe, A Tool and Symbol for Life, Religion, and Wealth.

NORTHWESTERN STATE UNIVERSITY OF LOUISIANA

KYLE HARGROVE

The Minoan double-axe was both important as a tool and eventually as an icon of the Minoan culture. The double-axe of Crete appeared as a tool in the Early Bronze Age and found wide use across Crete during the Minoan pre-palatial period (3600 BC – 2000 BC) for timber work, butchering, and stone masonry, including general purpose work expected from farmers and the general population. These products enabled the Minoan civilization to flourish. The Minoans built the first palaces around 2000 BC (the proto-palatial period), concurrently with the double-axe appearing on pottery, seals, and as mason marks. Around 1700 BC the double-axe became religious iconography within the neo-palatial period, seen in all forms of representation: pottery, seals, art, murals, physical decor, and votive offerings. Although other images underwent this form of transition, the double-axe was the most extensively used and spread. The collapse of Minoan civilization around 1400 BC coincided with the transition of double-axe iconography to a symbol of heritage. After the Mycenaean takeover of Minoan settlements and the remaining palaces in Knossos and Chania, the double-axe image remained, denoting a type of citizenship, birthright, or cultural tie to the Minoans, Crete, or the seemingly oppressed religious cult of the Nature Goddess.

ABSTRACTS RECEIVED

What Really Haunts Us

GRAMBLING STATE UNIVERSITY
SHA'MICHEAL HARRIS

Starting out as a catalog of favorite myths, legends, and rumors grew into a fascination of the otherworldly. This paranormal admiration sparked the idea for a show of my love for this genre of art but also my knowledge on it and to help expand others knowledge on it in a fun, interactive way. Being the experimental mind that I claim, I have combined 2D and 3D art pieces to bring different cultures' cryptids and legends into one room in hopes that it will ignite a curiosity and joy into others eyes. A look into What Really Haunts Us.

ABSTRACTS RECEIVED

Overcoming Bredt's Rule: Stabilizing Bridgehead Large Bicyclic Systems

MCNEESE STATE UNIVERSITY
CHELSEY HAYNES

Bredt's rule, the fundamental principle prohibiting double bonds at bridgehead positions in small bicyclic systems due to severe angle strain, has long guided synthetic strategy. Our computational analysis reveals key structural factors that can overcome these geometric constraints to stabilize anti-Bredt olefins (ABOs) in bicyclic systems. While traditional implementations of Bredt's rule correctly predict instability due to orbital misalignment, our density functional theory calculations demonstrate that strategic molecular engineering can stabilize these historically elusive species. Analysis of model compounds shows that increasing ring size systematically reduces pyramidalization angles and strain energies, with hydrogenation energies decreasing from 89.2 to 67.8 kcal/mol. DFT calculations further reveal distinct geometric signatures of stable ABOs, including reduced torsional strain and optimized π-orbital overlap. These insights provide a quantitative framework for designing isolable anti-Bredt systems and exploiting their unique reactivity in synthesis.

ABSTRACTS RECEIVED

Simulated Transient Absorption Spectroscopy of Polyacetylene: An Organic Semiconductor

NORTHWESTERN STATE UNIVERSITY OF LOUISIANA

BRODY HEARD

CO-AUTHOR: DR. ADONAY SISSAY

The identification of potential organic semiconductors for further research is increasing rapidly due to their processability, flexibility, and low cost. Advances in ultrafast (10-18 seconds) science, alongside the evolution of computational methods, have enabled new and more efficient techniques for studying electron motion —a key component in understanding conduction in organic semiconductors. Several Nobel Prizes in Physics and Chemistry have been recently awarded for pioneering the field of ultrafast science. Transient absorption spectroscopy (TAS) is an experimental technique that measures absorption levels of a targeted substance on an ultrafast timescale by tracing electron dynamics. This technique can be modeled by computational software. Polyacetylene, a conjugated molecule with alternating single and double bonds, exhibits π electron delocalization over its carbon backbone. The conjugation of the molecule greatly decreases the gap between the HOMO and LUMO orbitals, making it a good candidate for an organic semiconductor. RT-TDDFT calculations yielded a breakdown threshold of .01 au (0.514 V/Å). Furthermore, simulations of transient absorption experiments on polyacetylene demonstrate the molecule's absorption of energies corresponding to both valence (1.55 eV) and core (295 eV) electronic transitions in the near-IR and soft x-ray ranges. Monitoring the time-dependent core excitation peak around 295 eV can provide insight into the semiconductive properties of polyacetylene.

ABSTRACTS RECEIVED

Assessing the Needs of Current and Expectant Parents Affiliated with Southeastern Louisiana University

SOUTHEASTERN LOUISIANA UNIVERSITY

ELIZABETH HEBERT

This study analyzed and assessed the unmet needs of pregnant and parenting students and faculty at Southeastern Louisiana University, as well as campus awareness of the resources available to this population. These needs were measured through the use of a quantitative and qualitative survey. This survey was distributed to the faculty and staff of the Southeastern Louisiana University College of Nursing and Health Sciences, and College of Education. The survey received 186 (N=186) responses, with 145 being from students, and 41 being from employees. Out of 186 respondents, 29% were parents. Some of the key findings included that 73.8% of the respondents were unaware of Title IX resources for pregnant students, 86.3% of respondents were unaware of resources available for pregnant students, and 20% of students are pregnant, parenting, or both. The qualitative responses indicate that the largest unmet needs are child care and lactation spaces. Parents also expressed a need for flexibility and compassion from faculty. Based on the survey results and current evidence-based recommendations, the author recommends creating a more inclusive and compassionate policy, increasing campus awareness of resource accessibility, expanding existing resources, and exploring opportunities to create campus childcare facilities.

ABSTRACTS RECEIVED

Clementine Hunter: Plantation Painter

UNIVERSITY OF LOUISIANA AT LAFAYETTE

SYDNEI HENSON

This research explores the significance of an artist's influences shaped by individual experiences and adversities. It specifically focuses on Clementine Hunter, a self-taught Black folk artist from Louisiana who began her artistic journey on a plantation. By examining Hunter's work and the context of its creation, the study provides a deeper understanding of her influences. Hunter's paintings, created solely from memory, reflect her daily life—picking cotton, attending church, and performing household chores. This research highlights how one can comprehend an artist's experiences without firsthand knowledge, emphasizing the importance of design principles, such as balance and scale, in creating compelling art without formal training. The context of an artwork's conception is as vital as its execution. Hunter's innovative use of unconventional surfaces and her unique techniques reveal her resilience and creativity, showcasing how she found solace in painting amid her long workdays. This journey serves as an inspiration to recognize the role of mentality in creativity, influencing approaches, techniques, and interpretations of art.

ABSTRACTS RECEIVED

Hammond, America: The Duality of City Design

SOUTHEASTERN LOUISIANA UNIVERSITY

JOSEPH HOLMAN

CO-AUTHOR: COLBY (KOLI) MARTIN

Hammond, Louisiana (affectionately known as Hammond, America) is a confusing case of poor city planning. On the one hand, downtown Hammond is a walkable area with plenty of great businesses and detours for pedestrians to enjoy at any time of day. The area feels safe thanks to a large amount of lighting, and the presence of trees sprinkled through makes a more pleasant environment that doesn't get as hot during the summer. On the other hand, University Avenue is a mess, with claustrophobic sidewalks with little to no lighting, minimal tree coverage, and a speed limit that is treated like a suggestion which leads to unsafe conditions for cyclists. To combat this issue, and to create a walkable (and more prosperous) community I propose changing one lane (of the two going each way) to a combined bus and bike lane which would give more safety to cyclists and pedestrians and therefore give people a reason to get out of their cars. Furthermore, I propose renovating the sidewalks by increasing the amount of walking room, adding benches and bike racks, adding street lights for better safety and visibility, and adding more green spaces to improve heat dissipation along the sidewalks. These changes are inexpensive, common-sense ideas that will make the city of Hammond a much better place to live and walk without dependence on the auto industry.

ABSTRACTS RECEIVED

How Accurate are the Newer Apple Watches?

UNIVERSITY OF LOUISIANA AT LAFAYETTE
HAYLEE HOLT

The Apple Watch (AW) is a commercially available wearable device that measures cardiovascular and physiological data, including electrocardiogram (ECG) readings and estimated oxygen consumption via GPS tracking. While its convenience is appealing, its accuracy remains uncertain. This study evaluates the accuracy of heart rate (HR) data from the AW at rest and during exercise. We will compare two AW Series 9 devices (Apple Inc., Cupertino, CA) against a standard ECG system (COSMED USA Inc., Concord, CA). Twenty healthy participants (10 males, 10 females) are recruited. After informed consent and a PAR-Q survey, each participant's 60% max HR will be calculated. The University of Louisiana at Lafayette IRB approved the study. Participants will be trained in AW ECG measurement. For standard ECG, electrodes will be placed below each clavicle and on both sides of the lower ribcage. Resting HR will be recorded for 30 seconds. During exercise, participants will walk on a treadmill at 3.3 mph, with a 1-degree incline increase per minute, until reaching 60% max HR. Ratings of perceived exertion (RPE) will be recorded. Student’s t-test will compare AW and ECG data, while Pearson’s correlation will assess HR and RPE. We hypothesize AW provides ECG-comparable data for cardiac monitoring.

ABSTRACTS RECEIVED

Holy Rosary Institute from the series "Conversations about Death"

UNIVERSITY OF NEW ORLEANS

NICHOLAS LAWRENCE HUTSON

Conversations about Death is a body of work that idolizes aging monumental figures. This image is of the Holy Rosary Institute in Lafayette, Louisiana. It was an all black catholic girls school from 1913-1993.

