



Spring 2026 Undergraduate Research Conference

FRIDAY, APRIL 24, 2026
LBJSC AND ALKEK LIBRARY

List of panels

Students are organized by program and then alphabetically by last name

| Last Name | First Name | Presentation Title | Page |
|-----------|------------|--|------|
| Alvarez | Edwing | Harmonic Bridges: Fusing Musical Traditions to Cultivate Compassion | 8 |
| Arungwa | Chikodi | Magnolia Masquerade: A Multimedia Project That Explores Masculinity | 9 |
| Aubrey | Braeden | Sustainable Water Management for the Future: A Look Into the Edwards Aquifer as a Source of Water Through the 21st Century | 10 |
| Boling | Fig | Camouflaging and Self-Monitoring in Autistic and Non-Autistic Individuals | 11 |
| Bordosky | Brianna | Making Space: Reframing Museum Engagement for Gen Z | 12 |
| Braddy | Shalimar | Comparing Financial Stress, Climate Anxiety, and Racial/Ethnic Discrimination Among Black and Hispanic College Students | 13 |
| Bunting | Jessica | Group Hiking May Improve Overall Wellbeing of TXST Students Through Anxiety Reduction | 14 |
| Butkus | Brooks | Personality Differences in GRIT and Mindset | 15 |

| | | | |
|--------------------------------|----------------|---|----|
| Carolina Cambron | P. | Bottled Up: Coca-Cola and the Political Economy of Water Access in Chiapas, Mexico | 16 |
| Cameron | Luke | Economics and Sustainability: Realizing the Value of Electronic Waste in Travis County | 17 |
| Chang | Harrison | Rounding the Branding Bases: Building a Brand Direction and Visual Design System of a Professional Baseball Organization | 18 |
| Chauvette | Kenedy | The Social Factors in Prevention: A Mixed Methods Analysis of Kindergarten Vaccination in Texas | 19 |
| Coltman | Paige | TTC31 as a Novel Modulator of Liver Disease Pathogenesis | 20 |
| Daghri | Leena | Gut Microbiome Responses to Transport-Induced Stress in Santa Gertrudis Show Cattle and the Potential of Probiotics as a Mitigating Strategy | 21 |
| Davis | Emma | Help! There's a Pillar in My Theatre! | 22 |
| Dawson | Emma Catherine | Importance of Toileting as a Developmental and Social Milestone for Young Children | 23 |
| De Guelle | Eva | 100 Years of Monologues: Reclaiming a Century of Women's Voices Through Guerrilla Cinema | 24 |
| De Moraes Churi Barbosa | Maria | Research in the Parks: Is There a Relationship Between Theory of Mind and Prosocial Lies in Children? | 25 |
| Desilos Rodriguez | Magaly | Evidence that God Lives | 26 |
| Dickerson | Anna | Musical Instruments and Their Environments: How Indigenous Flutes of the Quechua Q'eros People are Determined by the Vertical Ecology of the Peruvian Andes | 27 |
| Emmons | Anna | Framing Exotic Ungulates in Texas: An Analysis of the Evolution of Frames in Literature Surrounding Aoudad, Axis Deer, and Nilgai in Texas | 28 |
| Fadl | Amru | Justice Blocked: Enforcement in International Law & How Reservations Affect the Genocide Convention | 29 |
| Fahmi | Rayed | Benchmarking LLM Summarization Metrics: Towards an Adaptive Evaluation-and-Correction Framework | 30 |

| | | | |
|----------------------|-------------------------|---|----|
| Fitch | Jordan and Adrian Mejia | A Mixed Methods Study of the Impact of Support Animals for College Students with Disabilities | 31 |
| Flores | EJ | Reaction Time Variability and Learning Stability During Multitasking | 32 |
| Garces | Evan | Short-Term Changes in Countermovement Jump and Arm Strength and Mobility Metrics Association With Injury Classification in Collegiate Baseball Pitchers | 33 |
| Gee | Dillon | Developing a Russian-Doll-Inspired Biomaterial for the Smart Delivery of Doxorubicin | 34 |
| Gonzalez | Alexa | Cultural Differences in Prosocial Lying Development | 35 |
| Hamilton | Olivia | <i>PdOpDH</i> and the Cu-Responsive Pathway in <i>Pseudogymnoascus destructans</i> | 36 |
| Hamze | Ronny | The Iberian Kiln: Muslim and Christian Interfaith Relations as Exemplified by Hispano-Andalusian Wares | 37 |
| Haro | Jerardo | Fractional Derivatives: Definitions, Theory, and Various Applications in Real-World Phenomena | 38 |
| Harrelson | Anthony | College Students' Attitudes About the Environment and Consumer Behavior | 39 |
| Heiskell | Ethan | A Comprehensive Energy-Water-Land (EWL) Nexus Analysis of Data Center Resource Consumption and the Power Balances at Play | 40 |
| Herrera Salas | JoEdward | Prezygotic Isolation in Two Shrub Species: <i>Berberis trifoliolata</i> and <i>Berberis swaseyi</i> | 41 |
| Holmes | Johan | Authoritarian Durability Without Democratization: Party-Led Modernization and Regime Resilience in China | 42 |
| Hurtado | Alyssa | "PENNY!": Exploring the Neurodivergent Experience through the Tale of a Teenage Clown | 43 |
| Ixba | Asher | Animal Ethics in Action: Turning Ethical Theory into High-Impact Vegan Outreach | 44 |
| Jemal | Dania Iefa | Emerging Pines: A Biophilic Behavioral Health Center Rooted in Resilience and Gradual Healing | 45 |

| | | | |
|------------------|------------|--|----|
| Johanson | Mark | Development and Testing of a New Method for Analysis of Telomere DNA Sizes | 46 |
| Johnson | Ashley | Irreversibility, Time, And Conscious Experience: Physical Asymmetry and the Structure of Experience | 47 |
| Julich | David | <i>Sin Ligaduras: Jorge Isaacs and the Eastern Cultural Frontier</i> | 48 |
| Koska | Bella | The Impact of Programs Designed to Solve Cold Cases: With a Case Study of Texas State's Cold Case Team | 49 |
| Labarr | Hayden | A New Floral Inventory and Rare Plant Survey of Wild Basin Wilderness Preserve | 50 |
| Langston | Carrington | In Full Focus: A Literary Collection About the Hidden Struggles of Gen Z Youth | 51 |
| Laskowski | Hunter | The Indian Revolution: A Comparative Analysis | 52 |
| Legus | Madison | Sleep, Music, and Memory: Examining the Contribution of Sleep to the Beneficial Effects of Music for Memory | 53 |
| Lewter | Linae | Third Arm Anthology: November, Marlene, and Polly | 54 |
| Lodzinski | Grace | The Contribution of Sleep-dependent Memory Consolidation to Negative Memory Bias in Depression | 55 |
| Long | Madeline | Mass Incarceration: Health and Safety Deficits for Prisoners | 56 |
| Lowery | Lain | The Self-Concept of the Writer: A Symbolic Interactionist Reflection of the Creative Self | 57 |
| Maldonado | Delsia | Roots as Refuge: Ethnic Identity as a Protective Factor Against Substance Use and Sexual Risk Among Latina Foster Care Alumni Raised Outside Two-Parent Households | 58 |
| Malousek | Kelsey | Opercularis Muscle in Facultatively Metamorphic <i>Eurycea sp.</i> A Comparison between Paedomorphs and Metamorphs | 59 |
| Matta | Julio | El Choque: A Story of Two Worlds | 60 |
| McAnarney | Madison | Lonestar Water Intelligence: A Precision Water Management Platform to Strengthen Drought | 61 |
| McGee | Brielle | The Psychology of Classroom Belief: Student Perceptions of Instructor Mindset and Autonomy Support | 62 |
| McLellan | Malia | Unbloom: A Sonic Archive of Undergraduate Growth | 63 |

| | | | |
|-------------------|----------|--|----|
| Medina | Mariam | What It Takes to Build a Formula 1 Team: Engineering, Economics, and Global Strategy | 64 |
| Merlick | Roman | Exploration of Genre Innovation: Developing a Roguelike Factory-Builder | 65 |
| Miller | Ava | Mapping Molecular Handshakes: Defining the ZGRF1–RAD51 Interface in Homologous Recombination | 66 |
| Milo | Emily | Designing for our Future: Human-Centered Design in the Age of AI | 67 |
| Mudoka | Abby | Inside the Cage: Exploring Molecular Confinement Through Electrometallofullerenes | 68 |
| Muhamadiva | Yula | From SOS to Safety City: Integrating Gendered Rideshare Safety With Municipal Infrastructure in Austin | 69 |
| Nodler | Sabrina | Children Left Behind: Retrospective Analysis of “No Child Left Behind” and the Legacy of America’s Failures in Public Education | 70 |
| Omidvar | Armin | Design and Implementation of an Intelligent Machine Learning–Driven Stock Trading System | 71 |
| Oniovosa | Kesiena | Impacts of Gender and Stereotype Threat on Help-Seeking Behavior for Black College Students | 72 |
| Pandey | Bibek | Stress, Alcohol Use, and "Hangxiety": Exploring the Roles of Cortisol Awakening Response and Family History in College Students | 73 |
| Panta | Prashant | Benchmarking Deep Learning Training Workloads on the LEAP2 High Performance Computing System: CPU vs. GPU Performance Characterization | 74 |
| Patterson | Alyssa | Behavioral Effects of Temperature on Captive African Lions | 75 |
| Phillips | James | The Long and Laborious Wait: Revisiting the Iconic Village Fire | 76 |
| Pulido | Blake | The Sound of Love: Connecting Music Taste and Dating Preference | 77 |
| Quartz | Emily | Level 1 Autism: Interventions, Evaluations, Now What | 78 |

| | | | |
|-------------------|-----------|--|----|
| Quezada | Nic | Campus EMS Programs: Impacts on Clinical Preparedness and Career Readiness in PreHealth Students | 79 |
| Rinehart | Norah | Seahorse XF Analyzer Vs. Livebearing Fish: Verifying and Optimizing Mitochondrial Flux Assay Procedures for Poeciliidae | 80 |
| Rodriguez | Kasey | Identifying Callous-Unemotional (CU) Traits in the Juvenile Justice System: Perceptions and Barriers to Early Intervention | 81 |
| Rogers | Kasey | The Power and Control Cycles of Domestic Abuse: A Short Memoir | 82 |
| Ronquillo | Ana | Sex Education in Hindsight: College Students' Reflections on What They Learned and What They Wish They Had Learned | 83 |
| Rubio | Oscar | Democratic Erosion in Bukele's El Salvador | 84 |
| Ruisard | Katherine | The Girls' Guide to Joining ISIS | 85 |
| Schwertner | Kameryn | Amplifying Theatre in San Marcos, Texas | 86 |
| Scott | Joel | A Pirate's Life for Me: Examining the Lived Experiences of Pirates During the Golden Age | 87 |
| Scott | Joel | The Effect of Affect: Affective Polarization and Voters' House Candidate Preferences in Contemporary U.S. Elections | 88 |
| Shunn | Paige | Nudging Help-Seeking: A TPB Intervention for Suicidal Ideation in College Students | 89 |
| Smith | Jake | An Examination of the Chronic Effects of Slow Deep Breathing on Blood Pressure: A Systematic Review | 90 |
| Smithwick | Morgan | Opossum: A Criticism of True Crime Through a Theatrical Lens | 91 |
| Solorzano | Eva | Using the Synthetic Compound Colchicine as an Anti-cancer Agent for Neuroblastoma Cells | 92 |
| Sosa Lopez | Alejandra | Spinning the Digital Thread: Code, Colonial Linguistics, and Textile Metaphors | 93 |
| Spena | Jordan | The Exeunt/Enter Cycles: An Audience-Initiated Shakespeare Study | 94 |

| | | | |
|----------------------|-----------|--|-----|
| Susheel Kumar | Ruth | Balancing Books and Paychecks: The Relationship Between Workhours and Student Success | 95 |
| Tat | Kevin | Evaluating Efficacy of Colchicine and Combrestatin-A4 in Neuroblastoma: Tubulin Polymerization Inhibitors | 96 |
| Tate | Taylor | San Marcos River Personhood: Urgent and Necessary | 97 |
| Tesfa | Buruke | AI-Guided Design and Evaluation of Spiropyran Analogs for Cytotoxicity Testing | 98 |
| Thackeray | Kylie | Birds Across the Gradient: The Effects of Urbanization on Bird Species Diversity and Feeder Visitation | 99 |
| Thompson | Kathryn | Salt in the Sugar Bowl: Transactional Dating & Gender Role Performance on Social Media | 100 |
| Tran | Kevin | Conservation of Innate Immune Genes in the Other Cnidarian Symbiosis: The Green <i>Hydra</i> | 101 |
| Vega | Adriana | Resilience Rising: How Students from Single-Parent Households Thrive | 102 |
| Vincent | Kayla | "The Hare": Making a Case for Experimental Animation in Video Games | 103 |
| Vonderharr | Ian | If You Say What I Say, Do You See What I See? Correlating Lexical Alignment and Perspective-Taking Ability | 104 |
| Wabbersen | Katherine | "My Girl Birdie" | 105 |
| Wells | Ariyana | Relational Care: Growth as Practice | 106 |
| White | Tyler | Skeletons | 107 |
| Yowell | Athene | "Deep Blue Katabasis: A Southern Gothic Video Game Demo" | 108 |

Harmonic Bridges: Fusing Musical Traditions to Cultivate Compassion

Panel: Harmonic Worlds: Music, Culture, and Connection Through Sound

Location: LBJSC 325

Time: 10:30AM -12:00PM

Presenter: Edwing Alvarez

School of Music

College of Fine Arts and Communication

Supervisor: Richard Hall

Abstract:

This project explores the potential of musical fusion to foster compassion and cross-cultural understanding through audio recordings. By blending Middle Eastern maqam with Western classical harmony, and traditional Palestinian folk music with electronic music production, this research investigates how diverse musical elements can be synthesized to evoke empathy. Guided by mentorship from Oud specialist Tamer Al-Sahouri and music technologist Professor Richard D. Hall, the methodology combines theoretical study of maqam, Western music theory, and the concept of "Music Compassion" with practical experimentation in composition, recording, mixing, and looping using digital audio workstations. The expected outcome is a series of high-quality audio recordings demonstrating the power of musical fusion to transcend cultural boundaries. If a spectral analysis is used, it will be employed to identify frequencies and harmonies that contribute to the desired emotional impact. This project aims to contribute to the growing field of cross-cultural musical collaboration, offering insights into the creative possibilities of fusing diverse traditions and promoting dialogue through sound.