THE UNIVERSITY of NEW ORLEANS

ABSTRACTS RECEIVED

Carbon Dioxide Mitigation via Water Absorption in Freshwater Ecosystems and Simulated Cultivation of *Chlorella vulgaris* and *Chlorella pyrendios*

UNIVERSITY OF LOUISIANA AT LAFAYETTE

KALEIGH JACKS

Industrialization, urban development, and population growth have led to a significant increase in greenhouse gas emissions, specifically carbon dioxide (CO2). The climate and ecosystems have been affected, striking a need for climate change. Carbon mitigation focuses on removal through Capture, Utilization, and Storage. Subsurface storage via injection has also undergone high consideration for CO2 mitigation, where carbon dioxide would be injected into geological saline aquifers and depleted hydrocarbon reservoirs. Because of this, a general increase in safety and possible pollutant leaching has arisen. Seismic activity via leaching is of the utmost concern, for direct carbon dioxide exposure to water generates carbonic acid, ultimately leading to an acidic environment on contact. Local communities have expressed concern for possible carbon dioxide leaching into recreational fishing waterways, causing an acidic environment for freshwater inhabitants. Several freshwater sources underwent testing, simulating a catastrophic carbon dioxide release, detailing the stability of the ecosystems, as well as the recovery following exposure. An algal system was generated to study the effect of algae growth in an ecosystem in relation to the surge of carbon dioxide. The algae biomass was studied to determine if exposure to carbonic acid would affect an aquatic species drastically upon a seismic fault.

ABSTRACTS RECEIVED

Ingestion of Microplastics by American Woodcocks in Boeuf Wildlife Management Area

LOUISIANA TECH UNIVERSITY

THOMAS JACKSON

Microplastics, defined as plastic particles ranging from1-5 mm in size, are a pervasive environmental issue. They can be introduced into the environment directly as pre-production plastic pellets known as nurdles, or microplastics can result from the degradation or fragmentation of larger plastics over time. When in the environment and ingested by wildlife, plastic fragments can irritate intestinal lining, create a false sense of satiety, and result in ulcers and nutritional deprivation. Twenty-five American Woodcocks (Scolopax minor) were donated by Louisiana hunters from the Boeuf Wildlife Management Area (WMA) from the 2022-2023 and 2023-2024 hunting seasons. To determine the incidence and quantity of microplastic ingestion, the GI tracts were dissected out, dissolved in a lye solution, then filtered through sieves to isolate material in the 1-5 mm size range. Microscope analysis is then used to categorize plastic by their color and type (fiber, film, fragment, nurdle, or foam). Going forward, we expect to continue receiving specimen donations through future seasons to continue working to determine the prevalence of microplastic ingestion in American Woodcocks living in the Boeuf WMA. This work is critical for preserving the health of native and wintering birds in Louisiana.

ABSTRACTS RECEIVED

She Still Remains

MCNEESE STATE UNIVERSITY

NYA JAMES

After losing my grandmother thirteen years ago, I began using her memory as inspiration in my still-life photography—she has become my muse. I explore how her influence remains with me and how I continue to heal from her passing. I selected personal objects that embody her presence: the Bible she read daily, prayer books she carried in her purse, the rosary she used as a bookmark, and the nightgown she wore when she first became ill. Arranging these objects in my still-life compositions, I aim to capture the warmth and comfort she brought into my life. To further express the lingering grief and gradual healing, I incorporated healing crystals, a small green vase with dried flowers from her funeral, and a pink love mala draped over her Bible and nightgown. A framed photograph of her, taken at my birthday party, anchors the composition, symbolizing our connection. These elements work together to depict the nature of loss—the pain of absence and the enduring presence of love. While my grandmother is no longer physically with me, she remains deeply embedded in my work. Her love, wisdom, and light continue to guide me, and through photography, I keep her memory alive.

ABSTRACTS RECEIVED

Determining Selectivity for Cations with O- and N-Containing Macrocycles through Competition Experiments

LOUISIANA TECH UNIVERSITY

TAYLOR JAMES

The rare earths, specifically lanthanides, are commonly studied for their coordination with macrocyclic ligands. These complexes are especially useful as contrast agents for diagnostic imaging and as theranostic agents. Many of these theranostic agents contain ions such as Sc^{3+}, La^{3+}, Y^{3+}, and Lu^{3+}, all of which are considered hard acids, meaning they have a strong preference for binding with O- and N-containing ligands. The most well-known example of a lanthanide-containing contrast agent is the family of gadolinium-based contrast agents (GBCAs) used in magnetic resonance imaging (MRI). Gadolinium is a commonly used lanthanide because of its high spin and lack of single ion anisotropy. A large problem with using gadolinium in contrast agents is transmetalation, where the metal ion encapsulated can be displaced by an in vivo metal cation. For example, Gd^{3+} in GBCAs is replaced by endogenous Zn^{2+} and Cu^{2+}. The purpose of our research is to investigate the competition of different alkali metals, alkaline earth metals, and lanthanides with a variety of O- and N- containing macrocycles. These studies will be conducted in solvents with varying dielectric constants. ^1H NMR and UV-Vis will be used to observe chemical shifts and changes in absorbance caused by the displacement of host metals with metals in salt solutions such as NaCl, KCl, $MgSO_4$, $SrCl_2$, and other diamagnetic cations. Comparisons will be made with lower denticity ligands where exchange has been observed.

ABSTRACTS RECEIVED

Dancing with You for the Last Time

GRAMBLING STATE UNIVERSITY

ISAIAH JOHNSON

Original dance choreography to song written with the aid of AI developed in Theatre Seminar Course on creative application or Artificial intelligence.

ABSTRACTS RECEIVED

Singing Before and During Menstruation: The Effects and Remedies

NORTHWESTERN STATE UNIVERSITY OF LOUISIANA

BROOKE JONES

This paper explores the impact of menstruation on female classical singers, addressing both the physical and emotional challenges they face during their menstrual cycle. Drawing from personal experience as a menstruating woman and classical singer, I aim to raise awareness about the overlooked effects menstruation can have on vocal performance. The study focuses on the physiological changes, such as swelling of vocal folds, laryngeal edema, and hormonal fluctuations, that can impair vocal technique, stamina, and breath support. Emotional changes, including mood swings and reduced serotonin levels, are also discussed, as they can affect confidence and performance. The research highlights various studies documenting vocal disturbances like hoarseness, voice fatigue, and difficulty hitting high notes during the luteal phase of the menstrual cycle. While acknowledging the lack of comprehensive solutions, the paper advocates for better communication between voice teachers and students and emphasizes self-care practices like setting boundaries, tuning into one's body, and taking rest days. The overall aim is to empower menstruating singers to recognize and manage these challenges for improved vocal health and performance.

ABSTRACTS RECEIVED

Birth of Charon

UNIVERSITY OF NEW ORLEANS
VLADIMIR LUCIUS JONES

This work depicts the ferry man Charon being born from a collective of orangutans, bridging the gap between the evolution of a man riding through the river of souls and the great apes watching him bring them across all space and time. The contingency of acclimation in the unity of this piece brings the viewer into a world where an angered Charon is seen attacking the orangutans. Nodes of red hair can be seen atop Charon's head from the remnants of his past self as an orangutan.

THE UNIVERSITY of NEW ORLEANS

ABSTRACTS RECEIVED

Pyrazolone Molecular Hybrids as Potential Anticancer Agents Against Colorectal Cancer

UNIVERSITY OF LOUISIANA AT MONROE

KABU KHADKA

CO-AUTHORS: SABINA DAHAL, ANTHONY AGU AND ATCHIMNAIDU SIRIKI

This work depicts the ferry man Charon being born from a collective of orangutans, bridging the gap between the evolution of a man riding through the river of souls and the great apes watching him bring them across all space and time. The contingency of acclimation in the unity of this piece brings the viewer into a world where an angered Charon is seen attacking the orangutans. Nodes of red hair can be seen atop Charon's head from the remnants of his past self as an orangutan.

ABSTRACTS RECEIVED

Detection of virulence genes by PCR in Clinical Isolates of *Staphylococcus aureus* from a Tertiary Hospital in Southern Louisiana

NICHOLLS STATE UNIVERSITY

BLAISE KLIEBERT

Staphylococcus aureus, a potentially pathogenic gram-positive bacterium, causes infectious diseases and postoperative complications. S.aureus has virulence genes that promote its ability to establish itself and cause pathogenicity in its host. Resistance to β-lactams in methicillin-resistant *S.aureus* (MRSA) is acquired by the transmission of a mobile genetic element, the staphylococcal cassette chromosome (SCC mec), carrying a methicillin resistance gene MecA which encodes for the penicillin-binding protein (PBP-2A). The Panton-Valentine leukocidin (PVL) gene encodes a cytotoxin that causes leukocyte destruction and tissue necrosis. Alpha hemolysin (Hla) gene codes for a β-pore-forming α-toxin that perforates the plasma membrane. Toxic shock syndrome toxin-1 (TSST-1) is a superantigen that over-stimulates T-cells; activated lymphocytes produce a cytokine storm which leads to inflammation and tissue damage. Genomic DNA was extracted from clinical MRSA isolates collected from a tertiary care hospital in southern Louisiana, and used for PCR amplification of mecA, PVL, Hla, and TSST-1 genes. The presence of thermonuc was used for species identification. PCR confirmation of the presence of virulence genes is a useful tool for epidemiology and understanding the role that these genes play in clinical outcomes.

ABSTRACTS RECEIVED

Comparing lysogens in Bacteriophages of *Arthrobacter globiformis*

SOUTHEASTERN LOUISIANA UNIVERSITY

FOLORUNSHO KUKOYI

The host *Arthrobacter globiformis* is a bacterium that is found in the soil. The bacteriophages in this project were isolated from soil samples by students in the 2023 Phage Hunters class. Our objective is to characterize lysogens of ten bacteriophages discovered in that class. Lysogenic phages integrate their genomes into the host chromosome and replicate when the host does. Occasionally they excise from the genome and enter into a lytic cycle. Eight bacteriophages were isolated from soil samples from Louisiana and two from soil from Nigeria. Spot tests were performed and the plates were incubated for a week to allow mesas to grow. The center of the spot was streaked to grow isolated colonies. These colonies could either be resistant *Arthrobacter globiformis* or lysogens. To date, lysogens of phages BenchScraper and Kovu have been isolated. BenchScraper is part of a cluster of phages known to integrate. However, no lysogens of phages in Kovu's cluster have previously been reported, making this a novel discovery. These lysogens prevent infection by several other phages, indicating that they may share a similar repression system. The remaining phages are currently being tested for lysogeny. Our findings will shed light on evolutionary relationships among these phages.

ABSTRACTS RECEIVED

Childhood Maltreatment and Childhood Trauma's Relationship to Working Memory

UNIVERSITY OF LOUISIANA AT LAFAYETTE

JACQUES LAUGHLIN

The current study will examine if childhood maltreatment and trauma has a relationship with working memory dysfunction. Previous research has indicated that childhood maltreatment and trauma has been linked to working memory dysfunction (Kuehl, 2019). The current study intends to build upon these findings. It is important to address this topic due to the high prevalence of childhood trauma and maltreatment in society today (Merrick, et al., 2019). Working memory is an important part of everyday life, and impairment in this region can have detrimental effects. By having a greater knowledge of the consequences of trauma possibly caused by maltreatment during childhood, we can treat victims more effectively. The current study intends to examine the possible association between the variables of child maltreatment, trauma, and working memory deficits by administering two self-response questionnaires and a working memory task. The main variables will be measured using the ACEs questionnaire (Behavior Risk Factor Surveillance System, 2021), the Childhood Trauma Questionnaire (Bernstein et al., 1994), and the Operation Span Task (Turner and Engle, 1989). The current study hypothesizes that differing scores in Childhood Maltreatment and Childhood Trauma will result in differences in Working Memory Function.

ABSTRACTS RECEIVED

A General Case Study of Esophageal-Speech Intelligibility with Tracheostomy, in Relation to Adult with Campomelic Dysplasia and Pierre-Robin Syndrome

NICHOLLS STATE UNIVERSITY

ADRIANNA LEBLANC

The following case study is centered around an adult female with Campomelic Dysplasia and Pierre Robin Syndrome. Both disorders produced congenital structural complications; Primarily, with the subject's respiratory structures and oral palate. The subject had a tracheoesophageal puncture and prosthesis surgically placed during infant years, due to severe difficulties with respiration. Additionally, the subject does not use a speaking-valve for verbalized communication. Due to the subject's congenital complications, the functions of typical voicing systems are altered. The chief voice systems altered are the respiratory, phonatory, and resonatory systems. Alteration of system functioning causes the subject's voice intelligibility to differ from normative standards. The subject utilizes esophageal speech.

Considering the rarity of esophageal speech, this study sought to determine the subject's overall intelligibility based on the perceptions of 100 randomized participants and to determine how intelligible the subject perceives their voice to be. The subject responded to the Voice Handicap Index (VHI) prior to the collection of a speech sample. After completion of the VHI, the subject was audio-recorded during the administration of a speech sample. The administration of the speech sample followed the instructions based on the Consensus Auditory-Perceptual Evaluation of Voice (CAPE-V). Each randomized participant listened to the pre-recorded audio samples of the subject speaking. After listening to the pre-recorded samples, each participant responded to the CAPE-V. Following the collection of results from 100 randomized participants, the results of the VHI and CAPE-V were analyzed and assessed for significant correlations between numbered results and qualitative perception of intelligibility.

ABSTRACTS RECEIVED

Shaking Up Science: Engaging Homeschoolers in Microplastic Exploration Through Hands-On Learning

LOUISIANA TECH UNIVERSITY

EMMA LOCKWOOD

Microplastic pollution is a growing environmental threat. As plastics break down into smaller fragments, their surface area increases, accelerating the release of toxic chemicals and allowing pollutants to adsorb onto their surfaces. To explore this issue, students in the Maness Organismal Biology Lab (MOBL) guided fifteen homeschool students and their parents through hands-on activities designed to illustrate surface area concepts and apply the scientific method to microplastic pollution. The session began with a brief lecture on plastic manufacturing and the global plastic pollution crisis. To highlight plastic's prevalence in daily life, participants received an informational flyer prompting them to count plastic items in the room. Next, homeschoolers worked in pairs to calculate the surface area of rectangular shapes made from plastic building blocks. They then divided the larger rectangle into two smaller sections and recalculated the total surface area, demonstrating how breaking objects into smaller pieces increases surface area. The second activity simulated how washing machines release plastic microfibers from synthetic clothing. Students placed red polyester socks in jars of water and shook them at different speeds to test how agitation affects microfiber release. MOBL members emphasized the importance of controls, guided students in forming hypotheses, and helped them filter the water to observe microfibers under a microscope. The results showed that faster agitation released more microfibers. Students concluded by brainstorming new questions for future experiments. These activities deepened their understanding of microplastic pollution while reinforcing key scientific concepts, like calculating surface area, making predictions, designing experiments, and collecting data.

ABSTRACTS RECEIVED

String Quartet Op. 18 No. 1, Movt. 1 (Allegro con brio), by Ludwig van Beethoven (1770-1827)

NICHOLLS STATE UNIVERSITY

LUHAN LUCENA, IVO GOMES, ABRAHAM RUIZ, AND MIQUEIAS SANTANA

Beethoven’s String Quartet No. 1 in F major, Op. 18 showcases his transition from classical to more innovative styles. The first movement, Allegro, introduces moments of tension and drama, most typically through sudden changes in dynamics and texture to produce a sense of movement and energy. The development section is indicative of Beethoven's inventiveness in manipulating the main outline of the theme and the movement concludes through a vigorous and resolute recapitulation of the original material. Many characteristics of vitality and contrast are exhibited in the movement, demonstrating how Beethoven was, in his early years, furthering the classical form he was writing in. This quartet blends traditional forms with Beethoven's emerging individuality, offering a mix of emotional depth, charm, and structural sophistication.

ABSTRACTS RECEIVED

Nature's Blowtorch: The Evolution of Cytochrome P450 Genes in the Fly Family Drosophilidae

UNIVERSITY OF NEW ORLEANS

TERRY LYLES

Modern day insecticide use has led to what has been referred to as an evolutionary arms race, wherein agricultural pest species evolve quickly to adapt to novel insecticides. In this perpetual struggle between humanity and pests, benign species are caught in the crossfire. The Drosophilidae fly family exemplifies this, as most species are harmless, with exceptions such as *Drosophila suzukii,* a catastrophic agricultural pest worldwide. Drosophilids are ideal for studying pesticide adaptation due to their genetic diversity and close relation to one of the most thoroughly studied model organisms, Drosophila melanogaster. The cytochrome P450 (CYP) gene family plays a key role in detoxifying both natural and synthetic substances, including insecticides. Known as “nature’s blowtorch,” CYP genes are able to oxidize a wide range of substrates. These genes, widespread across species, evolve through duplication, divergence, and death, often driven by environmental changes like human activity. The recent genomics revolution has produced an explosion of genome sequences and data availability, allowing more extensive analyses that were previously impossible. In this study, we look across Drosophilidae in an attempt to determine relationships between the evolution of the CYP gene family and ecological variation.

THE UNIVERSITY of NEW ORLEANS

ABSTRACTS RECEIVED

Cancer Progression and the Disruption of the Cell Cycle in TIB73 Mouse Liver Cells Exposed to Pentachlorophenol.

GRAMBLING STATE UNIVERSITY

LIFE MAKARUDZE

Exposure to environmental contaminants threatens human health by disrupting cellular processes such as the cell cycle. This disruption can lead to an elevated risk of developing cancer by causing cell cycle checkpoints to allow DNA-damaged cells to survive. One such contaminant is pentachlorophenol (PCP), a synthetic organochlorine compound that has been widely used as a wood preservative in the United States for more than 130 years. Its persistent presence in the environment raises concerns about its potential long-term impacts on both human health and ecological systems. Previous investigations in our laboratory have shown that PCP exerts both cytotoxic and mitogenic effects in human liver carcinoma (HepG2) cells, AML 12 mouse hepatocytes, and in the primary culture of catfish hepatocytes. In this study, we hypothesized that PCP would exert its genotoxicity in TIB73 mouse liver cells by disrupting cell cycle checkpoints. Employing the Western immunoblotting technique, we observed a dose-dependent upregulation of the 62 kDa -c-fos, 34 kDa-CDK1/2, 54 kDa-Cyclin A, 53 kDa-p53, and kDa 20-HSP20. The evidence obtained suggests that PCP possesses genotoxic properties, meaning it can alter or damage genetic material within cells. This genotoxicity leads to disruptions in critical cell cycle checkpoints, which are essential for the proper regulation of cell division and growth. Such disruptions are often associated with various forms of cancer, highlighting the potential risks and implications of exposure to environmental contaminants in the development of cancer.

ABSTRACTS RECEIVED

Embracing the Future: "The Transition to Artificial Intelligence in Higher Education and Its Impact on Learning, Teaching, and Institutional Transformation," an Empirical Study of Grambling State University

GRAMBLING STATE UNIVERSITY

AUGUSTINE MANU-FRIMPONG

AI enhances personalized learning, improves instructional methods, and streamlines administrative operations. The research highlights increased student engagement, academic performance, and operational efficiency through AI-driven initiatives such as intelligent tutoring and predictive analytics. However, challenges like faculty adaptation, ethical concerns, and infrastructure limitations remain. Recommendations include expanding AI platforms, enhancing faculty training, and strengthening data security. The study emphasizes the transformative potential of AI to create adaptive, innovative educational environments that prepare students for a technology-driven future.

ABSTRACTS RECEIVED

Learn, Grow, Resist: Uncovering Patterns of Resistance Among Enslaved Children

UNIVERSITY OF NEW ORLEANS

ELLA MAYFIELD

Enslaved children of 18th and 19th century America entered a world of work and punishment early in life, meaning they had to learn how to adapt and find autonomy within a system that exploited their labor and attempted to control and minimize their identities. They were not excluded from resistance on plantations, and in fact, they found unique methods of defiance that connected to their place within their communities and the resources they had access to. Their first exposure to resistance and determination came from the folktales, which featured clever characters that struck out against authority figures. Other inspiration came from tales of heroic African leaders and stories from the bible that encouraged strength through tribulation. As children took on these ideas of independence and courage from their families, they put them into practice by learning to read and write when it was forbidden, maintaining their autonomy through creative play, avoiding punishment, and at times breaking free from slavery. These ideas are to be incorporated into an exhibit on enslaved resistance at the Whitney Plantation, which is using public history to redefine the plantation narrative and center it on the experiences of enslaved people.