Magnolia Masquerade: A Multimedia Project That Explores Masculinity

Panel: Devices of the Stage: Space, Structure, and Audience Reimagined

Location: LBJSC 325

Time: 9:00AM -10:30AM

Presenter: Chikodi Arungwa

School of Theatre, Dance & Film

College of Fine Arts and Communication

Supervisor: Jack Smith

Abstract:

This creative project explores the conflicts of modern masculinity through interdisciplinary collaborative storytelling. The heart of this work: Can men effectively express their relationship to masculinity through a creative process? A central part of the creative vision is utilizing masks to personify some of the most haunting aspects of the male experience. This project addresses emotional suppression, rigid societal expectations, and systematic violence. Created by a collective of young male artists, the project draws from Chikodi Arungwa's upbringing in Magnolia, Texas, while weaving in the personal narratives of all contributors. This artist collaboration led to the creation of "MANGRIEF!": a 25-minute devised performance staged directly in Magnolia. By performing in the environment that inspired the work, the artists engaged the local community in a raw re-contextualization of their own social landscape. The development of the broader project titled "Magnolia Masquerade," was stylistically documented through audio, video, and photography. This "process archive" serves as a secondary medium of storytelling, offering a long-term look at the project's impact on both the performers and their audience. All of the components of the project come together at an intersection of distinct and invaluable perspectives on modern masculinity. By witnessing different parts of this project, Chikodi hopes that viewers can enhance their understanding of modern masculinity, and the many ways that it manifests in today's world.

Sustainable Water Management for the Future: A Look Into the Edwards Aquifer as a Source of Water Through the 21st Century

Panel: Thirsty Systems: Water, Agriculture, and the Politics of Resource Use

Location: LBJSC 324

Time: 12:30PM - 2:00PM

Presenter: Braeden Aubrey

Department of Geography and Environmental Studies

College of Liberal Arts

Supervisor: Soe Win Myint

Abstract:

The Edwards Aquifer is the primary source of groundwater for a variety of cities, towns, and metro areas along the San Antonio-Austin Metroplex which is one of the fastest growing regions in the US. The water drawn from this source is used in nearly every function of human life, and it has taken its toll. In this study, the primary objective is to look into the usage of this water, how long it will be sustainable for, and the economic benefits and downsides of its increased usage and diversification. The project will be conducted using a variety of sources to extrapolate the overall average usage of the aquifer and what it needs to be sustainable and will be mapped out with the usage of programs such as ArcGIS-Pro to visualize the process of how groundwater is taken and distributed from the aquifer. This will all be then analyzed through the usage of data collected from the aquifer to decipher the trends throughout the 2000's.

Camouflaging and Self-Monitoring in Autistic and Non-Autistic Individuals

Panel: Understanding Autism: Camouflaging, Intervention, and Support Systems

Location: LBJSC 314

Time: 12:30PM - 2:00PM

Presenter: Fig Boling

Department of Psychology

College of Liberal Arts

Supervisor: Katherine R. Warnell

Abstract:

Autistic adults frequently report masking, or camouflaging, their autistic behaviors in order to seem more neurotypical, with higher rates of camouflaging linked to negative mental health outcomes (Bradley et al., 2021). Some research has connected camouflaging to a larger literature on self-monitoring, or changing one's external behaviors based on social circumstances. (Ai et al., 2022). Traditional measures of self-monitoring in non-autistic populations, however, have found that self-monitoring may be neutral or even positive (Pillow et al., 2017). To help unpack potentially complex relations between camouflaging and self-monitoring, we used an online survey to collect data from $n = 217$ non-autistic adults (mean age = 40.65 years, range 18-72 years) and $n = 159$ autistic adults (mean age = 37.08 years, range 20-72 years). Participants completed standardized measures of camouflaging, self-monitoring, autistic traits, social anxiety, and depression. After comparing autistic and non-autistic adults' scores on all variables, we will examine whether diagnostic group moderates these relations (e.g., if self-monitoring relates to negative outcomes for autistic but not non-autistic adults). Autistic participants also reported how positively and negatively they felt about their diagnosis and we will examine how these self-concept measures relate to masking and well-being. Camouflaging can often be exhausting for autistic individuals, but the impact of such behaviors for nonautistic individuals is understudied. This study will offer important insights into whether similar behaviors have similar outcomes in both autistic and non-autistic adults, with implications for understanding the impact of daily social practices on overall well-being.

Making Space: Reframing Museum Engagement for Gen Z

Panel: Designing Wellness, Safety, and Belonging: From Museums to Mobility to Healing Environments

Location: LBJSC 324

Time: 9:00AM - 10:30AM

Presenter: Brianna Bordosky

School of Journalism and Mass Communication

College of Fine Arts and Communication

Supervisor: Erina Duganne

Abstract:

Declining engagement with art institutions represents a growing crisis for cultural preservation, artistic enrichment, and community-building. With museum attendance in 2025 at a staggering 55% less than pre-pandemic rates, and the median age of frequent patrons sitting at 67 years old, the issue presents itself across American museums, and disproportionately among Generation Z, with attendants ages 18 to 30 years old only making up 9% of the national rate. Because this age group has reported a desire for more community centers and particularly high arts-participation, it remains unclear why their repeat visitation in these spaces is lacking. This study investigates strategies for communicating accessibility, interest, and relevance within art institutions in order to better engage young adult audiences. Implementing a practice-based research methodology, I conceived and exhibited a compilation of student works in a university setting that incorporated strategic marketing, education, and outreach events inspired from existing research and personally conducted interviews with art professionals. The exhibition functioned as a testing environment through which the audience's behavioral and written responses to curatorial, communicative, and spatial elements were recorded and analyzed. The findings were interpreted in an effort to assist art institutions in identifying the potential for reframing collections, events, and media to address the lack of frequent attendance among visitors ages 18 to 30.

Comparing Financial Stress, Climate Anxiety, and Racial/Ethnic Discrimination Among Black and Hispanic College Students

Panel: Stressors, Stereotypes, and Help-Seeking: Mental Health in Black and Minority College Students

Location: LBJSC 303

Time: 12:30PM - 2:00PM

Presenter: Shalimar Braddy

Department of Biology

College of Science and Engineering

Supervisor: Michelle Edwards

Abstract:

Climate change has increasingly been identified as a psychological stressor, particularly among young people, yet much of the existing research on climate anxiety centers White populations and overlooks how climate-related stress may intersect with other structural stressors faced by racial and ethnic minority students. Black and Hispanic college students often experience disproportionate financial strain, educational debt, and racial or ethnic discrimination, all of which may shape their mental well-being and perceptions of the future. This study examines how financial stress, climate change anxiety, and experiences of racial/ethnic discrimination are related among Black and Hispanic undergraduate students attending public universities in Texas. Using an original anonymous online survey, data will be collected from undergraduate students ages 18–25 at two Hispanic-Serving Institutions (HSIs) in Texas, including Texas State University and University of Texas Rio Grande Valley. Recruitment will focus on Black and Hispanic students at both institutions, with purposive sampling of Black students at Texas State University conducted through Black student organizations. Participants will complete measures assessing financial stress, climate change anxiety, perceived discrimination, and views on institutional responsibility and support. Quantitative analyses will be conducted using SPSS to explore relationships among these stressors and to identify which sources of stress are most salient for students. By centering the experiences of Black and Hispanic college students, this research contributes to sociological and environmental justice scholarship and highlights the need for universities to address overlapping financial, social, and climate-related stressors impacting student well-being.

Group Hiking May Improve Overall Wellbeing of TXST Students Through Anxiety Reduction

Panel: Coping with College Stress: Paychecks, “Hangxiety,” and Hiking

Location: LBJSC 314

Time: 10:30AM - 12:00PM

Presenter: Jessica Bunting

Department of Psychology

College of Liberal Arts

Supervisor: Priscilla Goble

Abstract:

According to the Penn State University’s Center for Collegiate Mental Health annual report of 2024, anxiety among college students has been, and continues to be, the most commonly assessed issue by clinicians at the college level, accounting for over 64% of their clients (CCMH, 2025). One way to potentially reduce anxiety levels among college students may be group hiking excursions. An analysis of 16 randomized controlled trials investigating nature-based interventions (i.e. forest bathing, jogging in green spaces, etc.) found an effectiveness rate of 95% in reducing anxiety among participants (Coventry, et al., 2021), however more research is needed. The proposed project will involve group hiking excursions organized through Texas State University. The State-Trait Anxiety Inventory (STAI), which has been proven as an effective means of determining state anxiety (Thomas & Cassady, 2021), will be utilized as a means of assessment. This tool will be used to determine the participants’ state anxiety, which is categorized as anxiety that is brought on due to life stressors resulting in a temporary emotional state. TXST students will voluntarily submit the STAI surveys prior to, immediately following, and one week after TXST led group hiking excursions to assess the effects of group hiking. The proposed project intends to highlight the importance of nature-based eco-therapy modalities, such as hiking, to improve overall mental wellbeing within our TXST community. Results from this project will be presented.

Personality Differences in GRIT and Mindset

Panel: More Than a Game: Mindset, Performance, and the Business of Sport

Location: ALKEK 442 (B)

Time: 12:30PM - 2:00PM

Presenter: Brooks Butkus

Department of Psychology

College of Liberal Arts

Supervisor: Randall Osborne

Abstract:

This study examines the correlation between GRIT and the Big Five personality traits to determine which specific traits are associated with GRIT within athletes. GRIT is a psychological trait composed of two dimensions: persistence of interest, the long-term persistence of passion towards a specific goal, and perseverance of effort, the continued efforts towards a goal despite setbacks. The Big Five is a universal model of personality comprising five basic dimensions—Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism—commonly used to understand human behavior. Analyses will utilize bivariate correlations and multiple regressions. Participants included 189 Texas State students at least 18 or older. Data was collected via an online survey including a demographic questionnaire, the IPIP-50, and the GRIT scale. Prior research suggests that athletes will have lower levels of neuroticism than non-athletes and that their conscientiousness, extraversion, and GRIT levels will be higher than those of nonathletes.

Bottled Up: Coca-Cola and the Political Economy of Water Access in Chiapas, Mexico

Panel: Thirsty Systems: Water, Agriculture, and the Politics of Resource Use

Location: LBJSC 324

Time: 12:30PM - 2:00PM

Presenter: P. Carolina Cambron

Center for International Studies

College of Liberal Arts

Supervisor: Christi Townsend

Abstract:

This research paper examines the impact of transnational corporation use of natural resources in production through the specific examination of Coca Cola's large scale water extraction in Chiapas, Mexico. This study aims to outline the legal, political, and economic frameworks in place that allow for international businesses to extract natural resources abroad. Mexico's historical challenges with water management are rooted in colonialist practices that have shaped governance over time. Decades of negligence, aging infrastructure, and weak legal protections have reinforced poor water management through contemporary policies over the past fifty years. This research utilizes a mixed methods approach by observing water stress data and regulatory documents to analyze the alignment between Coca-Cola water use, water availability, and governance capacity in the state of Chiapas, Mexico. This study aims to clearly define how institutional frameworks and spatial patterns of business may contribute to unequal access to water and question the implications of the commodification of water.

Economics and Sustainability: Realizing the Value of Electronic Waste in Travis County

Panel: Hidden Costs: Consumption, Waste, and the Human Impact on the Environment

Location: LBJSC 314

Time: 3:30PM - 5:00PM

Presenter: Luke Cameron

Department of Geography and Environmental Studies

College of Liberal Arts

Supervisor: Edwin Chow

Abstract:

The recycling rate of electronic products in the U.S. is known to be low, often turning into mismanaged e-waste and environmental pollution. Paired with GIS, material flow analysis offers an insightful method to track the generation of e-waste at various spatial scales. The method can be used to estimate required recycling capacity, allocate waste to recycling centers, and assess the economic potential of improving recycling rates. Previous research has focused on the generation of e-waste at national scales with limited assessment of economic recycling potential based on material compositions and values. Consumer recycling of obsolete electronic products occurs at the municipal level, and this project intends to deploy a flow analysis at the same level. The outflows of select minerals such as cobalt, gold, and lead from e-waste will be estimated across Travis County to assess local economic recycling potential and household access to recycling centers. Material flow data analyzed with GIS will be useful for the development of maps displaying the distribution of e-waste, select materials, recycling potential, and optimal collection routes and center locations.