ABSTRACTS RECEIVED

"SERVICE LEARNING and LET US DREAM": The Impact of Global Leadership, Health and Social Issues in Educational Institutions Today.

GRAMBLING STATE UNIVERSITY

DR. SUZANNE MAYO

The 21st century has underscored global leadership 's pivotal role in socio-educational and health stability and progress. Higher educational institutions, governmental and not-for profit approaches to globalization, however, are markedly diverse, with some nations strategically prioritizing it while others exhibit relative neglect impact. This presentation investigates the realm of impact of The Let Us Dream (LUD) Conference (www.letusdream/2018) was in India at Christ University and the United States at Louisiana Tech University in Louisiana as the first American host. The LUD Conference in 2024 (www.letusdream/2024) hosted at Grambling State University focused on education, health and social issues with a special emphasis on Service Learning and A Presidential Panel of University Presidents representing six universities in the state of Louisiana and three from India and Germany (www.gram.edu/letusdream). Students from 36 countries at GSU, across the state of Louisiana and the throughout the United States participated in a day long proactive approach, rooted in recognizing the intrinsic link between community service activities, strategic prioritization of health and the global educational landscape of colleges and universities as the center cornerstone of strategic global positioning. This presentation recognizes the Let Us Dream framework which offers valuable lessons and a compelling case for its emergence as a significant voice and potential leader in shaping a future global dialogue among world champions in service learning and community engagement in education, health and social issues.

ABSTRACTS RECEIVED

Fruit Freshness Face-Off

NICHOLLS STATE UNIVERSITY

LUKE MEADE

CO-AUTHORS: PEIJAH BUTLER, HAILEY MASON, AND DR. ALLISON GAUBERT

Background: The Center for Disease Control and Prevention (CDC) recommends that consumers wash produce under warm running water for two minutes, while advising against the use of soaps and detergents. Despite this, commercially prepared produce washes are marketed to consumers.

Purpose: A paired-preference sensory evaluation test was performed to determine if consumers prefer produce washed per CDC guidelines or with commercially prepared washes.

Methods: Two samples each of apples and strawberries were prepared: one sample according to CDC guidelines and one sample washed with Clean Boss produce wash. Researchers labeled samples washed with water (003, 123) and with produce wash (004, 456). Participants tasted each sample and scored their preference for each using a 5-point Likert scale. Descriptive statistics (frequencies, percentages) were carried out to analyze participants' preferences.

Results: Twenty-eight participants tasted the four samples. Average Likert rating was relatively similar for all samples. Average preference rating for apples was slightly higher than for strawberries. More tasters preferred samples washed according to CDC guidelines for both apples (43%) and strawberries (50%).

Conclusions: Participants preferred produce washed in water when compared to those prepared with commercially produce wash. This should be repeated with a larger sample size and different fruit and vegetable samples for greater generalizability.

ABSTRACTS RECEIVED

From Clay to Context: The Significance of Bricks in Archaeological Research

UNIVERSITY OF NEW ORLEANS

MADISON MOLLERE

In Spring of 2023, the UNO archaeology lab led an excavation at Madame John's Legacy. I will focus on analyzing brick samples from this historic site and comparing them with those from St. Louis Cathedral. This analysis includes measuring the length, width, and thickness of each brick, as well as conducting a Munsell color analysis. These measurements and color assessments will help reveal variations within the samples. A key aspect of my research is to highlight the historical and architectural significance of both Madame John's Legacy and St. Louis Cathedral. Understanding the brick composition of these buildings not only aids in their preservation but also explains past failures in construction and maintenance.

THE UNIVERSITY of NEW ORLEANS

ABSTRACTS RECEIVED

A Visual Exploration of the Grief of Growing Up

LOUISIANA TECH UNIVERSITY

ABIGAIL MONARCH

Abigail Monarch's oil paintings explore the dissonance between her childhood environments and the adult presence within them. In her portfolio, two distinct approaches emerge: a realistic style that represents her present self and an abstracted, more cartoon-like style that captures how she envisions her past. Monarch uses oil paint as her primary medium for its vibrancy and its deep history as an ancient material. The tension between the medium's gravitas and the youthful, nostalgic subject matter heightens the sense of longing that infuses itself within her work.

There is an echo of being a child in the 2000s within her work, giving voice to the child still within her. She grieves the girl she once was, embodying her on canvas, not really fitting in the spaces she once could. Through saturated colors—the pinks of Barbie dolls, the greens of her front yard, and the blues of the community pool—Monarch explores the intensity of adolescence and the yearning for a past she can no longer revisit. Her work examines how her environments remain unchanged even as she continues to evolve, inviting reflection on the interplay of memory, identity, and place.

ABSTRACTS RECEIVED

How Personality Type Impacts Academic, Professional, and Social Activity Preferences of Engineering Students

LOUISIANA TECH UNIVERSITY

ASHTYNE MONCEAUX

CO-AUTHOR: CAROLINE CRESAN

Engineering students with different personality types can benefit from different types of support activities, though the impact may vary based on individual preferences and needs. Some students may prefer environments that allow for deep analysis and design, while others may find more satisfaction in activities that involve collaboration and communication, such as participating in engineering competitions or social events.

Those with different personality types can succeed in engineering by coming together and finding activities that align with their strengths and interests. Engineering is inherently collaborative, and all personality types bring valuable skills to the field. Therefore, the key is for students to engage in activities that help them grow personally and professionally, regardless of their natural predilections. The main purpose of this study is to identify how different personality types in students affect their enjoyment of and participation in professional and academic development to better cater activities to the majority of students. To assess student personality type, the IPIP (International Personality Item Pool) was administered to a group of engineering students participating in an NSF S-STEM Program. Student participants then took an additional survey to measure their participation in and enjoyment of different types of academic support, professional development, and social activities. The key findings of this research show that there is a positive correlation between extraversion and enjoyment of activities. These findings provide insights for tailoring social and academic experiences to better support students on both ends of the extraversion / introversion spectrum.

ABSTRACTS RECEIVED

Uneducated Cops Kill: Mandate Training for all Law Enforcement Agencies

UNIVERSITY OF LOUISIANA AT LAFAYETTE

HALEY MONTET

The public's attention is focused now more than ever on law enforcement training, specifically whether officers receive specialized training in de-escalation techniques, community-protection skills, or constitutional laws. As of 2024, there is no current federal mandate ordering a set number of hours for police officers across local, state, and federal agencies to attend before receiving policing powers such as the ability to arrest, detain, and execute lawful warrants. With no mandate, it is left up to the individual department to tailor training hours to the rates of crime and department budgets. However, without proper training, how can we expect police officers to protect and serve their community? Recent attempts to remedy the problem include the passing of Executive Order 14074, ordering the Attorney General to improve training and investigation powers for both state and local law enforcement agencies. This poster aims to display the differing amount of current training hours among states across the United States, potential issues arising from the lack of a federal mandate, and to advocate for a uniform approach to all mandated hours of training.

ABSTRACTS RECEIVED

Pondemonium: Runoff Pollution and the Effects on Microbial Populations

UNIVERSITY OF LOUISIANA AT MONROE

DESMOND MORDECAI

CO-AUTHOR: SUDIP KAFLE

In recent decades, as pollutant concentrations accumulate in aquatic ecosystems, the introduction of unnatural or toxic compounds alter the molecular environment causing cascading effects on organisms within the affected ecosystems. Common pollutants, such as petroleum derivatives, algaecides, herbicides, pesticides, and pharmacological compounds, originate as runoff from numerous sources including commercial, agricultural, and residential units after heavy rains; thus, this type of accumulative pollution is termed non-point source pollution. In order to ascertain the effects that the aforementioned pollutants have on bacteria populations, a variant of a common pollutant was inoculated into controlled, simulated ecosystems, hereby referred to as microcosms. Over the course of 8 weeks, data was collected to compare and create trends from the effects on the inhabitants within their altered ecosystem.

Stockpiling the results, an increase in bacterial abundance and diversity was displayed upon the introduction of the chemical pollutants excluding spectinomycin, which moderately decreased in bacterial diversity. Observational outlier treatments, petroleum and herbicide, averaged a metabolic diversity score considerably higher than control ecosystems, reflecting a dramatic change in their respective microcosms. Within both models, the increases in diversity likely stemmed from excess decomposition and the ability to metabolize the carbon-based glyphosate in the herbicide microcosm and hydrocarbons in the petroleum microcosm. To further investigate current conclusions, future work will consist of water quality and bacteriome analyses to identify changes within the external environment while expanding upon how bacterial communities shift to adapt to these changes.

ABSTRACTS RECEIVED

Automation of Student Class Registration

GRAMBLING STATE UNIVERSITY

NJABULO MOYO

CO-AUTHOR: ADRIEL DUBE

"This project aims to automate the registration process at Grambling State University.
The process of class registration can be a stressful task for freshmen and seniors alike. Scheduling conflicts and limited class availability can frustrate students and lead to poor decisions on their part regarding classes to take for the semester. Our presentation will showcase GSU-Reg, a centralized hub for course recommendations and timetable creation. The user-friendly web app allows students to make informed decisions when deciding the steps to take in their education, reducing the registration process time to just about 10 minutes."

ABSTRACTS RECEIVED

Union Parish Expo

GRAMBLING STATE UNIVERSITY

DR. RIKKI MURFF

The Union Parish Health Expo was held in Farmerville, LA, at the Willie Davis Jr. Recreation Center. This event focused on promoting health awareness and providing essential screenings and educational materials to an underserved community, with a special awareness to the undocumented Hispanic population. Grambling's School of Nursing students performed blood pressure and glucose checks, aiming to detect and prevent potential health issues early. Additionally, informative handouts related to diabetes and heart disease were distributed to attendees. Being the first annual for the parish, the expo served as an excellent platform for raising awareness about these common health conditions and encouraging proactive management and lifestyle changes. It was an eye-opening experience for students, as well as attendees. This vital initiative is one of the many ways Grambling State University's School of Nursing is attempting to foster a healthier community

ABSTRACTS RECEIVED

Mitigation of Pollutants and Antibiotic Resistance in Bayou Folse Using a Constructed Wetland

NICHOLLS STATE UNIVERSITY

KARISHMA NATHANIEL

Antibiotic resistance is and has been a prevalent issue in public health in recent years. Besides the bacteria found in medical and clinicals settings, there are genetic reservoirs called the resistome in the environment that hold antibiotic resistant bacteria (ARBs) and antibiotic resistance genes (ARGs) that provide ample opportunity for horizontal gene transfer in the environment. Because of these growing challenges and environmental reservoirs for microbes, new methods for dealing with ARB and ARGs are needed. Both natural and constructed wetlands have shown potential to be effective in reducing antibiotic resistance in the environment. When compared to traditional wastewater treatment facilities, constructed wetlands have been shown to be cheaper, more efficient, and better in removing antibiotics and antibiotic resistance genes. The purpose of this study is to determine the efficacy of the Nicholls State University's newly constructed wetland in reducing nutrients and ARB. Water samples were collected once a month for a year in the inlet and outlet of the constructed wetland and analyzed for water chemistry, fecal coliform bacteria and ARB. The results showed reductions in sulfate, ammonia, total organic carbon, phosphate, nitrate, and fecal coliform bacteria in the water samples of the outlet compared to the inlet. The presence of ARB was noted in both sites, but ARB and multi-drug resistant isolates were decreased in the outlet samples. The preliminary results of this study have demonstrated the efficacy of the constructed assimilation wetland in reducing nutrient load, fecal coliform bacteria, and ARB from the water in Bayou Folse.

ABSTRACTS RECEIVED

Living the Legacy

GRAMBLING STATE UNIVERSITY

NTI OBED

My painting, (Improve Through Pain) captures the emotional journey of a student navigating challenges while learning. Each brushstroke reflects the struggle, perseverance, and growth that arise from hardship, turning pain into a profound source of inspiration and self-improvement. Musical & Dramatic Performances

ABSTRACTS RECEIVED

A Taste of Latin America

SOUTHEASTERN LOUISIANA UNIVERSITY

JESSICA OZUNA
CO-AUTHOR: ALEXANDRA MEDINA

Culture is a set of beliefs, traditions, and customs that unifies groups of people. Hispanic culture is important in learning to promote cultural appreciation, preserve traditions, and embrace the diverse melting pot that is the United States. Those who learn about new cultures enrich their world view by gaining a different perspective through the lens of individuals with diverse backgrounds. Food is a fundamental part of Hispanic culture, reflecting family traditions, regional specialties, and historical influences. Hispanic cuisine has become especially popular in the US, with thousands of restaurants being spread throughout the country. This presentation includes Spain and Latin American countries such as Mexico, Honduras, Cuba, Colombia, Costa Rica and Nicaragua. We will inform the audience of the diverse meals from each country, and how they are integrated culturally within the communities of each region. Recipes for the dishes will be broken down, informing the audience of their significance. Pictures of the cuisine will be displayed with an explanation. Some countries will have similar dishes, which will allow us to show how geography can influence the type of cuisine people indulge in. Our presentation will also include an interview with a restaurant owner, an interactive game with the audience, and QR codes with relevant videos. In addition, we will also incorporate a story from the book "Hispanic Legacies" that vividly describes how it can symbolize a home, as it comes with various traditions and memories.

ABSTRACTS RECEIVED

Canned Heat

MCNEESE STATE UNIVERSITY

LUKE PACETTI

Eckhard Kopetzki (b.1956)

Kopetzki is a modern German composer, and like many of his percussion colleagues, he has been an active member of the Percussion Arts Society (PAS). Canned Heat's title implies an odd instrumentation and a comedic groove. The solo piece requires three toms, five bongos, a resonant metal piece, a tambourine, and a soup can. With these indefinite pitch instruments that, unlike like a marimba, cannot produce specific notes, the melodic focus shifts to the rhythmic and timbral diversity within the varying rhythms. The juxtaposition of slow and fast rhythms, coupled with the odd addition of the soup can, produces an element of humor. For a thicker texture, Canned Heat employs two mallets in one hand, adding multiple striking techniques with different drums simultaneously.

ABSTRACTS RECEIVED

Histography of the Habsburg Monarchy

UNIVERSITY OF NEW ORLEANS

MEGAN PAILLE

The Habsburg Monarchy stood for half a millennium, creating a dynasty built on diplomacy and diplomatic marriages, as well as leaving an influence on the arts and church. The Habsburgs truly created a unique empire among the other powers of Europe. My research presentation reviews a collection of works written by historians about the Habsburg Monarchy. In my review, I build a conclusion of how I believe the Habsburg Monarchy became so powerful, how they collapsed, and most importantly why they have become so forgotten in history. Leaving, I hope people will understand why we need to teach about the Habsburg Monarchy and their impact on the world.

THE UNIVERSITY of NEW ORLEANS

ABSTRACTS RECEIVED

Simulation and Experimental Analysis of Radiation Shielding in Cancer Treatment Facilities

LOUISIANA TECH UNIVERSITY

KAMDEN PERKINS

In hospitals that perform radiation cancer treatments, the electrons produced by electron linear accelerators are used to treat patients from different angles. The radiation shielding effectiveness of the shielding walls has been investigated for a few beam orientations using Fluka, a simulation software for high-energy particle physics. For some orientations, the simulated radiation was compared to measurements performed as part of a Louisiana Tech Medical Physics class. The results of this comparison, discussed in this presentation, will help improve the understanding of Monte Carlo simulations.

ABSTRACTS RECEIVED

Investigating the Presence of Forever Chemicals (PFAS) in Bayou Folse and in a Constructed Wetland

NICHOLLS STATE UNIVERSITY

CARLEY PINEL

Per- and polyfluorinated alkyl substances (PFASs), more commonly known as “forever chemicals”, are compounds that have a high chemical stability due to their C-F bonds which causes them to persist in the environment. PFASs are widely used in commercial and industrial products such as food packaging, fire-retardant and fire-extinguishing products, pesticides, paints, personal care products, and surfactants. Once the PFASs are introduced to the environment, they accumulate and can be transported via waterways. PFASs can bioaccumulate in the environment and the body. Both natural and constructed wetlands have shown the ability to reduce contaminants by acting as a natural filtration system with the aid of phytoremediation and bioremediation. The purpose of this study is to determine if there is PFAS in the water of Bayou Folse and in the water of Nicholls State University’s newly constructed wetland, which is treating the water from Bayou Folse. A method was developed to analyze PFAS from surface water. The method has the potential to detect perfluorobutanesulfonic acid (PFBS), tetrafluoro-2-(heptafluoropropoxy)propanoic acid (HFPO-DA), perfluorooctanoic acid (PFOA), perfluorohexanesulfonic acid (PFHxS), perfluorononanoic acid (PFNA), and perfluoroocanesulfonic acid (PFOS) at levels as low as 4 parts per trillion. The method involved concentrating samples using solid phase extraction (SPE) followed by analysis using LC/MS/MS. Water samples were collected at the inlet and outlet of the constructed wetland. PFBS, PFHxS, and PFNA were detected in both sites.

ABSTRACTS RECEIVED

Ionic LIquids as Surfactants

MCNEESE STATE UNIVERSITY

CARSON PLAISANCE

Surfactants are a necessary chemical for many industries, including petroleum refineries, lubricant manufacturing, sludge oil treatment, etc. The challenge these industries face is to try and find the most effective surfactant to meet their needs while remaining cost effective. Ionic liquids have been explored as a solution to this problem because of their unique properties, such as thermal stability, non-flammability, and recyclability. In our study, ionic liquids were synthesized and tested as surfactants. Each synthesized ionic liquid was evaluated for its ability to create water in-oil (W/O) emulsions and to demulsify W/O emulsions. These emulsions were prepared using a homogenizer, sonicator, and emulsifier. The ionic liquids were monitored over a 24-hour period at concentrations of 500 ppm, 1000 ppm, and 5000 ppm. This study investigated the effectiveness of the emulsification and demulsification properties of ionic liquids in W/O emulsions, as well as the specific properties of the ionic liquids that influence the surfactant process.

ABSTRACTS RECEIVED

Breaking Barriers: Dismantling the School-to-Prison Pipeline Through the Use of Positive Behavior Interventions

UNIVERSITY OF LOUISIANA AT LAFAYETTE

ABBEY POIRIER

The trend of students, especially from low-income areas, being funneled into the criminal justice system is a concerning phenomenon known as the school-to-prison pipeline. Instead of teachers managing the behavior of their students, law enforcement becomes involved, which results in students being funneled from the school into the prison pipeline. The majority of students who are affected through the prison pipeline are students from minorities and underrepresented backgrounds. This research seeks to answer, “What specific behavior interventions are most effective in reducing disciplinary referrals in schools?” To help dismantle the school-to-prison pipeline, we need to implement positive reinforcement and establish social-emotional learning in schools. This proactive approach that aims to do this is called Positive Behavior Interventions and Supports as known as PBIS. PBIS in our schools will create a healthy school environment by reducing behavior issues and seeing positive academic outcomes in our students. This research will highlight the capability of positive behavior interventions as a transformative discipline approach through the examination of PBIS's effectiveness in encouraging positive behavior and reducing disciplinary referrals. This research examines the proposed solutions to eliminate the school-to-prison pipeline.

ABSTRACTS RECEIVED

Smart Advisor: An AI-Powered Personalized Book and Movie Recommendation System

SOUTHEASTERN LOUISIANA UNIVERSITY

ROBERT PONDER

CO-AUTHOR: VLADIMIR FIFFIE

Smart Advisor is an intelligent web application that provides personalized book and movie recommendations based on user preferences. The system employs AI technology to generate tailored suggestions through a dynamic questionnaire process
that adapts to user inputs.
Users can choose to receive recommendations for movies, books, or both simultaneously, with content appropriately filtered based on age. The application features a configurable questionnaire system that allows users to select between 3-15 questions, balancing depth of preference analysis with user convenience.
The technical implementation leverages Firebase for authentication and data storage while integrating OpenAI's API to power the recommendation engine. Additional APIs from TMDB and Google Books retrieve supplementary information such as movie posters and book covers to enhance the user experience.
Smart Advisor's responsive interface includes dark/light mode themes and intuitive navigation, making it accessible across various devices. User accounts enable the saving of recommendation history and user preferences for future sessions.
This project demonstrates the practical application of AI in content discovery, addressing the modern challenge of decision fatigue when selecting entertainment options. By combining natural language processing with user preference analysis,
Smart Advisor creates a personalized entertainment discovery experience that improves upon traditional algorithm-based recommendation systems.