Rounding the Branding Bases: Building a Brand Direction and Visual Design System of a Professional Baseball Organization

Panel: More Than a Game: Mindset, Performance, and the Business of Sport

Location: ALKEK 442 (B)

Time: 12:30-2:00

Presenter: Harrison Chang

School of Journalism and Mass Communication

College of Fine Arts and Communication

Supervisor: Jon Zmikly

Abstract:

The first interaction a fan has with a sports team is through the brand. The colors, logos, and mascot help develop a first impression of the organization. This project builds and showcases a cohesive visual brand and design system that would support a Minor League Baseball (MiLB) team based out of the San Marcos area. The design assets aim to encompass a wide range of creative material needed for an organization, ranging from game uniforms to social media promotional graphics. Creative assets were created for campaigns that follow the MiLB schedule, including All-Star Weekend and league-wide theme nights. Components of the project are intended to tell the whole story of the brand and support graphic needs across organizational departments of different scales such as ticketing, marketing, and live-game broadcasting. The focus was on creating a flexible design system that stays cohesive and works as one while keeping each graphic created fresh. The design process started with assembling a creative and clear visual direction that embodies the Central Texas region while establishing its own personality. The ball got rolling with picking a mascot and creating supporting graphic visuals around it. Selecting the typography, layout, and textures next helped build the consistent look associated with the team. The different components came together to build an easily identifiable, yet creative and unique look across print and digital graphic assets to support the overall brand system.

The Social Factors in Prevention: A Mixed Methods Analysis of Kindergarten Vaccination in Texas

Panel: Multilevel Health Approaches: Prevention, Clinical Training, and Physiological Intervention

Location: ALKEK 442 (B)

Time: 9:00AM - 10:30AM

Presenter: Kenedy Chauvette

Department of Health and Human Performance

College of Education

Supervisor: Yongmei Lu

Abstract:

Following the 2025 Measles outbreak in West Texas, it has been vital to question why safe and effective vaccines are not being used to their full potential in Texas. On a personal and school community level, beliefs, access, race, and language have previously been linked to vaccine utilization. I seek to answer if social factors of vaccination can be determined on a geographic scale. This analysis seeks to correlate the vaccination rate of kindergarteners with economic status, language usage, at risk status, ethnic makeup, and environment on a school-district level. Using the publicly available Texas School Vaccination Coverage Level data and Texas Academic Performance Reports, the analysis will utilize both statistical and geographic methods to visualize and analyze where vaccination rates are low. This is completed using correlation analysis and ArcGIS visualization tools. The results can demonstrate communities and geographical areas with low vaccination. This can be used to improve targeted vaccine programs by focusing on specific communities and barriers to vaccine uptake.

TTC31 as a Novel Modulator of Liver Disease Pathogenesis

Panel: Molecular Targets and Therapeutic Strategies: Disease Pathways and Cancer

Treatment

Location: ALKEK 441 (A)

Time: 2:00PM -3:30PM

Presenter: Paige Coltman

Department of Biology

College of Science and Engineering

Supervisor: Micaela Vargas

Abstract:

Lipid metabolism is essential for energy homeostasis, membrane formation, and biosynthesis. Dysregulation of these mechanisms can lead to diseases like fatty liver, cancer, and diabetes. The Tetratricopeptide Repeat (TTC) protein family is defined by conserved TPR motifs that facilitate diverse protein interactions and signaling. Many TTC proteins are implicated in disease, with roles in cilia function, cancer signaling, and metabolic regulation, highlighting functional versatility. However, the functions of Tetratricopeptide Repeat Containing Domain 31 (TTC31) remain uncharacterized despite high conservation. In this study, computational tools revealed high TTC31 RNA and protein expression in the liver and gallbladder, and that TTC31 is classified within a transcriptomic cluster associated with lipid metabolic pathways. Notably, TTC31 has a predicted interaction with Leucine Zipper Tumor Suppressor 2 (LZTS2), a negative regulator of β -catenin signaling in the Wnt/ β -catenin pathway. LZTS2 is negatively regulated by Speckle-type BTB/POZ protein (SPOP), an E3 ubiquitin ligase adaptor that ubiquitinates LZTS2, leading to its degradation and consequent activation of β -catenin-dependent transcription. Structural and sequence analyses reveal that TTC31 shares similarity with SPOP, including domains required for substrate recognition and interaction with E3 ubiquitin ligase complexes. Based on these results, we hypothesize that TTC31 may function as an SPOP-like adaptor protein, promoting LZTS2 degradation, which facilitates β -catenin-mediated alterations in lipid metabolism leading to liver diseases such as HCC. Future analysis is needed to confirm TTC31's expression and its role in hepatic lipid regulation.

Gut Microbiome Responses to Transport-Induced Stress in Santa Gertrudis Show Cattle and the Potential of Probiotics as a Mitigating Strategy

Panel: Thirsty Systems: Water, Agriculture, and the Politics of Resource Use

Location: LBJSC 324

Time: 12:30PM -2:00PM

Presenter: Leena Daghri

Department of Agricultural Sciences

College of Science and Engineering

Supervisor: Emily Fowler

Abstract:

Show cattle are routinely exposed to high-stress conditions during long-distance transportation and while housed in exhibition barns. Although numerous studies have documented the negative effects of acute transport stress, limited research has examined how prolonged travel impacts the bovine gut microbiome. The objective of this experiment is to evaluate the effects of probiotic supplementation during transportation on gut microbial communities in show cattle. This study evaluated the effects of probiotic supplementation on fecal microbial communities in show cattle subjected to a 387-mile journey from San Marcos, Texas, to the Cattlemen’s Congress livestock show in Oklahoma City, Oklahoma. Nine Santa Gertrudis cattle were assigned to either a probiotic treated group (n = 5) or a control group (n = 4). Animals in the experimental group received oral doses of “SCD Probiotic Feed & Water Additive”, before, during, and after transport, while control animals received equivalent volumes of water. Fecal samples were collected over a seven-day period encompassing pre-travel and post-arrival time points to characterize shifts in microbial composition. DNA was extracted from fecal samples and analyzed using the 16S rRNA gene through PCR-amplification of the V1-V3 regions from microbial genomic DNA, followed by Illumina MiSeq 2X300 sequencing. Once sequence data is received, they will be processed using QIIME 2 to generate a curated set of amplicon sequence variants (ASV) which represent unique bacterial sequences. These insights may inform evidence-based management strategies aimed at reducing stress-related dysbiosis in both show cattle and commercial herds transported across state lines.

Help! There's a Pillar in My Theatre!

Panel: Devices of the Stage: Space, Structure, and Audience Reimagined

Location: LBJSC 325

Time: 9:00AM -10:30AM

Presenter: Emma Davis

School of Theatre, Dance & Film

College of Fine Arts and Communication

Supervisor: Jordan Morille

Abstract:

This project looks at producing and staging theatre in found spaces, specifically Lampasas Room 407, as more students utilize the room for theatrical productions. The biggest challenge within the room is the pillar in the center of the room, structurally supporting the space. Over the past two years, I have staged four productions in Lampasas 407 with a 50-seat audience in different configurations. As early-career theatre directors, the spaces we start out in will have architectural challenges, this project offers future students examples on the strengths of each staging configuration within Lampasas and how to use the text to solidify the staging configuration. The specific stagings include: in the round, thrust, flexible black box, and proscenium.

Importance of Toileting as a Developmental and Social Milestone for Young Children

Panel: Social Development Across the Lifespan: Prosocial Lying, Identity, and Risk

Location: LBJSC 314

Time: 2:00PM - 3:30PM

Presenter: Emma Catherine Dawson
School of Family and Consumer Science
College of Applied Arts
Supervisor: Shannon Dier

Abstract:

Toilet training can be a very stressful feat for families with young ones. Using a developmental lens that considers the social and emotional effects on this milestone like self-esteem and autonomy can provide a better understanding of the intricacies of this topic. For this project, evidence-based literature and the PICO model are used to examine the implications potty training has in early childhood into the school-age years. By looking at different methods of toileting, the age a child transitioned to the toilet, and developmental framework, this will provide an overview of different practices to help families and practitioners determine the best time to begin this essential life achievement for typically developing children. Research suggests that starting the toilet training process earlier in a child's life can limit the regression that child could face upon entering school. This project aims to emphasize both the practical and developmental importance of a process that is generally taken for granted.

100 Years of Monologues: Reclaiming a Century of Women's Voices Through Guerrilla Cinema

Panel: Speculative Motherhood, Family Secrets, and 100 Years of Heroines: Reimagining Performance and Storytelling

Location: LBJSC 325

Time: 3:30-5:00

Presenter: Eva De Guelle

School of Theatre, Dance & Film

College of Fine Arts and Communication

Supervisor: Kenya Gillespie

Abstract:

100 Years of Theatre. Ten Heroines. One Performer. In this cinematic, time-traveling anthology, an emerging artist confronts the beginning of her career by excavating its past. 100 Years of Monologues is a multimedia capstone film that traces a century of solo performance—from the 1920s to the 2020s—through ten historically grounded monologues, each reimagined under Dogme 95–inspired constraints: handheld camera, natural lighting, on-location sound, and single-location shooting. Structured in a chain-link format that follows one heroine before fluidly shifting to the next, the film rejects traditional plot in favor of a continuous, embodied encounter with text. Centering women's roles across decades, the project examines how female characters have been written, constrained, and redefined in response to shifting cultural values. While themes of identity, love, and power persist, changes in acting style and theatrical realism reveal evolving expectations of intimacy, autonomy, and representation. By privileging process over spectacle, the film positions women's voices as a living archive of social history and argues that historically informed, minimalist filmmaking can reactivate canonical texts with urgency and resonance for contemporary audiences.

Research in the Parks: Is There a Relationship Between Theory of Mind and Prosocial Lies in Children?

Panel: Social Development Across the Lifespan: Prosocial Lying, Identity, and Risk

Location: LBJSC 314

Time: 2:00PM - 3:30PM

Presenter: Maria De Moraes Chueri Barbosa

Department of Psychology

College of Liberal Arts

Supervisor: Jennifer Clegg

Abstract:

Children's developmental cognitive skills grow in connected ways, supporting each other's development. For this research we will be focusing on the relationship between children's developing Theory of Mind (i.e., ability to understand that others have unique thoughts/perspectives different from their own; ToM) and their ability to tell prosocial lies (i.e., act of engaging in dishonesty with the goal to avoid hurting another's feelings or to benefit another). Data collection is on-going, including children from the ages of 4- to 8-years old recruited from a local children's park. The study consists of children completing: (1) an adapted version of the Sally-Anne task (Wimmer & Perner, 1983) to assess the false-belief component of ToM, where children are tested on their ability to think on the character's perspective instead of their own, and (2) a puppet-based task to test children's understanding of prosocial lying behavior, in which they are asked to evaluate a puppet's objectively poor drawing. We will examine if a more mature Theory of Mind development is related to an increase in the ability to engage in prosocial lying behavior. We hypothesize that children with higher abilities understand that other's thoughts are different then their own will also be more likely to engage in prosocial lying. This research will assist on better understanding of how interlinked the development in children's Theory of Mind and prosocial lying abilities are, and once data is collected, future research can also examine how other cognitive abilities can be related to these variables.

Evidence that God Lives

Panel: Rebuilding Meaning: Faith, Migration, and Mental Health in Personal Narrative

Location: LBJSC 303

Time: 10:30AM - 12:00PM

Presenter: Magaly Desilos Rodriguez

Department of Sociology

College of Liberal Arts

Supervisor: Amanda Scott

Abstract:

“Evidence that God Lives” is a creative nonfiction project that tells the story of a pivotal moment when my father’s belief was tested and transformed. A man of strong belief since I can recall, received a phone call in the middle of the night notifying him that what he had built from nothing went up in flames. His pallet company that he started three years prior was now all gone. The machinery, forklifts, and years of labor that once filled the warehouse were reduced to ash. The aftermath of this devastating loss, when many might lose faith, my father instead found his belief strengthened. This project examines his response to catastrophe--his thought process, emotional reckoning, and the spiritual guidance that compelled him to rebuild. Through narrative reflection, it considers how faith functioned not merely as comfort, but as a framework for resilience, re-establishment, and meaning-making. Ultimately, this project explores how profound loss became the catalyst for deeper spiritual growth.

Musical Instruments and Their Environments: How Indigenous Flutes of the Quechua Q'eros People are Determined by the Vertical Ecology of the Peruvian Andes

Panel: Harmonic Worlds: Music, Culture, and Connection Through Sound

Location: LBJSC 325

Time: 10:30AM - 12:00PM

Presenter: Anna Dickerson

Department of Geography and Environmental Studies

College of Liberal Arts

Supervisor: Holly Wissler

Abstract:

This report adopts an interdisciplinary approach to investigate how musical instruments are influenced and determined by their natural environments. Environmental science is an academic field that studies human and environmental systems and the interactions between these systems. Anthropology is the study of human culture, society, and development across time and space. The two fields intersect in many areas, especially where both ecological and cultural factors influence the construction and use of musical instruments. Musical instruments are cultural artifacts, often specific to a group of people, a place, or a time. They are also products of their environment, which includes their cultural, social, political, and natural surroundings. This report will focus on the connection between natural environments and aerophones, specifically a case study on the Quechua group known as Q'eros and their indigenous flutes. This study will delve into how the Q'eros live in harmony with their environment, based in cyclical ceremonies, agricultural cultivations, and migrations, and how these cycles influenced the construction and use of their indigenous flutes: the pinkuyllu notched vertical flute and the qanchis sipas panpipes. The Q'eros practice the cultivation of a vertical archipelago in their mountainous environment, designating different contiguous elevation-based ecological zones for various land uses, which greatly impacts how they live their lives, including the physical construction of their flutes and the ritual and spiritual use of such instruments.