ABSTRACTS RECEIVED

Frequency and Patterns of Plastic Nurdles in Spotted Seatrout (*Cynoscion nebulosus*) Stomach Contents across the Louisiana Coast

UNIVERSITY OF NEW ORLEANS

WALKER J REISMAN

Pre-consumer plastic nurdles are the second largest source of primary microplastics in the world's oceans. Plastic nurdles are the petrochemical industry standard for raw plastic to be used in molding, usually 1-10 mm pellets consisting of many different types of plastic. They enter the environment due to industrial transportation spills as well as loss from manufacturing plant's drainage systems. I measured the occurrence and distribution of 1-5 mm plastics nurdles found in the gut contents of Spotted Seatrout (*Cynoscion nebulosus*) in coastal Louisiana. The research is ongoing but to date we have dissected 445 specimens ranging from 193 mm to 510 mm. Nurdles were present in specimens collected in 9 different locations and in the gut contents of 9.23% of the fish from when we first noticed them and 2.69% of all the Spotted Seatrout in the study. My research suggested that enough primary plastic was entering Louisiana's coastal waters that it was showing up in the food web at multiple locations. To determine the source of the nurdles, I compared locations of nurdle containing Spotted Seatrout to watersheds with manufacturing facilities on them. These data can help determine if the source of nurdles is local manufacturing facilities or other offshore sources from sea transport. Most plastic production in Louisiana happens on two major watersheds: The Mississippi River from Baton Rouge to New Orleans and The Calcasieu River in and around Lake Charles. There is also nurdle production in Texas that may contribute to occurrences in Louisiana through spills during transportation. For this project, I mapped the occurrence of the nurdles in relation to the watersheds on which manufactures operate and have determined the primary inshore and offshore transportation routes used to move nurdles on the Gulf Coast.

THE UNIVERSITY of NEW ORLEANS

ABSTRACTS RECEIVED

The Unlikeable Female Characteristics that Affect the Public Perception of the Series A Court of Thorns and Roses

NICHOLLS STATE UNIVERSITY

SAMANTHA RICCIARDO

The portrayal of women in literature is heavily influenced by the likeability of the characters. While fictional men may easily be forgiven for their emotions, moral discrepancies, and betrayals, women are held to a different standard in literature. This thesis covers how women are categorized by certain archetypes and expectations as discussed in Anna Bogutskaya's book Unlikeable Female Characters: The Women Pop Culture Wants You to Hate and leads to a question about how these expectations can influence the reader's opinions of the novels and their characters. The thesis which will derive from this proposal will be a close reading that looks at the ways that women in the Sarah J Maas series A Court of Thorns and Roses fall into these archetypes and how this affects the judgment of these characters. This series has a way of putting women into a box and trying to ensure that they are palatable by providing redemption arcs for the "unlikeable" female characters such as Nesta or killing them off like Ianthe. The audience also finds themselves criticizing books and characters in this series based on how the female characters are portrayed. This paper will explore the way in which female characters are written and how they often fall into specific archetypes that influence the reader's perception of the books.

ABSTRACTS RECEIVED

Facility Layout Optimization for a Custom Machine Builder to Reduce Material Handling Time and Improve Productivity

NORTHWESTERN STATE UNIVERSITY OF LOUISIANA

KOLBY RIGSBY

CO-AUTHORS: TYRRELL LOCKETT, OMARION WHITE, AND XAVIER WILLIAMS

This project focuses on optimizing the facility layout of a custom machine-building company to minimize material handling time, thereby improving productivity and reducing operational costs. The study involves analyzing the current manufacturing process, understanding the spatial arrangement of materials, machines, and workstations, and identifying opportunities for improved efficiency. Key considerations include the strategic placement of equipment and supplies to reduce travel distances, streamline workflow, and enhance worker productivity. By implementing an optimized layout design, the project aims to create a more efficient manufacturing environment that supports faster production cycles and cost savings. The results will provide practical recommendations for the company's leadership to improve facility organization, ultimately enhancing overall operational performance.

ABSTRACTS RECEIVED

Survey of Antimicrobial Resistance Genes in Calcasieu Parish

MCNEESE STATE UNIVERSITY

PAYGE ROBERTS

Due to a rise in antibiotic resistant bacteria, antimicrobial resistance research has increased. One mechanism that contributes to the spread of resistance is the transfer of antibiotic resistance genes (ARGs) between bacteria. Therefore, ARG surveillance is an important tool that can be used to understand the potential for bacteria within a region to transfer and develop antibiotic resistance. Currently, there is limited research concerning ARGs in Louisiana. This study aims to determine the presence of three ARGs at six sample sites located in Calcasieu Parish, Louisiana. Water samples were collected from each site and molecular analysis used to assess the presence of ARGs.

ABSTRACTS RECEIVED

Remote Sensing Applications in Identifying High Probability Archaeological Locales on the South Central Louisiana Coastline

UNIVERSITY OF LOUISIANA AT LAFAYETTE

IAN ROBICHEAUX

Archaeological sites along Louisiana's coastline are threatened by adverse coastal processes, such as erosion and subsidence. The reality that many sites face risk of total loss and destruction creates an adverse circumstance for archaeologists' efforts to protect and interpret the invaluable data within prehistoric coastal sites. Sites along the coast are often difficult to locate and nearly impossible to access. With environmental conditions making site access incredibly difficult, we are required to reevaluate the way we identify areas of high probability before entering the field. Using remote sensing, spatially defining locales where there is a high probability for archaeological sites is possible. Focusing on the areas of Vermilion and Cote Blanche Bay, I have applied the use of LiDAR shaded relief data along with patterns in the geography throughout the area of interest to identify the previously mentioned high probability areas. When considering how to visit and identify new coastal sites, a method to better qualify the search remotely is incredibly useful for shortening the identification process and guiding researchers more directly toward new discoveries

ABSTRACTS RECEIVED

Design and Development of a PLC Trainer for Hands-On Industrial Automation Learning

NORTHWESTERN STATE UNIVERSITY OF LOUISIANA

TY RUSSELL

CO-AUTHORS: MICAIAH PORTIS, TRENTON SCOTT, AND AUTUMN TIPTON

This project focuses on designing and developing a Programmable Logic Controller (PLC) trainer to provide an interactive learning platform for students and professionals in industrial automation. The PLC trainer simulates an assembly line process, enabling users to gain practical experience in PLC programming, troubleshooting, and system integration. Equipped with various input/output devices such as sensors, motors, and switches, the trainer offers a user-friendly interface for manipulating variables and control logic. By supporting multiple PLC models and programming software, the trainer accommodates users of varying skill levels, from beginners to advanced learners. This versatile tool bridges the gap between theoretical knowledge and real-world applications, making it ideal for educational institutions, training centers, and industrial environments. The project aims to enhance learning outcomes by providing a hands-on experience that fosters a deeper understanding of automation and control systems.

ABSTRACTS RECEIVED

Soph'smores - Retaining Sophomore Honors Students

SOUTHEASTERN LOUISIANA UNIVERSITY

OPEYEMI SAJO

CO-AUTHORS:AIMEE DAUENHAUER, AND SETH LAWRENCE

Student mentoring is essential in honors programming. During a special event to encourage honors recognition achievement, four honors mentors shared requirements, hosted a game to ensure students were on track for awards and gave away prizes to those in attendance. The mentors organized activities, built the presentation, gathered prizes, and worked with Campus Housing to host the event. Presenters will share how they encouraged continuing students with the "Sophs'mores" activities.

ABSTRACTS RECEIVED

Hispanic Arts Through the Ages

SOUTHEASTERN LOUISIANA UNIVERSITY
KARIME SANABRIA
CO-AUTHOR: GIANNA CASTANEDA

Hispanic art and culture have played a vital role in shaping global artistic expression through music, film, and visual arts. Our presentation explores the contributions of key Hispanic figures and artistic movements, emphasizing their cultural significance and lasting influence. The objective of our research is to examine how Hispanic artists have shaped both regional and international creative landscapes. We focus on Frida Kahlo, who has deeply personal and politically charged paintings that have become symbols of resilience and identity, and Celia Cruz, the "Queen of Salsa," whose powerful voice and energy transformed Latin music. Additionally, we discuss Romeo Santos, a modern pioneer of Bachata, and Elvis Crespo, who brought Merengue to a global audience. Our methodology includes historical analysis and cultural critique, tracing the evolution of Bachata and Merengue from traditional Dominican folk music to mainstream recognition. We also explore Hispanic film, analyzing its role in expanding Latino representation and storytelling in the entertainment industry. By studying these artistic expressions, we highlight their impact on both Hispanic communities and the wider world. Our findings reveal that these artists and art forms have preserved and elevated Hispanic identity while fostering cross-cultural appreciation. Their work continues to inspire new generations, demonstrating the power of artistic expression in shaping cultural narratives. Ultimately, our presentation underscores the enduring significance of Hispanic art and culture in influencing global artistic movements. By celebrating these contributions, we aim to highlight the richness, resilience, and innovation that define Hispanic artistic traditions.Hispanic culture has much more to offer than solely fine dining, let's go on this journey!

ABSTRACTS RECEIVED

Biomaterials From Task Specific Ionic Liquid Biopolymer Solutions

MCNEESE STATE UNIVERSITY

CJ SEMIEN

Ionic liquids (ILs) are a special class of solvents capable of dissolving polymers. This study investigates the use of 1-ethyl-3-methylimidazolium diethyl phosphate (EMIM-DEP) ionic liquid as a solvent to dissolve biopolymers such as chitin, chitosan, and microcrystalline cellulose (MCC) for the development of antimicrobial films. The dissolution procedure consisted of stirring the polymer-ionic liquid mixture at room temperature, followed by controlled heating in a microwave for 2-3 second increments. In between heating, the mixture was briefly stirred to aid in the dissolution. After complete dissolution, the regeneration of biopolymers was performed using anti solvents and thin films were formed on glass plates. These films were then prepared for antimicrobial testing to assess their potential effectiveness against various microbial pathogens. Additionally, these materials will be characterized by Scanning electron microscopy (SEM), Infrared spectroscopy (IR).

ABSTRACTS RECEIVED

Characterizing the Mandibles of Mite-Biting McNeese Honeybees

MCNEESE STATE UNIVERSITY
OLIVIA SEXTON

Varroa destructor is one of the leading causes of overwinter colony loss in honeybees (Apis mellifera). Varroa is a parasitic mite that feeds on larva and attaches to the back of adult honeybees. A selective breeding program at Purdue University produced a line of bees that protect themselves by chewing off the legs of mites attached to other bees in the hive, termed “mite-biting” behavior. Smith et al. 2021 linked this behavior to altered mandible anatomy in mite-biting colonies using microtomography. The “long edge” parameter was significantly shorter in mite-biting colonies when compared to non-mite-biters. We have characterized mite-biting behavior in McNeese’s colonies. Bees were collected from 10 of the McNeese colonies for this study. Both mandibles of three bees from each colony were examined under a light microscope (60 total). We are measuring five parameters per mandible of the McNeese bees, per the methods of Smith et al. We hypothesize that the measurements of the McNeese honeybees will be statistically the same as the Indiana mite-biting bees, and different than bees that do not exhibit mite-biting behavior.

ABSTRACTS RECEIVED

“Dollars & Sen$e” Service Learning Project

LOUISIANA TECH UNIVERSITY

HAYLEE SHOEMAKER

The students in HDFS 287 – Family Resource Management, engaged in this service-learning project in partnership with North United Way of Northeast Louisiana. The primary objective of the service learning was to provide undergraduate students with a hands-on community education experience while reinforcing the students’ understanding of financial literacy as well as financial literacy education.The community event sponsored by the United Way and titled "Dollars & Sen$e," is a financial literacy simulation designed for high school students that focuses on budgeting and managing expenses using real-life scenarios. The simulation was conducted at the Ruston Civic Center. A total of 22 undergraduate students from the HDFS 287 Family Resource Management course participated in the service-learning event and served as coaches and role-played as vendors and community agencies. Over 100 high school students from four area high schools participated in the simulation. The desired results* of the project are for undergraduate students to successfully apply their knowledge of financial literacy to educate high school students to

- Improve understanding of financial concepts among both college and high school students
- Enhance teaching skills and confidence among undergraduate students
- Increase engagement in community service

ABSTRACTS RECEIVED

An IP Subnetting Visual Novel – Learning through Interactive Story Telling

UNIVERSITY OF LOUISIANA AT MONROE

NISHU SHRESTHA

Internet Protocol (IP) subnetting is a foundational concept in computer networking, where large networks are broken into smaller subnetworks. The subnetting process, however, is often difficult for students to understand. Research suggests that Visual Novels (VN), with their interactive stories and decision-making elements, have great potential to engage students. Our research uses a VN to teach IP subnetting. Building on key principles of VN design for education, our research takes a fresh approach by using the Ren'Py VN engine to combine game-based interactions with story-based instruction. The IP subnetting interactive story presented by our VN is written in Python programming language. With respect to our VN story, a player character initially appears in a vast, empty space, guided only by the distant voice of a mysterious unknown boss character, who presents three doors to the player character, where each door representing the historical subnetting classes A, B, and C. Once the player selects a door, the VN randomly generates an class appropriate IP address/CIDR for a particular broadcast domain. The player will then be asked IP subnetting questions related to the IP address presented. Preliminary anecdotal testing suggests that our interactive, narrative-driven VN approach will help students understand IP subnetting more effectively than standalone exercises available at the end of an assigned course text book.

ABSTRACTS RECEIVED

Impact of Media Bias on Shaping Political Perspective

UNIVERSITY OF LOUISIANA AT MONROE

ROCHAK SHRESTHA

In this age where information is disseminated through an endless stream of media outlets, how much of our political beliefs are shaped by biased media? Media bias is the tendency of news outlets to present information in a way that reflects particular political or ideological interests, which plays a role in shaping public perception. College students, as a key demographic of digital media consumers, often rely on a mix of traditional news sources and social media platforms for political information. This raises important questions about how they perceive media bias, whether they fact-check information, and how their choice of news sources affects their political views.

ABSTRACTS RECEIVED

YoloTag: Vision-based Robust UAV Navigation with Fiducial Markers

UNIVERSITY OF NEW ORLEANS

SIMANT BAHADUR SINGH

In this work, we present YoloTag, a real-time localization system for UAVs that uses fiducial markers as visual landmarks to help them navigate accurately and efficiently. Traditional fiducial marker detection methods rely on manual feature extraction, which compromises accuracy, while deep learning-based methods struggle to meet real-time requirements. YoloTag addresses this by leveraging a lightweight YOLO v8 object detector for precise, real-time marker detection. The system then uses a perspective-n-point algorithm to estimate the UAV's position, but it faces challenges with noise affecting trajectory stability. To mitigate this, we introduce a higher-order Butterworth filter to reduce noise and improve tracking accuracy. We validate our approach through indoor robot experiments, showing that YoloTag outperforms other methods in trajectory tracking based on various distance metrics.

THE UNIVERSITY of NEW ORLEANS

ABSTRACTS RECEIVED

The Effects of Growth Hormone Releasing Hormone Antagonist on Adipogenesis and Self Renewal of Human Adipose Derived Stem Cells

LOUISIANA TECH UNIVERSITY
MADISYN SOUTHERN

In the United States alone, over 100 million people are diagnosed with obesity each year. Obesity increases the risk for other life-threatening diseases and complications, including but not limited to type two diabetes, heart failure, and chronic kidney disease.

Multiple factors are thought to contribute to obesity, including the regulation of growth hormone-releasing hormone (GHRH). Using human adipose derived stem cells (hASCs), we will test how GHRH affects self-renewal and adipogenesis by treating hASCs with a GHRH antagonist. We expect to see a decrease in adipocyte differentiation and metabolism following this treatment based on data analyzed from western blots, phalloidin staining, DAPI staining, and PCR. The results of this study will help us to better understand the role of GHRH in adipogenesis to offer potential therapeutic targets to treat obesity.

ABSTRACTS RECEIVED

Boardshapes: Algorithmically Converting Images to Polygons to Represent Collision Shapes

SOUTHEASTERN LOUISIANA UNIVERSITY
JARED TALBOT

Boardshapes is a free, open-source web API that extracts shapes from line drawings or silhouettes drawn on whiteboards or in paint programs, useful for creating collision shapes for 2D physics simulations and video games. By analyzing the contours of drawn shapes, it generates optimized polygons, replacing manual, time-consuming methods. The tool classifies each shape based on their most prominent color, allowing for differently colored shapes to be utilized differently.

Two applications demonstrate its capabilities: Boardwalk, a 2D platformer where colored collision shapes act as interactive obstacles, and Boardbox, a physics simulator letting users manipulate shapes to observe real-time physics behavior, serving as an educational tool.

Boardshapes enhance accuracy while reducing development time. Its open-source model fosters collaboration, making it a valuable resource for game developers and educators. By streamlining collision shape creation, it enables more efficient and realistic physics interactions in digital environments.

ABSTRACTS RECEIVED

Cultivating *Nannochloropsis oculata* Microalgae Species to Extract Total Algal Lipids and Isolate Phospholipids via Solid-Phase Extraction

MCNEESE STATE UNIVERSITY

MUSTAFA VELIOGLU

Algae, photosynthetic aquatic organisms, have recently caught attention of the food, cosmetic/cosmeceutical, pharmaceutical, and nutraceutical industries due to the variety of natural compounds (e.g., carbohydrates, lipids, and proteins) in their cellular bodies. Specifically, microalgae-derived natural compounds such as phospholipids are extensively utilized in cosmetics as part of liposome formers, emulsifiers, solubilizers, and wetting agents. Although several specific phospholipids such as phosphatidylcholine (PC), phosphatidylethanolamine (PE), phosphatidylinositol (PI), and lyso-phosphatidylcholine (Lyso-PC) are currently isolated from food sources (i.e., soy, soya bean, etc.), this practice raises sustainability concerns. *Nannochloropsis oculata* microalgae was cultivated in Erlenmeyer flasks by manipulating macronutrients-ratio by weight (i.e., NO3-/PO43-: 15, 10, 5, and 1) to boost phospholipid productivity. Algae biomass-derived total lipids (neutral + phospholipids + glycolipids) were extracted via Modified Folch Method using solvents such as chloroform, methanol/ethanol, and water. Total lipids extracted from the biomass were fractionated into neutral lipids, phospholipids, and glycolipids through a solid-phase extraction process utilizing silica-packed HyperSep™ C18 Cartridges. Quantifying these lipid fractions helped compare phospholipid productivities for different macronutrient ratios implemented during flask cultivations. Data gathered from this study will provide future opportunities to switch to more sustainable and greener extraction technologies such as supercritical fluid extraction and supercritical fluid chromatography (SFC).

ABSTRACTS RECEIVED

Evaluating Mud Settling Velocity in the Mississippi River

UNIVERSITY OF NEW ORLEANS

KALIYAH WATSON

Coastal communities are in danger of losing land due to sea level rise. A key part in land retention and mitigating sea level rise impacts is understanding how sediment settles in deltaic regions. The size of the particle and the rate that it settles are essential predictors on if a particle will deposit. Lamb et al. (2020) studied eight rivers and calculated a range of settling velocities. During this study it was found that mud can clump into heavier aggregates that settle faster called flocs, in a process called flocculation. To understand how flocculation can control deposition we must understand the settling velocity. We compiled grain size and suspended sediment concentrations at multiple locations along the Mississippi River delta region. To determine flocculation and the rate at which mud flocs settle, we will look at a theoretical Rouse profile fit to the concentration curve. We hope by focusing on the Mississippi River we will get a reliable settling velocity value.