Framing Exotic Ungulates in Texas: An Analysis of the Evolution of Frames in Literature Surrounding Aoudad, Axis Deer, and Nilgai in Texas

Panel: Wildlife Systems Under Pressure: Ecology, Evolution, and Environmental Change in Texas

Location: LBJSC 324

Time: 3:30PM - 5:00PM

Presenter: Anna Emmons

Department of Biology

College of Science and Engineering

Supervisor: Christopher Serenari

Abstract:

Importing exotic ungulates took root in the U.S. during the 19th Century for purposes including private estates, zoos, food sources, and hunting. Despite becoming a \$1 billion industry in Texas alone, some of these species, such as aoudad (*Ammotragus lervia*), established self-sustaining populations across parts of Texas due to intentional and accidental introductions. To begin to address this issue, Texas Senate Bill 1245 was passed in May of 2025, legalizing the shooting of aoudad from helicopters starting September of the same year. However, the presence of these animals is dialectical because they advance the Texas economy but undermine ecosystem integrity through competition with native animals and system degradation. To further understand how these animals have been represented over time, we asked: how have the interpretations of aoudad populations in Texas evolved since their introductions among scientific and legacy media outlets? We used Goffman's framing theory to analyze corpora between 1960 and 2026 to identify the presence and evolution of frames that emphasize certain aspects of the issue while downplaying other, using aoudad as a case study that could be expanded to other species. We qualified the frames with the following attributes: problem definition, solutions and actions, attributions, cognitive components, and moral evaluations. Preliminary analysis has shown movement from an exotic game frame towards disease risk, conservation concern, and economic threat frames.

Justice Blocked: Enforcement in International Law & How Reservations Affect the Genocide Convention

Panel: When Systems Hold—and When They Don't: Law, Authoritarianism, and Revolution in Global Perspective

Location: LBJSC 303

Time: 2:00PM - 3:30PM

Presenter: Amru Fadh

Center for International Studies

College of Liberal Arts

Supervisor: Franziska Newell

Abstract:

Is it by design? Or is it a flaw? Does the ICJ's May 2025 decision in *Sudan v. United Arab Emirates* weaken the enforcement of the 1948 Genocide Convention? And if so, then how? The case arose when Sudan accused the UAE of supporting genocidal violence against the Masalit in Darfur, invoking Article IX of the Convention (which allows disputes to be heard by the ICJ). The UAE had made a reservation to Article IX. By a 14–2 vote, the Court found that the reservation was in the clear and effectively excluded ICJ jurisdiction over any dispute under Article IX. While the convention is intended to be one of the foundational instruments of international humanitarian law, allowing reservations to its provisions creates loopholes that states can exploit to avoid accountability. The result is a warning that treaty-based enforcement of human-rights norms may be significantly weakened unless the law evolves to curtail such reservations.

Benchmarking LLM Summarization Metrics: Towards an Adaptive Evaluation-and-Correction Framework

Panel: Modeling and Machine Intelligence: From Mathematical Theory to Real-World Systems

Location: ALKEK 441 (A)

Time: 9:00AM - 10:30AM

Presenter: Rayed Fahmi

Department of Computer Science
College of Science and Engineering
Supervisor: Shibbir Ahmed

Abstract:

Large Language Models (LLMs) have shown strong capabilities in text summarization, but ensuring that their outputs remain factually accurate, unbiased, and safe remains a significant challenge. Building automated correction systems requires highly reliable detection mechanisms. In this work, we conduct a comparative analysis of baseline summarization metrics against state-of-the-art evaluation systems. We assess the performance of these evaluators across key textual summary qualities, including factual consistency, relevance, coherence, and fluency. Based on our preliminary investigation and initial results, we identify the most robust evaluation systems and propose a theoretical adaptive evaluation-and-correction framework. We conceptualize how this optimal evaluator could be utilized to assess generated summaries and initiate a targeted re-summarization process when quality thresholds are not met. Furthermore, we outline a structural approach for aggregating evaluation feedback to guide the LLM in addressing specific weaknesses in subsequent iterations, paving the way for summaries that faithfully represent source content.

A Mixed Methods Study of the Impact of Support Animals for College Students with Disabilities

Panel: Understanding Autism: Camouflaging, Intervention, and Support Systems

Location: LBJSC 314

Time: 12:30PM - 2:00PM

Presenter: Jordan Fitch & Adrian Mejia

Department of Family and Consumer Science & Department of Psychology

College of Applied Arts & College of Liberal Arts

Supervisor: Amanda McClelland

Abstract:

This study will examine the reported benefits and obstacles of having a support animal for people with disabilities. The primary disabilities we will be investigating are ADHD, autism, depression, anxiety, and learning disabilities. This study will use a mixed-methods design that combines an initial quantitative survey with qualitative focus groups. The survey will identify Texas State University students with disabilities who use different types of support animals and gather basic information on their experiences. Follow-up focus groups, organized separately by disability type, will be held. Then we will explore these results as needed.

Reaction Time Variability and Learning Stability During Multitasking

Panel: Thinking in Motion: Attention, Sleep, Memory, and Social Cognition

Location: LBJSC 314

Time: 9:00AM - 10:30AM

Presenter: EJ Flores

Ingram School of Engineering

College of Science and Engineering

Supervisor: Ruchi Kukde

Abstract:

Learning performance fluctuates over time, particularly when individuals switch between different cognitive tasks. Research in sustained attention shows that reaction time variability and error patterns are reliable behavioral indicators of attentional instability. However, less is known about how structured multitasking across academic domains influences performance consistency. This study examines how reaction time patterns reflect learning stability during multitasking conditions that vary in cognitive transition structure. Undergraduate participants (15–20) will complete two sessions consisting of math, reading, and writing questions organized across Bloom-based difficulty tiers. In Session 1, tasks are arranged with abrupt domain and difficulty shifts to increase cognitive switching demands. In Session 2, the same questions are reorganized into gradual progressions to reduce transition strain. Behavioral measures include reaction time per trial, reaction time variability, accuracy, error streaks, and calculated switch cost, defined as the difference in reaction time between post-switch and nonswitch trials. Supervised machine learning models will be trained to classify stable versus disrupted transitions using these behavioral features. It is hypothesized that abrupt multitasking conditions will produce higher reaction time variability, increased switch cost, and greater error clustering compared to structured task progressions. Reaction time variability is expected to serve as a predictive marker of learning instability across domains. By modeling behavioral consistency during multitasking, this research aims to clarify how task structure influences cognitive stability and to inform the design of learning environments that support sustained performance across shifting demands.

Short-Term Changes in Countermovement Jump and Arm Strength and Mobility Metrics Association With Injury Classification in Collegiate Baseball Pitchers

Panel: More Than a Game: Mindset, Performance, and the Business of Sport

Location: ALKEK 442 (B)

Time: 12:30PM - 2:00PM

Presenter: Evan Garces

Department of Health and Human Performance

College of Education

Supervisor: John Farrell

Abstract:

Upper extremity injuries among collegiate baseball pitchers have increased over the past two decades. Traditional monitoring often relies on single-timepoint assessments, which do not capture dynamic in-season changes. This study aimed to compare short-term lower- and upperbody performance changes between injured and non-injured pitchers using longitudinal monitoring and machine learning. Data was collected throughout the season from 20 pitchers (8 injured, 12 non-injured) using countermovement jump (CMJ) tests and ArmCare strength/mobility assessments. Baselines were calculated as the median of all sessions for each pitcher. For injured athletes, a 7–28 day window prior to injury was analyzed; for non-injured pitchers, a random window was selected to capture short-term variation. Principal component analysis (PCA) condensed related performance metrics, and changes were quantified as delta (Δ) and slope. A random forest model was used to identify metric changes associated with injury, with leave-one-out cross-validation and variable importance assessed via Mean Decrease in Gini. Key predictors of injury included declines in ArmCare strength, changes in CMJ contraction time and impulse, reductions in RSI-modified, and lower monitoring frequency. The model demonstrated modest discrimination (AUC = 0.66), with sensitivity of 0.50, specificity of 0.83, and overall accuracy of 0.70. Injury classification was more strongly associated with short-term deterioration patterns than isolated performance values. The model demonstrated greater ability to identify non-injured pitchers, suggesting these measures may reflect physical robustness rather than imminent injury. Given the small sample size, the findings indicate that tracking individualized CMJ and ArmCare changes over multiple weeks may help identify at-risk athletes and guide workload and recovery. Practitioners should consider flagging athletes with concurrent upper- and lower-body declines over 2–4 weeks, over individual tests, as part of a comprehensive monitoring approach.

Developing a Russian-Doll-Inspired Biomaterial for the Smart Delivery of Doxorubicin

Panel: Molecular Design and Interaction: Tools, Structures, and Applications in Chemistry and Biomedicine

Location: ALKEK 441 (A)

Time: 12:30PM - 2:00PM

Presenter: Dillon Gee

Department of Biology

College of Science and Engineering

Supervisor: Tania Betancourt

Abstract:

Doxorubicin is a widely used chemotherapeutic drug for a variety of cancers due to its ability to intercalate between DNA strands and prevent protein translation. However, its intravenous route of delivery can be problematic in some cases, as it can promote tissue death and cardiotoxicity if circulated outside of tumor sites. To rectify this, biomaterials can be utilized to encapsulate doxorubicin and passively target its release specifically to the tumor microenvironment. In this study, nanoparticles made up of a poly(lactic-co-glycolic acid) (PLGA) shell are assembled through a nanoprecipitation process that enables efficient encapsulation of doxorubicin. In addition, hydrogels, which are 3-dimensional polymeric networks crosslinked in a solvent, are assembled with a poly(ethylene glycol) backbone and crosslinked with a boronic ester linkage. Interestingly, the boronic-ester network can dismantle and react with reactive oxidative species that reportedly overaccumulate in the tumor microenvironment, further promoting active release of cargo if injected into tumors. Independently, these materials were characterized for their biocompatibility, physicochemical properties, and doxorubicin drug release profiles. Later, these materials are combined to create a hydrogel nanocomposite system that resembles the design motif of a russian doll, elaborate layers that encase a smaller object if taken apart. The system's drug release profile was compared to the drug release of the materials by using various analytical methods. Furthermore, the methodology will serve to elucidate these materials as efficient vectors for the smart delivery of this powerful drug.

Cultural Differences in Prosocial Lying Development

Panel: Social Development Across the Lifespan: Prosocial Lying, Identity, and Risk

Location: LBJSC 314

Time: 2:00PM - 3:30PM

Presenter: Alexa Gonzalez

Department of Psychology

College of Liberal Arts

Supervisor: Jennifer Clegg

Abstract:

Prosocial lies are told to spare someone's feelings when honesty is not necessary. For instance, a prosocial lie would be telling someone they sign good when they do not. In this study, we are examining the frequency of prosocial lying in children aged 4-8 years old. Additionally, we are also collecting data about ethnicity, cultural background, and bilingualism to see if these variables may play any part in children's likelihood of telling a prosocial lie. Our participants are recruited from a public park in San Marcos.. Our study tests the rate of prosocial lying by introducing the children to puppets who show children their objectively poor drawings and ask children to evaluate them. The children are asked to either place the drawing in a good or bad bin and are also asked to rate it on a scale from 1-5 (1 being the worst, 5 being the best). In one version of the task, children are asked to rate the drawing themselves and in another version, they are also asked to determine what other kids, hypothetically, might say about the objectively-poor drawing. I will examine if there are differences between children who are bilingual and/or Hispanic versus those who are non-Hispanic to examine whether there may be cultural differences in prosocial lying development. We anticipate that if a child is bilingual or of Hispanic background, they will have greater rates of prosocial lying and believe that other children will also tell prosocial lies as opposed to those who speak one language at home or of white or European background.

PdOpDH and the Cu-Responsive Pathway in *Pseudogymnoascus destructans*

Panel: Model Organisms, Fundamental Questions: Insights from Animal Systems

Location: ALKEK 441 (A)

Time: 3:30PM - 5:00PM

Presenter: Olivia Hamilton

Department of Biology

College of Science and Engineering

Supervisor: Ryan Peterson

Abstract:

Pseudogymnoascus destructans (Pd) is the fungus responsible for white-nose syndrome, a disease devastating little brown bat populations across North America. Although host pathology is well characterized, the fungal metabolic mechanisms supporting infection remain less understood. During host colonization, many fungi increase expression of micronutrient acquisition genes in response to host defense systems. Copper is one such micronutrient. The copper-responsive gene cluster (CRC) identified in Pd includes the enzyme opine dehydrogenase (*PdOpDH*) that is hypothesized to produce copper-binding metallophores under metal-restrictive conditions. To characterize *PdOpDH* and determine its role in the CRC, the enzyme was expressed in transformed *Escherichia coli* BL21 (DE3) cells, verified via SDS-PAGE, and purified using affinity chromatography. Thermal stability and kinetic parameters of *PdOpDH* were assessed using fluorescence-based thermal shift assays and varying substrates, with the ultimate goal of elucidating its role in virulence and disease progression.

The Iberian Kiln: Muslim and Christian Interfaith Relations as Exemplified by Hispano-Andalusian Wares

Panel: Culture, Craft, and Exchange: Interfaith Relations, Indigenous Knowledge, and Alternative Social Worlds

Location: LBJSC 324

Time: 10:30PM - 12:00PM

Presenter: Ronny Hamze

Department of History

College of Liberal Arts

Supervisor: Louie Valencia

Abstract:

This paper examines Muslims and Christians interaction before and following the fall of Granada in 1492 through the art of Hispano-Andalusian lusterware ceramics. The examination will analyze the legal frameworks governing the segregation and treatment of Muslims and Christians under Islamic and Christian rule, as well as comparing the motifs found in ceramics from the Nasrid city of Málaga and the Valencian city of Manises, where many Muslim ceramicists later worked. This will challenge interpretations that Muslims and Christians existed in open and stringent separation and hostility. Rather, this paper finds that there was a substantial exchange in motifs and religious symbolism within Hispano-Andalusian wares between the two. While neither always fully peaceful and egalitarian nor openly hostile, Muslims and Christians existed in Iberia in a tense yet flexible manner where a coexistence, or *convivencia*, went beyond a strict subjugation of either party over the other.

Fractional Derivatives: Definitions, Theory, and Various Applications in Real-World Phenomena

Panel: Modeling and Machine Intelligence: From Mathematical Theory to Real-World Systems

Location: ALKEK 441 (A)

Time: 9:00AM - 10:30AM

Presenter: Jerardo Haro

Department of Mathematics

College of Science and Engineering

Supervisor: Mary Vaughan

Abstract:

This project presents the formal definitions of fractional derivatives and uses them to establish various theorems and properties. There are many different definitions of fractional derivatives, perhaps the most significant are due to Riemann-Liouville and Caputo, and thus they will be our focus. Unlike classical derivatives, fractional derivatives are nonlocal in time, meaning they incorporate the entire history of the system. This behavior makes them especially effective in modeling phenomena with effects due to memory. Applications are presented in viscoelasticity, an intermediate behavior between elasticity and viscosity, as well as modeling world population growth.

College Students' Attitudes About the Environment and Consumer Behavior

Panel: Hidden Costs: Consumption, Waste, and the Human Impact on the Environment

Location: LBJSC 314

Time: 3:30PM - 5:00PM

Presenter: Anthony Harrelson

Department of Psychology

College of Liberal Arts

Supervisor: Natalie Ceballos

Abstract:

Our study aimed to gain a better understanding of how environmental beliefs and concerns within college students affected their consumer behaviors and consumer consciousness. Although previous research has shown that there is a widespread fear or concern over the environment, including people reporting that they already feel the effects of climate change, and would like to see change, there is also a belief that individual action is less important than action taken by the government and large corporations. For our study we used two surveys, one to gather information about consumer habits and environmental beliefs, and another optional survey what type of intervention method, direct (factual), or peripheral (emotional), had a more severe impact on how they felt about the environment and their own behavior, and whether or not it changed how they felt. For the first survey, we asked questions about employment, past and future consumer behavior, subjective norms, how much they think they impact the environment, environmental knowledge, and environmental concern. Following this survey, participants will be shown a series of both emotional images, or factual infographics, and be asked to rate the images based on persuasiveness. At a later point following this survey, participants were given the option to complete a follow up survey asking them for information about recent consumer behavior, and open-ended questions about their motivations. Following these studies, we will look at potential correlations between environmentalism and consumerism. This study will help us gain a better understanding of these subjects, and possibly help raise awareness around climate change, and how we can better appeal to younger generations.

A Comprehensive Energy-Water-Land (EWL) Nexus Analysis of Data Center Resource Consumption and the Power Balances at Play

Panel: Hidden Costs: Consumption, Waste, and the Human Impact on the Environment

Location: LBJSC 314

Time: 3:30PM - 5:00PM

Presenter: Ethan Heiskell

Department of Geography

College of Liberal Arts

Supervisor: Tom Ptak

Abstract:

The rise of new technologies can be simultaneously exciting and anxiety inducing. Especially when that technology, AI and Data Centers, is difficult to understand, privatized, and with little to no communal oversight. Most importantly, Data Centers are not required to release information regarding resource consumption. The goal of this research is to establish a multi-scale mathematical modeling framework that can be applied universally to understand the Energy-Water-Land Nexus consequences of data centers. This means we will be able to predict, with a high degree of accuracy, the water and energy consumption of these data centers. This will include not only the data centers themselves but also their means of energy production. To accomplish this goal, we hope to use satellite imagery and an algorithm capable of analyzing this imagery for cooling towers/units and determining their model. This can be done because the cooling units must be stored outside. Though this limits our case studies to Data Centers that both have usable satellite imagery and released records of their energy consumption. Once we run the algorithm on the predetermined Data Centers, we can compare our results with their actual energy consumption, determining our algorithms' accuracy. This will be combined with another algorithm aimed at assessing water consumption of power plants to establish the mathematical modeling framework. We have been presented with new and innovative technology in the form of Data Centers and most notably AI. This technology, like every technology before it, has the capabilities to provide positive and negative impacts. Just like nuclear fission has provided us with the means for unfathomable amounts of energy production, it also created nuclear weapons. These new technologies need to work for the benefit of us all, not the material wealth of the few. It is our job to ensure this.

Prezygotic Isolation in Two Shrub Species: *Berberis trifoliolata* and *Berberis swaseyi*

Panel: Wildlife Systems Under Pressure: Ecology, Evolution, and Environmental Change in Texas

Location: LBJSC 324

Time: 3:30PM - 5:00PM

Presenter: JoEdward Herrera Salas

Department of Biology

College of Science and Engineering

Supervisor: Nolan Martin

Abstract:

Speciation primarily occurs through the evolution of multiple sequentially acting reproductive isolating barriers that prevent gene exchange between diverging taxa. Prezygotic barriers, such as temporal isolation, behavioral isolation, and gametic isolation, act prior to the formation of hybrid zygotes, while postzygotic isolating barriers act after hybrid zygote formation and result in hybrid inviability and hybrid sterility. Because prezygotic barriers act prior to postzygotic barriers, they are widely considered to be the most important barriers responsible for reducing contemporary gene flow between species. In flowering plants, differences in both reproductive phenology (i.e. timing at which plants flower) and pollinator behavior often serve as the primary barriers to gene flow, for if two species do not overlap in their flowering times and do not share pollinators, subsequent reproductive barriers never have the opportunity to take effect. This project will explore flowering phenology and pollinator assemblages of two different plant species, *Berberis trifoliolata* and *Berberis swaseyi* in order to determine if reproductive isolation due to these two barriers is occurring and to what extent. This project will be collecting data by two different methods. First, I will compile flowering phenology data from the citizen science database, iNaturalist and calculate the reproductive isolation that results from differences in flowering time of these species. Second, I will also be assisting a graduate student performing pollinator observations on these plants in order to calculate pollinator isolation as well. By analyzing and measuring reproductive isolation between these species we can better understand what type of barriers are most important at preventing hybridization and gene flow in these two important rangeland shrub species.

Authoritarian Durability Without Democratization: Party-Led Modernization and Regime Resilience in China

Panel: When Systems Hold—and When They Don't: Law, Authoritarianism, and Revolution in Global Perspective

Location: LBJSC 303

Time: 2:00PM - 3:30PM

Presenter: Johan Holmes

Department of Political Science

College of Liberal Arts

Supervisor: Omar Sanchez-Sibony

Abstract:

This paper examines why rapid economic modernization in China has not produced democratization, contrary to the expectations of modernization theory. While rising wealth, education, and middle-class expansion are typically associated with democratic transition, China demonstrates that these pressures do not lead to regime change when effectively managed by political institutions. This paper argues that economic modernization functions as a permissive condition, while authoritarian durability is produced by the Chinese Communist Party's institutional mechanisms. The CCP co-opts emerging elites through meritocratic party advancement, integrating potential opposition into the regime, and structures controlled participatory channels that absorb societal grievances without enabling independent organization. These mechanisms are reinforced by targeted repression and information control, which prevent localized dissent from developing into coordinated opposition. Together, these strategies allow the regime to manage the pressures of modernization and sustain authoritarian rule.

“PENNY!”: Exploring the Neurodivergent Experience through the Tale of a Teenage Clown

Panel: Stories of Self and Place: Film, Podcasting, and Community Voices

Location: LBJSC 325

Time: 12:30PM - 2:00PM

Presenter: Alyssa Hurtado

School of Theatre, Dance & Film

College of Fine Arts and Communication

Supervisor: Neil Patrick Stewart

Abstract:

“PENNY!” is a heartfelt, comedic short film about a teenage clown attending her first day at a new school. Penny’s particular quirks- her bright red nose, among others- lead her to face rejection, confusion, and eventual connection as she takes on her new environment. Growing up with ADHD, I often felt a disconnect from my peers. I struggled to communicate, couldn’t seem to read a room, made jokes that didn’t land. I created the character “Penny” in Michael Costello’s clown class at TXST, part of our curriculum as Acting majors. She is a manifestation of the parts of myself I learned to hide after spending years adapting to neurotypical environments. My hope is that this film inspires people like me- weird kids who never seemed to get it right, neurodivergents, and anyone who has ever felt like the odd-one-out- to embrace their differences. “PENNY!” encourages us to find connection amongst those who share our quirks, rather than fighting to be understood by people who make us feel like the wrong end of a magnet.

Animal Ethics in Action: Turning Ethical Theory into High-Impact Vegan Outreach

Panel: Ethics in Theory and Practice: Veganism, Environmental Personhood, and Conscious Experience

Location: ALKEK 442 (B)

Time: 2:00-3:30

Presenter: Asher Ixba

Department of Psychology

College of Liberal Arts

Supervisor: Deacon Newhouse

Abstract:

Defined broadly as the ideological rejection of non-human animal exploitation, veganism seeks to reverse one of society's greatest moral failures. Still, some objections to veganism prove difficult to rebut in fast-paced outreach contexts. Designed for activists, this text offers the theoretical knowledge and argumentative tools necessary to rebut three notable objections to veganism: the logic of the larder, the argument from power imbalance, and the argument from futility. I argue that each objection ultimately fails, even when reconstructed in its strongest form. For each case, this text offers a charitable reconstruction of the argument and synthesizes the relevant animal ethics literature before offering a response. With consideration for the unique demands of one-on-one street advocacy, I then format this response for deployable animal activist use. By turning the literature into applied communication strategy, this text bridges theory and practice, thereby equipping advocates with the rigorous conceptual tools necessary to defend veganism in challenging conversational contexts.

Emerging Pines: A Biophilic Behavioral Health Center Rooted in Resilience and Gradual Healing

Panel: Designing Wellness, Safety, and Belonging: From Museums to Mobility to Healing Environments

Location: LBJSC 324

Time: 9:00AM - 10:30AM

Presenter: Dania Iefa Jemal

School of Family and Consumer Science

College of Applied Arts

Supervisor: Amber Branham

Abstract:

Emerging Pines Center Health is a behavioral health facility concept rooted in the pinecone as a symbol of resilience, protection, and gradual healing. Inspired by the Lost Pines Forest and its recovery following the Bastrop County Complex Fire, the project translates ecological recovery into a spatial framework for mental health care. The design organizes the building around protected central pods that function as anchors for zoning, acoustic privacy, and visual control, mirroring the sheltered seed of a pinecone. Movement through the facility follows a structured yet fluid sequence of pod-like spaces connected by long, guided paths that emphasize clarity, wayfinding, and access to biophilic elements. Proximity and program adjacencies are strategically layered to enhance functional efficiency while reducing overstimulation and psychological stress. Repetition of soft oval forms, curved transitions, and gradual shifts in color saturation reflect the process by which a pinecone releases its seeds only after enduring pressure, reinforcing the idea that healing is incremental rather than immediate. Material choices prioritize durability, warmth, and tactility to counteract institutional environments commonly associated with behavioral health facilities. By rejecting the notion of a fully static form, Emerging Pines frames mental health care as a process of becoming; one that values patience and protection. The project shows how architectural design can restore a sense of safety and align the built environment with the realities of long-term mental healing.

Development and Testing of a New Method for Analysis of Telomere DNA Sizes

Panel: Molecular Design and Interaction: Tools, Structures, and Applications in Chemistry and Biomedicine

Location: ALKEK 441 (A)

Time: 12:30PM - 2:00PM

Presenter: Mark Johanson

Department of Biology

College of Science and Engineering

Supervisor: Kevin Lewis

Abstract:

Telomeres are conserved DNA sequences found at the ends of human chromosomes. These telomere regions progressively shorten as humans age. Previous work has revealed that humans with unusually short telomeres are at increased risk for age-associated diseases and mortality. The lengths of telomeres are typically measured using expensive, time-consuming methods, Southern blots. The major goal of the current work is to develop a new assay to measure telomere lengths using Polymerase Chain Reactions (PCR). Using the budding yeast model system, PCR primers specific for telomere and subtelomere regions of the chromosomes have been designed. In this approach, chromosomal DNA is extracted from normal (Wild Type) cells and from mutant cells that have shortened telomeres. Initial experiments have involved purifying the chromosomal DNA to remove contaminants and testing the first set of candidate primers.