THE UNIVERSITY of NEW ORLEANS

ABSTRACTS RECEIVED

Azimuthal Decorrelation of Leading Jets in the ATLAS Detector

LOUISIANA TECH UNIVERSITY

JESSE WEBB

The strong coupling constant (Î±s) is one of the fundamental quantities of the standard model, describing the strength of quark-gluon interactions. In high energy hadron-hadron collisions, Î±s is proportional to the ratio of cross sections for multijet events and can be determined by the measurement of related quantities (R3/2, R4/2, Râˆ†Ï•).

The standard for reporting the value of Î±s is at the energy scale of the mass of the Z-boson (Î±s(mZ)), with the recent world average value Î±s(mZ) = 0.1183Â±0.0009 having a relative uncertainty of 0.8%. By comparison, the value of the electromagnetic coupling constant (Î±) is known to the scale of 32 parts per billion, an incredible difference in precision. It is therefore necessary to refine the measurement of Î±s(mZ) for improvements in quantum prediction and subhadronic understanding.

The quantity Râˆ†Ï• is an ideal candidate for such a measurement due to its inherent bias mitigation and leading order proportionality to Î±s. In this study, Râˆ†Ï• is calculated and analyzed using data collected at the ATLAS detector in Run 2 of CERNâ€™s Large Hadron Collider. The collision events are at 13 TeV center-of-mass energy and 140 fbâˆ’1 integrated luminosity, with jet reconstruction and tagging performed by the AntiKt4PFlow algorithm and ATLAS High Level Trigger system.

Preliminary results for the transverse momentum dependence of azimuthal jet decorrelations are presented with the purpose of leveraging Râˆ†Ï• as a determination of Î±s.

ABSTRACTS RECEIVED

Leveraging Artificial Intelligence: An International Collaboration to Preserve Historical Buildings

NORTHWESTERN STATE UNIVERSITY OF LOUISIANA

JESSE WEBB

CO-AUTHORS: BRODY HEARD, DR. DAMIEN TRISTANT, PROF. ANNA DUGAS, AND DR. BENJAMIN FORKNER

In Louisiana, climate and humidity fluctuations make assessing weathered structures–particularly those over seventy years old–a significant challenge. Economic forecasts predict a 67% increase in building renovations across the U.S. by 2030. To preserve historic buildings it is crucial to understand how these structures respond to changing conditions and identify the most suitable materials for restoration. Through an international collaboration with the National Center for Preservation Technology & Training and French institutions–including the University of Technology of Troyes (UTT), the Cluster Patrimoine Bâti 4.0, the Fédération Française du Bâtiment of Aube, and Europrod–we have developed a data-driven approach to assess how buildings respond to environmental changes. High-performance sensors in Fournet Hall at Northwestern State University (NSU) monitor factors such as temperature, CO2 levels, humidity, and occupancy. Artificial intelligence techniques like pattern recognition and predictive analytics will help refine strategies for restoring buildings, blending historical aesthetics with modem technology. Two NSU Physical Science students gained hands-on experience at the UTT campus optimizing sensor deployment, interpreting data, and exploring autonomous climate regulation within buildings. This research supports sustainable renovation of historic buildings, focusing on data to propose smarter strategies to enhance energy efficiency and preservation efforts, benefiting economically disadvantaged communities.

ABSTRACTS RECEIVED

Life History Characteristics of the Invasive Apple Snail *Pomacea maculata*

NICHOLLS STATE UNIVERSITY

GABRIEL WHITE

Pomacea maculata is an invasive species of apple snail that is quickly spreading throughout the Southeastern United States. Giant apple snails have imparted devastating ecological and economic pressures in the areas they inhabit. As eradication is no longer an option, knowing basic apple snail life history characteristics can help us understand their potential range expansion. We have been conducting a temperature dependent life history study that has focused on growth, survival, and fecundity with captive bred individuals. Three tanks were set up in triplicate at 20, 25, and 30°C with heaters and aerators, to which 20 snails (5mm) were added to each. Three times a week, snails are fed ad libitum spinach and collards. Weekly measurements of shell length are recorded for a subset of individuals from each tank. To track survival, mortalities are noted weekly. Our highest temperature treatments have had the highest growth rates and mortalities, but perished completely suggesting a fitness trade-off. To track fertility and fecundity, clutch production is recorded. Our highest temperature treatments have steadily produced clutches while the lowest temperature treatment has yet to reproduce. Our research suggests that intermediate temperatures may be optimal for apple snail fitness. Future work plans on determining cold tolerance with hatchling and juvenile apple snails. Our lab hopes to achieve an apple snail distribution map based on our research of their temperature tolerance to survivability, fertility, and fecundity.

ABSTRACTS RECEIVED

Using Numerical Optimization to Create Tiling Schemes for Attaining k-Coverage in Wireless Sensor Networks

UNIVERSITY OF LOUISIANA AT LAFAYETTE

SCOTT WHITMAN

When designing a wireless sensor network, often k-coverage is needed to achieve the goals of the network. Most approaches to this problem are either deterministic or random, either designing the locations of the sensors from the ground up to use the fewest resources while still having k-coverage, or just working with whatever sensor placements happened to occur. Ammari and Das\cite{book} introduced a method that combined these two approaches. It involves deploying sensor arrays of k sensors randomly in a designated region, then reducing the problem of obtaining k-coverage to 1-coverage by looking at the k-coverage regions of the arrays. This allows for the use of the equivalence between covering the plane with some shape, and finding the largest tile contained in that shape. However, the tiles that are chosen are often not optimized, so we believed that improvements on all these schemes could be achieved by numerically searching for maximal tiles. We used this optimization tool to improve deployment regions, and used the results of these improvements to conjecture on the optimal deployment region for using the minimum number of sensors. We give a sufficient condition for the network to be connected, and show that if it is satisfied the network is $6k$-connected.

ABSTRACTS RECEIVED

PEDOT/CNT-Coated Glassy Carbon Microelectrode Arrays (GC-MEAs) for Real-Time Detection of Neurotransmitters in the Brain

LOUISIANA TECH UNIVERSITY

BRYLEIGH WICKHAM

Serotonin (5-hydroxytyptamine, 5-HT) and dopamine (DA) are essential neurotransmitters that play a crucial role in various physiological functions. 5-HT is primarily involved in regulating mood, emotions, appetite and sleep, while DA is critical for memory, learning, and concentration. Dysregulation of DA and 5-HT signaling has been linked to severe neurological disorders, including depression, eating disorders, addiction, schizophrenia and Parkinson's disease. Therefore, accurately measuring DA and 5-HT release is critical for understanding normal brain function and the pathophysiology of these disorders. Our project focuses on advancing neural and electrochemical technologies to determine effective ways to detect 5-HT and DA levels in the brain. The use of glassy carbon microelectrode arrays (GC-MEAs) has proven to provide beneficial results in the measuring of both 5-HT and DA. Specifically, we enhance GC-MEAs by coating them with poly(3,4-ethylenedioxythiophene)/carbon nanotube (PEDOT/CNT) composite, which significantly improve electrode sensitivity for neurotransmitter detection. Additionally, we employ optimized square wave voltammetry (SWV) techniques to precisely measure basal levels of both 5-HT and DA in the brains of mice. By integrating advanced electrode materials with optimized electrochemical detection methods, our research aims to improve real-time monitoring of neurotransmitter dynamics. This technology holds promise for advancing therapeutic strategies for neurological and psychiatric disorders.

ABSTRACTS RECEIVED

He's Got the Whole World in His Hands

UNIVERSITY OF LOUISIANA AT LAFAYETTE

CHOIR LEADER: DR. WILLIAM PLUMMER

CHOIR MEMBERS: ANDREW COURVILLE, MARY KATE CRAMER, TY CRUMP, WILLIAM DAVIS, ASHLEE DIXON, CALEB DIXON, MARGARET DUN, LANCE DUPRE, LILY GREEN, STEVEN GUILLORY, MATTHEW HAWTHORNE, JOEL ILER, JACKSON KENNEY, MADISON KYLE, TERESA LUONG, PARKER MCDONALD, ANA MCMURRAY, AUBRY MCMURRAY, KAMRIN MIGUEZ, BRENLEY MURRY, BRAEDEN ORGERON, NICHOLAS PEVEY, HAILEY POCHE, ASHTYN RAXSDALE, GWYNETH REES, DANIEL RICHARD, NATALIE ROMERO, TIMOTHY SAM, KAELAN SHIPP, KATHERINE SMITH, LUNA TOUCHET, AND KINSEY WAITS

Music by: Ray Liebau (b. 1937)

The UL Lafayette Chamber Singers were chosen as one of eleven choirs worldwide to compete internationally in the CantaRode competition in the Netherlands, and they will travel there to compete for the University of Louisiana System, the State of Louisiana, and the United States before an international panel of judges in this prestigious competition in May.

OTHER STUDENT PARTICIPANTS

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LOUISIANA TECH UNIVERSITY

- TAYLOR BAILES
- CULLEN BREAUX
- JACOB DOBSON
- ABIGAIL DUNN
- ABIGAIL MONARCH
- KATIE ROBERTS

NICHOLLS STATE UNIVERSITY

- KELSEY BARKER
- PARIS GUIDRY
- ALYSSA LECOMPTE
- ANGEL MARTINEZ
- MATTHEW MEARIMAN

NORTHWESTERN STATE UNIVERSITY OF LOUISIANA

- VY BUI
- EMMA ESTRADA
- PETER GORHAM
- ANNA POE
- NELSON TAMEZ

SOUTHEASTERN LOUISIANA UNIVERSITY

- CARA GRANT
- KAREN HOFFPAUIR
- DANIKA POLLARD
- MAXON STROUD

UNIVERSITY OF LOUISIANA AT MONROE

- WYN GARNER
- FAITH HENSLEY
- VALARIE MURATAYA
- SHYKERIA SMITH
- XILI SWAN-FLANDERS

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