Irreversibility, Time, And Conscious Experience: Physical Asymmetry and the Structure of Experience

Panel: Ethics in Theory and Practice: Veganism, Environmental Personhood, and Conscious Experience

Location: ALKEK 442 (B)

Time: 2:00PM - 3:30PM

Presenter: Ashley Johnson

Department of Physics

College of Science and Engineering

Supervisor: Paul Wilson

Abstract:

Modern physics explains the arrow of time through thermodynamic irreversibility, where processes such as entropy increase introduce temporal asymmetry despite the time-symmetry of many fundamental physical laws. This project investigates whether physical accounts of irreversibility can explain the time-directed structure of conscious experience. Human experience appears inherently temporal, we remember the past, anticipate the future, and understand agency and personal identity through processes that unfold irreversibly over time. Drawing on ideas from philosophy of science and philosophy of mind, this research explores whether features of consciousness such as memory, anticipation, and persistence of self are grounded in physical irreversibility or whether they instead reflect epistemic or conceptual structures that cannot be fully reduced to thermodynamic explanations. The project engages both contemporary discussions about scientific explanations of behavior and historical philosophical accounts of time and experience. By examining the relationship between physical asymmetry and lived temporal experience, this research aims to clarify what physical theories of irreversibility can and cannot tell us about consciousness, agency, and the structure of human experience.

Sin Ligaduras: Jorge Isaacs and the Eastern Cultural Frontier

Panel: Culture, Craft, and Exchange: Interfaith Relations, Indigenous Knowledge, and Alternative Social Worlds

Location: LBJSC 324

Time: 10:30AM - 12:00PM

Presenter: David Julich

Department of World Languages and Literatures

College of Liberal Arts

Supervisor: Carlos Abreu Mendoza

Abstract:

Jorge Isaacs was a Colombian author of the 19th century most famous for his fictional works, namely *María* that heavily features cultural assimilation. While such works examine regional, race and class divides in the more heavily Hispanicized highlands regions of the country, Isaacs' nonfiction works, such as *Las tribus indígenas del Magdalena* and many of his poems appreciate and document indigenous ways of life in rural areas yet at the same time do not oppose the government's intentions to 'develop' groups such as the Wayú, Chimila and their land before neighboring Venezuela has a chance to. This focused analysis of his lesser known works revealed the extent of Isaacs' alignment with the ongoing exploitation of the original inhabitants of this border region.

The Impact of Programs Designed to Solve Cold Cases: With a Case Study of Texas State's Cold Case Team

Panel: Unsolved, Overcrowded, and At Risk: Rethinking Justice from Cold Cases to Youth Intervention

Location: ALKEK 442 (B)

Time: 3:30PM - 5:00PM

Presenter: Bella Koska

School of Criminal Justice and Criminology

College of Applied Arts

Supervisor: Jaymi Elsass

Abstract:

In this study, a review of the literature empathizes the way programs centered on cold cases relieve stress on agencies. It will also showcase the difference with the amount of cold cases solved. These programs give victims' families new hope and renewed trust in the criminal justice system. This study will also display how interns in these programs can help improve efficiency in helping to solve these cases as well as the invaluable experience interns have. As a student intern for the Texas State's Cold Case Team, I personally will give antidotes and record my own experience. I will interview other workers from the agency to give a well-rounded view of the strengths and weaknesses of the department. The goal of this paper is to shed light on the importance of Cold Case organizations and touch on how internships in these programs benefit the student as well as the agency.

A New Floral Inventory and Rare Plant Survey of Wild Basin Wilderness Preserve

Panel: Wildlife In and Out of Place: Biodiversity, Behavior, and Habitat Across Environments

Location: LBJSC 324

Time: 2:00PM - 3:30PM

Presenter: Hayden Labarr

Department of Biology

College of Science and Engineering

Supervisor: David Johnson

Abstract:

Wild Basin Wilderness Preserve has long been considered impressively diverse, but current information regarding its flora is mostly out of date. Much of the research taking place in Wild Basin is primarily concerned with the federally endangered golden cheek warbler, but less focus has been given to the plant communities there. Through a combined method of timed meander and transect surveys, a new inventory of the plant species of Wild Basin will be created over the course of the field season. For populations of sufficient quantity, voucher specimens will be collected for herbarium deposition to create physical data as well as digital. In addition to data collection, opportunities for ex situ conservation will also be realized. Successful propagation will be followed by plantings on campus and sharing with other botanical institutions such as the San Antonio Botanical Garden. Rare species at the preserve include *Bletia nitida* (S3), *Lithospermum helleri* (S3), *Tridens buckleyanus* (S3), *Matelea edwardsensis* (S3), *Spiranthes magnicamporum* (G3) *Vitis rupestris* (G3), *Coryphantha sulcata* (G3), and possibly more. Wild Basin Wilderness Preserve is an increasingly valuable living library of Edwards Plateau ecology. Having a repository of both qualitative data and ex situ collections will help advance the preserve's mission and outreach goals and garner more attention for plant conservation in Central Texas.

In Full Focus: A Literary Collection About the Hidden Struggles of Gen Z Youth

Panel: Writing the Self: Identity, Experience, and the Creative Process+K406. Writing the Self: Identity, Experience, and the Creative Process

Location: LBJSC 325

Time: 2:00PM -3:30PM

Presenter: Carrington Langston

School of Journalism and Mass Communication

College of Fine Arts and Communication

Supervisor: Steve Wilson

Abstract:

In this current political and social climate, many Gen Z (born between 1997-2012) young adults have started speaking out and expressing their opinions and views in various ways—whether it be regarding race, gender identity, class, education, etc. However, they're oftentimes met with backlash about how they're constantly protesting or overall, just "loud", but no one really takes the time to learn the anger behind what's fueling Gen Z. That's where this piece comes into play. By looking at real issues and problems facing Gen Z youth and young adults and putting it through a literary fiction lens, it allows for a larger reach as it gives way to audiences who may not understand the struggles Gen Z faces on a personal level. This way, they can learn just what these struggles represent and what they mean in terms of shaping the lives of these people. The goal of these short stories is to pull back the curtain regarding what is seen on the news, and instead, will look more internal at the reasons, doubts, and struggles that fuel the stances Gen Z takes over certain issues.

The Indian Revolution: A Comparative Analysis

**Panel: When Systems Hold—and When They Don't: Law, Authoritarianism, and Revolution
in Global Perspective**

Location: LBJSC 303

Time: 2:00PM -3:30PM

Presenter: Hunter Laskowski

Department of History

College of Liberal Arts

Supervisor: Louie Valencia

Abstract:

The Indian Revolution was a shockingly violent and disorganized moment in Indian history, but it is not so extraordinary when compared to other revolutionary movements. The Indian Revolution can be situated in the context of the Enlightenment and the ideals of the world's other major modern revolutions: the American, French, Russian, and Chinese Revolutions. The Indian Revolution is often associated with the saintly nonviolence of Mahatma Gandhi, but it was in reality just as violent and politically motivated as the Enlightenment Revolutions and other contemporary revolutions. In all of these revolutions, a new constitutional order was established that permanently altered society and ushered in new conflicts. The legacy of India's revolution was of the triumph of democracy, but also of partition, war, and civil strife.

Sleep, Music, and Memory: Examining the Contribution of Sleep to the Beneficial Effects of Music for Memory

Panel: Thinking in Motion: Attention, Sleep, Memory, and Social Cognition

Location: LBJSC 314

Time: 9:00AM - 10:30AM

Presenter: Madison Legus

Department of Psychology

College of Liberal Arts

Supervisor: Carmen Westerberg

Abstract:

Pervious research suggests that memory is better when the to-be-remembered information is learned with music. This phenomenon is especially prevalent in older adults. One possible reason for this is that memories linked to music are more likely to be strengthened during sleep through the process of memory consolidation, which helps to stabilize and strengthen memories for long-term storage. This study examines whether sung lyrics are remembered better than spoken lyrics after a night of sleep. Older (ages 65-79 years) and young adult participants were presented with lyrics in both the sung and spoken formats and then completed an immediate memory test. The participants then wore a sleep monitoring headband overnight to provide physiological measures of sleep, including total sleep time and the amount of time spent in each sleep stage. The next day, the participants completed a second memory test to measure changes in recall after sleep. We hypothesize that after a night of sleep, memory for sung lyrics will be better than memory for spoken lyrics. These results will help to increase our understanding of how music and sleep work together to support memory.

Third Arm Anthology: November, Marlene, and Polly

Panel: Speculative Motherhoods, Family Secrets, and 100 Years of Heroines: Reimagining Performance and Storytelling

Location: LBJSC 325

Time: 3:30PM -5:00PM

Presenter: Linae Lewter

Department of English

College of Liberal Arts

Supervisor: Chad Hammett

Abstract:

While dystopias expose the failures of our society, utopias illuminate what our world lacks. If a dystopian hero inspires readers to resist injustice, a utopian protagonist is meant to engage with the parts of the reader that prevent an ideal society from becoming possible, because a true utopia requires its people turn their gaze inward as much as outward. My project is a short-story anthology following November, Marlene, and Polly—three women living in an alternate “bio-reality.” In this world, human women grow a third arm during pregnancy on the side of their dominant hand, called the Maternal Dominant. They retain this arm throughout their child-rearing years, relinquishing it only when it is no longer needed. This world is populated by cognitively advanced people whose heightened logic and empathy allow them to transcend many sociological problems that plague our own reality, creating a quasi-utopia. Yet the Maternal Dominant—considered a biological “gift” for humanity’s advancement—ironically produces its own array of sociological problems, specifically challenging female social circles. Through the lens of motherhood, these stories explore themes of fear and acceptance of change, biological and social sacrifice for new mothers, capitalism vs. socialism, adoption vs. birth, regaining identity after loss, family dynamics, division between sexes, community growth, and unity through empathy and communication. The point of this project is to inspire desire for unity and community through fiction, to use art as a veil to soften the blow of real-world problems. This is a speculative example of the human condition. I want these stories to ask the reader, as sci-fi often does, to caution their own beliefs and morals for the growth of humanity. “Our minds are not our bodies, but our bodies have a biological purpose – between your duty and your psychology/individuality is a societal conflict.”

The Contribution of Sleep-dependent Memory Consolidation to Negative Memory Bias in Depression

Panel: Thinking in Motion: Attention, Sleep, Memory, and Social Cognition

Location: LBJSC 314

Time: 9:00AM - 10:30AM

Presenter: Grace Lodzinski

Department of Psychology

College of Liberal Arts

Supervisor: Carmen Westerberg

Abstract:

Depression is characterized by a negative memory bias, in which negative information is preferentially remembered over neutral or positive information. Sleep-dependent memory consolidation refers to the process in which, after learning, newly encoded memories are stabilized and strengthened for long-term storage during sleep. Emotional memories are preferentially consolidated during sleep compared to neutral memories, but the role of this process in maintaining the negative memory bias in depression remains unclear. This study investigates if negative memories are preferentially consolidated during sleep in individuals with elevated depressive symptoms. Potential participants first completed a depression inventory and were selected to participate if their scores fell into either a low or high depressive symptom group. The low and high groups were then each split into a sleep condition and a wake condition. Participants listened to a recording of a narrative containing happy, sad, and neutral details and, after either a 90-minute nap or a 90-minute wake period, completed a free recall test. Electroencephalography (EEG) recorded physiological measures of sleep during the nap for participants in the sleep conditions. The preliminary results showed that for participants in the sleep conditions, those with high depressive symptoms recalled a larger proportion of sad details and a smaller proportion of happy details compared to those with low depressive symptoms. No difference between the proportions of sad or happy details recalled were found across high and low groups for participants in the wake conditions. These findings suggest that sleep-dependent memory consolidation selectively enhances negative emotional memories in individuals with elevated depressive symptoms, providing insight into the negative memory bias in depression.

Mass Incarceration: Health and Safety Deficits for Prisoners

Panel: Unsolved, Overcrowded, and At Risk: Rethinking Justice from Cold Cases to Youth Intervention

Location: ALKEK 442 (B)

Time: 3:30PM - 5:00PM

Presenter: Madeline Long

School of Criminal Justice and Criminology

College of Applied Arts

Supervisor: Taylor Polk

Abstract:

When discussing mass incarceration, the health and safety of prisoners comes to light. Many scholars inquire if incarcerated individuals in overpopulated facilities suffer due to mass incarceration and overcrowded prisons. Furthermore, there are questions about whether or not there is a link between sentencing policies, and the health and safety of prisoners. Some researchers have found positive effects for certain populations of incarcerated individuals. Other researchers have found the opposite, where they suffer health complications from overcrowded prisons. With that said, this study will examine how sentencing policies associated with mass incarceration affect prisoner health and safety in relation to overcrowding. This paper will demonstrate the use of quantitative secondary data analysis as well as qualitative content analysis. The first phase of this methodology will explore harsher sentencing policies that are associated with an increased incarceration rate and determine the outcome of those policies in relation to the health and safety of prisoners. The second phase will explore governmental policies and documents such as audits to inquire about how overcrowding contributes to health and safety deficits of prisoners.

The Self-Concept of the Writer: A Symbolic Interactionist Reflection of the Creative Self

Panel: Writing the Self: Identity, Experience, and the Creative Process+K406. Writing the Self: Identity, Experience, and the Creative Process

Location: LBJSC 325

Time: 2:00PM - 3:30PM

Presenter: Lain Lowery

Department of English

College of Liberal Arts

Supervisor: Joe Kotarba

Abstract:

While the role of the creative writer may not be immediately pertinent to general society, we continue to seek value in the arts in the age of generative AI and social media. This research project will embody the voices of many types of respondents who self-identify as writers, utilizing symbolic interactionist theory, mixed media, and auto-ethnography to analyze respondents' experiences. Through audio-interviews and the usage of pseudonyms, this research project will hypothesize three biographical tracks: people who entirely self-identify as writers, people who see the role of the writer as complimentary to their self-identity, and people who transform into the self-identity of the writer after general life changes. Additionally, this research project will utilize the respondents' voices and attendance of local poetry readings to conjure how the author's own self-identity ripples in others' experiences — ultimately creating a conversation about how we understand ourselves through the accomplishments and everyday motivations on why others write.

Roots as Refuge: Ethnic Identity as a Protective Factor Against Substance Use and Sexual Risk Among Latina Foster Care Alumni Raised Outside Two-Parent Households

Panel: Social Development Across the Lifespan: Prosocial Lying, Identity, and Risk

Location: LBJSC 314

Time: 2:00PM - 3:30PM

Presenter: Delsia Maldonado

Department of Psychology

College of Liberal Arts

Supervisor: Jessica Perrotte

Abstract:

Substance use and risky sexual behavior remain significant concerns among emerging adults with foster care histories. Latina youth raised outside two-parent households may experience additional structural stressors related to family instability, acculturation pressures, and community marginalization. At the same time, cultural values such as ethnic identity, familismo, and community belonging may function as protective factors that reduce engagement in high-risk behaviors. This study examines ethnic identity as a potential buffer against substance abuse and risky sexual behavior among Latina foster care alumni raised outside two-parent households. Drawing from social identity theory and resilience frameworks, the project investigates whether stronger ethnic identity is associated with lower engagement in high-risk behaviors during emerging adulthood. The study will utilize a deductive design informed by prior literature in psychology, sociology, and public health, with measures of ethnic identity and behavioral outcomes collected through survey methods. This research contributes to understanding culturally grounded resilience among Latina foster youth and highlights the importance of incorporating cultural identity into prevention programs and policy development. Findings may inform mentorship initiatives, trauma-informed care models, and community-based interventions supporting Latina foster care alumni transitioning into adulthood.

Opercularis Muscle in Facultatively Metamorphic *Eurycea* sp. A Comparison between Paedomorphs and Metamorphs

Panel: Wildlife Systems Under Pressure: Ecology, Evolution, and Environmental Change in Texas

Location: LBJSC 324

Time: 3:30PM - 5:00PM

Presenter: Kelsey Malousek

Department of Biology

College of Science and Engineering

Supervisor: Dana Garcia

Abstract:

The opercularis system is a part of the extratympanic auditory system in metamorphosed anurans and some salamanders, which is proposed to aid hearing by transmitting vibrations from the environment via the opercularis muscle to the inner ear. The morphology of this system varies between taxa and comparative analyses are lacking. This system is a sensory adaptation present in terrestrial metamorphs and is absent in aquatic paedomorphs. An undescribed species of *Eurycea* is a facultatively metamorphic species of salamanders with some individuals retaining their juvenile features throughout their lives and others undergoing metamorphosis, raising the question of whether metamorphs are likely to develop an opercularis muscle. Here we show morphological differences in the opercularis system between paedomorphic and metamorphic *E. sp.* Dice-CT scanned images of two paedomorphic and two metamorphic specimens revealed the two metamorphs had paired opercularis muscles; in one adult paedomorph, the opercularis muscles were not detected while in the other a single opercularis muscle was found. In the paedomorphic adult with the muscles, other juvenile features, including gills, were evident, making the appearance of the opercularis surprising. Seeing a feature associated with metamorphosis in an individual that has not completed metamorphosis highlights the need to undertake further developmental studies to elucidate the sequence of events leading to full metamorphosis; perhaps this individual was in the process of undergoing transition. Future segmentation of a developmental series of facultatively metamorphic *Eurycea* may expand upon these observations.

El Choque: A Story of Two Worlds

Panel: Rebuilding Meaning: Faith, Migration, and Mental Health in Personal Narrative

Location: LBJSC 303

Time: 10:30AM - 12:00PM

Presenter: Julio Matta

Department of Marketing

McCoy College of Business Administration

Supervisor: Kelly Laws

Abstract:

El Choque: A Story of Two Worlds is a bilingual children’s book for readers ages 7–10 that explores the experience of culture shock through the eyes of a young boy named Mateo. Told from a child’s perspective, the story follows Mateo as he moves from Peru to Texas and begins to notice how everyday things suddenly feel unfamiliar. Through contrasting moments beginning with “In Peru...” and “In Texas...,” readers encounter the small but meaningful differences that shape Mateo’s new world, including writing dates in a different order, greeting others without warm hugs, hearing words he thought he understood, and adjusting to new expectations in school. Each chapter captures the confusion, curiosity, and quiet resilience that often accompany immigrant children adapting to a new culture. Presented in both English and Spanish, this story offers immigrant children validation of their experiences while encouraging all readers develop empathy for those navigating change. At its core, the book reframes culture shock not as something wrong, but as a natural and transformative part of growing between two worlds.

Lonestar Water Intelligence: A Precision Water Management Platform to Strengthen Drought

Panel: Thirsty Systems: Water, Agriculture, and the Politics of Resource Use

Location: LBJSC 324

Time: 12:30PM - 2:00PM

Presenter: Madison McAnarney
Department of Agricultural Sciences
College of Science and Engineering
Supervisor: Eryn Pierdolla

Abstract:

Texas cattle producers face a host of challenges arising from droughts, reduced groundwater tables, and unpredictable climatic conditions. Water scarcity has a negative impact on cattle; it also has a negative financial implication for cattle producers due to increasing costs of production, transporting water, and culling. Even though there has been a marked improvement in precision agriculture in areas such as efficiency in feeding cattle and genetics, there is a wide gap in tools to support cattle producers in dealing with water risk in the cattle business. This project presents Lonestar Water Intelligence, a technology platform for water management designed to support drought resilience in Texas's cattle industry. This platform brings together low-cost water tank monitoring devices, real-time drought and weather monitoring services, and water consumption monitoring services for herds in a single platform. This platform is designed to leverage the potential for a public-private partnership with Texas A&M AgriLife Extension services to encourage both efficiency and water conservation. The economic viability, profitability, and sustainability of the proposed project are assessed in light of research in agricultural economics, climate change, and animal husbandry. The proposed project of Lonestar Water Intelligence is a forward-thinking approach in the management of water in agriculture, which can help mitigate potential problems, ensure stability in production in the face of drought, and ensure the sustainability of cattle production in Texas. Innovation and policy can help Texas deal with climate change in a manner that serves the interests of both its agriculture and environment.

The Psychology of Classroom Belief: Student Perceptions of Instructor Mindset and Autonomy Support

Panel: Learning to Thrive: Classroom Climate, Educational Policy, and Student Resilience

Location: ALKEK 442 (B)

Time: 10:30AM - 12:00PM

Presenter: Brielle McGee

Department of Psychology

College of Liberal Arts

Supervisor: Eunjin Seo

Abstract:

In higher education, instructors do not simply deliver content; they communicate beliefs about ability, learning, and who can succeed. These beliefs may shape the motivational climate of the classroom in a systematic way. Although previous research has examined instructional implementation, less attention has been given to how instructors' beliefs about ability, particularly their growth versus fixed mindset, are reflected in autonomy-supportive vs. controlling teaching practices. Integrating mindset theory with self-determination theory, this study examines the relationship between instructor mindset and undergraduate students' perception of their instructors' teaching practices. Data from 319 undergraduate college students at Texas State University were collected through a self-reported survey and were analyzed using correlational analyses. The results revealed that college instructors with a fixed mindset are more likely to use controlling practices and provide fewer opportunities and less emphasis on learning compared to autonomy-supportive practices. This suggests that instructors' implicit theories of ability may shape classroom climates in ways that either support or constrain student motivation. These findings inform professional development efforts aimed at cultivating autonomy-supportive, growth-oriented learning environments in higher education.

Unbloom: A Sonic Archive of Undergraduate Growth

Panel: Harmonic Worlds: Music, Culture, and Connection Through Sound

Location: LBJSC 325

Time: 10:30AM - 12:00PM

Presenter: Malia McLellan

School of Theatre, Dance & Film

College of Fine Arts and Communication

Supervisor: Jackson Perrin

Abstract:

This honors capstone project centers on the creation of my debut indie/pop EP and frames songwriting as both scholarly inquiry and social engagement. As a mixed-race artist, I grew up negotiating identity, belonging, and connection within and beyond dominant cultural narratives. During my four years at Texas State, my undergraduate education provided not only the artistic training, but also the analytical frameworks necessary to transform these lived experiences into intentional creative work. Coursework in my Musical Theatre major, such as Song Analysis: Scene into Song, Music Theory, and collaborative performance studies, sharpened my understanding of musical structure, storytelling, and emotional architecture. These academic and performance experiences reshaped my songwriting from instinctual expression into a disciplined, research-informed practice grounded in dramaturgy, theory, and critical reflection. Drawing from interdisciplinary research in psychology, music theory, and studies of emotional memory, this EP examines how musical structure, production, and lyrical narrative influence emotional perception and listener identification. In collaboration with a professional producer, I applied these undergraduate tools to craft songs with heightened agency, intentionality, and structural awareness. By integrating creative practice with identity-based research and my undergraduate education, this project demonstrates how indie pop/rock songwriting can serve as a site of empowerment, cross-cultural dialogue, and meaningful social connection.

What It Takes to Build a Formula 1 Team: Engineering, Economics, and Global Strategy

Panel: More Than a Game: Mindset, Performance, and the Business of Sport

Location: ALKEK 442 (B)

Time: 12:30PM - 2:00PM

Presenter: Mariam Medina

Department of Marketing

McCoy College of Business Administration

Supervisor: Derrek Schartz

Abstract:

Formula 1 is widely recognized as the pinnacle of motorsports, yet the process of creating a competitive team is often overlooked. With Cadillac preparing to enter Formula 1, this project examines what it truly requires establishing a new competitor within the most technologically advanced and financially regulated sports in the world. Rather than solely focusing on race-day performance, this project explores the structural foundations of a team: the financial commitments, engineering development, staffing, and global brand strategy necessary for success. This project analyzes the Fédération Internationale de l'Automobile (FIA) entry process, the impact of the cost cap and the technical challenges associated with designing a formula 1 car under evolving regulations. It also focuses on the human element like team leadership, driver selection, alongside the political and commercial realities that shape the sport. By using Cadillac's entry as a case study, the project illustrates how launching a formula 1 team is not simply a matter of funding or ambition but the coordination. Of engineering innovation, corporate identity and international governance. Ultimately, this capstone argues that building a formula 1 team competitor requires more than just speed but also infrastructure, expertise, strategic alliances, and long-term vision. Through face footage, analysis, and commentary, this project demonstrates how formula 1 represents a combination of sport, technology, and global enterprise.

Exploration of Genre Innovation: Developing a Roguelike Factory-Builder

Panel: Game Design as Creative Practice: Innovation, Storytelling, and Experimental Play

Location: ALKEK 441 (A)

Time: 10:30AM - 12:00PM

Presenter: Roman Merlick

Department of Computer Science
College of Science and Engineering
Supervisor: Jordan Morille

Abstract:

This creative capstone goes through the development of a roguelike factory-building game that blends the procedural run structure with optimization systems. Although factory builders and roguelikes are popular on their own, their combination is relatively underexplored by other game developers. Doing this will also allow the exploration of how indie developers are able to innovate genres. Developed using the Godot engine and played from a top-down, bird's-eye perspective, the game places players into a randomized starting area centered around a shield generator that must be powered and maintained by your factory. As time progresses, the player must meet exponentially scaling quotas to upkeep the shield or invest in new machines and upgrades. These machines and upgrades can enhance factory production or be weapons for defense as there are other factories vying for the same planetary resources and are willing to fight for control over them. You must now balance allocation of resources between upkeep, defense capabilities, and expansion to be the most successful factory on the planet. The controls for the game are intentionally basic, relying on only mouse input to emphasize cognitive skills such as planning, optimization, and logistics. Through prototyping and documentation of technical and creative decisions, this project demonstrates innovation in genre and the challenges of indie game development.

Mapping Molecular Handshakes: Defining the ZGRF1–RAD51 Interface in Homologous Recombination

Panel: Molecular Design and Interaction: Tools, Structures, and Applications in Chemistry and Biomedicine

Location: ALKEK 441 (A)

Time: 12:30PM - 2:00PM

Presenter: Ava Miller

Department of Chemistry

College of Science and Engineering

Supervisor: Xiaoyu Xue

Abstract:

Homologous recombination (HR) is a highly accurate pathway used to repair DNA damage. HR is especially essential for resolving double-strand breaks (DSBs) and maintaining genome stability in nearly all living cells. Key actors within this pathway include human ZGRF1 helicase and RAD51 recombinase, which, together, regulate the steps of HR that lead to the repair of the DNA lesion. Although ZGRF1 has been shown to stimulate RAD51-mediated strand exchange with the sister chromatid, the structural determinants governing this interaction remain poorly defined. Here, we investigate the molecular basis of this interaction using a combined approach of in vitro binding assays and computational modeling of protein-protein interactions to map the domains and residues of ZGRF1 that are associated with RAD51. Our results demonstrate that wild-type ZGRF1 and the ZGRF11246-2104 construct consistently bind to RAD51, whereas two complementary truncations spanning the same region fail to do so. This loss of interaction suggests that the truncation site between the complementary constructs (at approximately 1500 amino acids) disrupts a critical interface required for RAD51 binding, narrowing the potential interaction region significantly. Computational predictions corroborate these findings, identifying a high-probability interaction interface spanning residues 1375-1550, localized at the junction between a predicted disordered region and the helicase domain of ZGRF1. These findings support the theory that this structural transition zone between the disordered and catalytic domain coordinates the engagement with RAD51. Ongoing targeted mutagenesis within this region will refine the understanding of residue-level contributions to HR. Deficiency in the HR pathway has tumorigenic consequences, including breast, ovarian, pancreatic, and prostate cancers, similar to those observed in BRCA1/2 mutations. Characterizing ZGRF1 and its interactions with other proteins involved in DNA damage repair pathways is critical for informing future therapeutic strategies targeting genomic instability.

Designing for our Future: Human-Centered Design in the Age of AI

Panel: Designing Wellness, Safety, and Belonging: From Museums to Mobility to Healing Environments

Location: LBJSC 324

Time: 9:00AM - 10:30AM

Presenter: Emily Milo
School of Art and Design
College of Fine Arts and Communication
Supervisor: Mark Brinkman

Abstract:

This design-based thesis explores the creative development of the Communication Design program at Texas State University through the question: What did I really learn? Answering this requires reflection on both personal work and the broader community of peers, professors, and experiences that shape a designer's identity at the threshold of a professional career. Through collaborative production and iterative design practice, this final portfolio presents a selection of my strongest projects completed throughout the program. Together, these works represent not only technical skill but also the evolving process of design thinking that defines the bounds of contemporary communication design. This portfolio challenges conventional perceptions of design by arguing that the next generation of designers must navigate a hybrid creative process where human judgment, identity, and storytelling remain essential within an AI-assisted design environment. On the cusp of a new world, we have a responsibility to set an ethical precedent in how we create, and this portfolio aims to represent that process of understanding.

Inside the Cage: Exploring Molecular Confinement Through Electrometallofullerenes

Panel: Molecular Design and Interaction: Tools, Structures, and Applications in Chemistry and Biomedicine

Location: ALKEK 441 (A)

Time: 12:30PM - 2:00PM

Presenter: Abby Mudoka

Department of Biology

College of Science and Engineering

Supervisor: Cai Wenting

Abstract:

This thesis explores confinement through selected endohedral metallofullerenes (EMFs) as case studies. The metals selected in this paper are lanthanum, dysprosium, terbium, neodymium, gadolinium, and scandium. These structures illustrate how confinement can change metal behavior. This can affect shape, oxidation state, reactivity, stability, and magnetic properties. This work uses a combined approach, combining scientific analysis with creative elements to explore how carbon cages influence metal properties. Studying these EMFs reveals how the cage affects metal behavior and hints at practical uses. Beyond their lab applications, EMFs can expand knowledge surrounding how nanoscale environments shape materials unpredictably.

From SOS to Safety City: Integrating Gendered Rideshare Safety With Municipal Infrastructure in Austin

Panel: Designing Wellness, Safety, and Belonging: From Museums to Mobility to Healing Environments

Location: LBJSC 324

Time: 9:00AM - 10:30AM

Presenter: Yula Muhamadiva

School of Art and Design

College of Fine Arts and Communication

Supervisor: Claudia Roeschmann

Abstract:

Rideshare platforms are deeply embedded within Austin's transportation system, operating daily along major corridors shaped by documented crash patterns and public transit governance. While companies such as Uber promote in-app safety features including touchless SOS activation and trip monitoring, the presence of these tools does not guarantee a consistent sense of safety for all drivers. Female rideshare drivers, in particular, navigate experiences influenced by spatial vulnerability, confined vehicle environments, and limited control once a ride begins. This project examines how platform-based emergency design functions within a broader municipal safety landscape defined by crash mapping and civic transportation oversight. Drawing from gendered mobility research, survey findings, and interface analysis of the Uber driver application, this study positions rideshare safety as both a spatial and social condition rather than a neutral technical feature. By comparing private platform tools with public infrastructure systems, this research proposes a Safety City framework that integrates digital emergency features with municipal governance and data systems. Ultimately, this project explores how communication design and systems thinking can support a more coordinated, accountable, and city-connected approach to urban mobility safety.

Children Left Behind: Retrospective Analysis of “No Child Left Behind” and the Legacy of America’s Failures in Public Education

Panel: Learning to Thrive: Classroom Climate, Educational Policy, and Student Resilience

Location: ALKEK 442 (B)

Time: 10:30AM - 12:00PM

Presenter: Sabrina Nodler

Department of History

College of Liberal Arts

Supervisor: Jennifer Lee O'Donnell

Abstract:

No Child Left Behind was the 2001 authorization of the Elementary and Secondary Education Act. President George Bush passed the Law with the goal of improving the educational outcomes of America's failing public schools. This paper identifies the major failures of NCLB and highlights examples of the Law’s failures. Through my literature review, I highlight that NCLB failed students, harmed teachers, enabled the weaponization of content guidelines, and failed to achieve its goals of improving education outcomes. This paper also offers solutions to address some of the major issues with the legacy of NCLB with insight gained from interviews with Texas high school teachers.

Design and Implementation of an Intelligent Machine Learning–Driven Stock Trading System

Panel: Modeling and Machine Intelligence: From Mathematical Theory to Real-World Systems

Location: ALKEK 441 (A)

Time: 9:00AM - 10:30AM

Presenter: Armin Omidvar

Department of Computer Science
College of Science and Engineering
Supervisor: Rodion Podorozhny

Abstract:

This project presents the design and implementation of an Intelligent Stock Trading System that uses machine learning to automate buy, sell, and hold decisions within simulated and real market environments. The system integrates real-time and historical stock data retrieval through external APIs and processes this information to generate trading actions via a trained machine learning agent. By combining data acquisition, predictive modeling, and automated portfolio management, the system demonstrates how artificial intelligence can be applied to financial decision-making in a structured and reliable manner. The architecture is guided by a formal Software Requirements Specification (SRS) that defines functional and nonfunctional requirements, including reliability, robustness, maintainability, and security. Core functionalities include historical data retrieval for backtesting, real-time market data updates, ML-based trade generation, and automated portfolio adjustments that validate cash balance and stock availability before executing trades. The system also incorporates safeguards to handle API failures and missing data gracefully, ensuring consistent operation under real-world constraints. Backtesting capabilities allow evaluation of trading strategies on historical data, enabling performance assessment before live deployment. The modular Python-based implementation supports extensibility, allowing developers to update machine learning models and adapt to different stock data providers. Overall, this project demonstrates the practical application of machine learning in financial markets, emphasizing structured requirements engineering, data-driven decision-making, and system reliability. The result is a scalable and maintainable intelligent trading framework capable of simulating realistic market interactions while highlighting both the opportunities and constraints of algorithmic trading systems.

Impacts of Gender and Stereotype Threat on Help-Seeking Behavior for Black College Students

Panel: Stressors, Stereotypes, and Help-Seeking: Mental Health in Black and Minority College Students

Location: LBJSC 303

Time: 12:30PM - 2:00PM

Presenter: Kesiena Oniovosa

Department of Psychology

College of Liberal Arts

Supervisor: Jonathan Vontsteen

Abstract:

Many students believe that seeking help in a course proves that they are inadequate students. These thoughts have been associated with decreased motivation to seek help in college students, which can be impacted by gender and race. Stereotype threat (ST) is the fear of confirming negative stereotypes about one or more parts of a person's identity. Sometimes, this causes students to underperform on cognitive tasks or avoid seeking help. While many studies look at stereotype threat in relation to performance outcomes, few have focused on how it may affect Academic Help-Seeking Behavior (AHSB) in post-secondary students. This study aims to understand the impacts of ST and gender self-concept on AHSB in black university students. This study was conducted at a 4-year, Hispanic-serving institution in the Southwest. Most participants (N=164) were female (79.3%), freshman (40.9%), and had an average age of 22. Researchers utilized a convergent mixed methods design. For quantitative data, the Academic Help Seeking Behaviors Questionnaire and the Personal Attribution Scale were used. For qualitative data, researchers implemented open-ended survey response data and semi-structured interviews. Data was analyzed through MAX-QDA and SPSS. Qualitative analyses showed that most participants were not impacted by ST, and those who were primarily were impacted by two stereotypes: The Overachiever and the Lazy Student. When asked about stereotypes, male participants often spoke about doubts around ability, while female participants spoke about expectations of intelligence, volume, and cleanliness. Participants also mentioned anxiety as a barrier to academic help-seeking. These findings could inform learning centers and educators looking to engage Black students in a culturally competent way.

Stress, Alcohol Use, and "Hangxiety": Exploring the Roles of Cortisol Awakening Response and Family History in College Students

Panel: Coping with College Stress: Paychecks, "Hangxiety," and Hiking

Location: LBJSC 314

Time: 10:30-12:00

Presenter: Bibek Pandey

Department of Health Sciences

College of Health Professions

Supervisor: Natalie Ceballos

Abstract:

This study will examine psychological and physiological factors associated with alcohol use and hangover severity in college students. We are particularly interested in learning more about "hangxiety", a phenomenon reported by approximately 22% of drinkers who experience feelings of anxiety, dread, and nervousness during hangovers (van Schroyen Lantman et al., 2016). Previous studies by Kim and colleagues (2023) found that drinkers with higher levels of non-hangover related anxiety and stress (measured via the DASS-21) were more likely to report experiencing hangovers after heavy drinking. In addition, Tellez-Montery and colleagues (2023) used a modified DASS-21 to show that individuals with high non-hangover anxiety and depression (via DASS-12; Monteiro et al., 2023) had higher levels of hangover-related anxiety and depression (hangover DASS-12) consistent with "hangxiety". Our study will extend research on hangxiety beyond survey measures by assessing physiological and genetic variables. We will measure a stress biomarker (salivary measures of the cortisol awakening response (CAR)) and will collect information about participants' quantitative family history of alcohol use disorder (measured via the pedigree method of Mann et al., 1985). We predict that participants with hyperreactive CAR (reflected in higher diurnal peak cortisol) indicating overactivation in response to chronic stress will report higher levels of hangxiety (measured via hangover DASS-12) and this relationship will be moderated by family history of alcohol use disorder (which has been linked to pre-morbid HPA-axis dysfunction).

Benchmarking Deep Learning Training Workloads on the LEAP2 High Performance Computing System: CPU vs. GPU Performance Characterization

Panel: Modeling and Machine Intelligence: From Mathematical Theory to Real-World Systems

Location: ALKEK 441 (A)

Time: 9:00AM - 10:30AM

Presenter: Prashant Panta

Department of Computer Science
College of Science and Engineering
Supervisor: Damian Valles

Abstract:

The growing adoption of deep learning in research demands a clear understanding of what institutional High Performance Computing systems can deliver. This study benchmarks the LEAP2 system at Texas State University by training three architecturally diverse models on both the CPU and GPU partitions using platform-optimized configurations: ResNet-50 (convolutional neural network), BERT (transformer for natural language processing), and Vision Transformer (transformer for computer vision). Performance is evaluated through throughput, computational efficiency (GFLOPS), and computation time breakdown. GPU speedup varied substantially by architecture, with ResNet-50 achieving 19.5x, BERT achieving 16.9x, and ViT achieving 4.8x, revealing that acceleration depends heavily on the computational patterns of the workload. Time breakdown analysis shows the GPU's advantage comes primarily from parallelizing matrix-heavy operations, with CNN workloads benefiting most. These findings characterize LEAP2's capabilities for AI researchers and inform resource planning for deep learning workflows.

Behavioral Effects of Temperature on Captive African Lions

Panel: Wildlife In and Out of Place: Biodiversity, Behavior, and Habitat Across Environments

Location: LBJSC 324

Time: 2:00PM - 3:30PM

Presenter: Alyssa Patterson

Department of Biology

College of Science and Engineering

Supervisor: Leila Martina-Siciliano

Abstract:

Panthera leo, the African lion, is a well-known large cat native to warm regions of sub-saharan Africa. *Panthera leo* can also be found in captivity, living in zoos all over the world with varying climates. Heat-adapted animals are known to display stress behaviors under colder conditions, yet research on how it specifically affects African lions is limited. In this study, African lions from four zoos— Reid Park Zoo (Tucson, USA), Maryland Zoo (Baltimore, USA), Werribee Zoo (Victoria, Australia), and Riga Zoo (Riga, Latvia)— with differing average temperatures are being observed using live camera footage to document the proportion of time the animals engage in pacing stress behaviors. I anticipate lions living in colder temperatures will spend a greater proportion of time engaged in stress behaviors because those temperatures exceed their adaptive thermal range. Lions in each of the zoos are observed twice a week in 15-minute increments at the same standardized local time respective of each zoos time zone, using a focal ethogram to record and quantify behaviors. For each observation period, I am also recording the local temperature at each facility. I will evaluate the proportion of time the animals exhibit each behavior, particularly the amount of time they engage in stress behaviors and I will assess how the occurrence of stress behaviors correlates to local temperatures. An increased proportion of stress-related behaviors during colder temperatures would support my hypothesis that low temperatures fall outside of the lion's adaptive thermal range and therefore induce behavioral stress responses. Behavioral observation provides valuable information on the well-being of captive lions. These insights can advocate for improved, temperature-regulated housing, enrichment, and supportive veterinary care.

The Long and Laborious Wait: Revisiting the Iconic Village Fire

Panel: Stories of Self and Place: Film, Podcasting, and Community Voices

Location: LBJSC 325

Time: 12:30PM - 2:00PM

Presenter: James Phillips

Center for International Studies

College of Liberal Arts

Supervisor: Jillian Ament

Abstract:

This project is a four-episode, in-depth audio mini-series examining the Iconic Village apartment fire and the years-long search for accountability that followed. This series will differ from standard true crime podcasts by following NPR-style audio journalism practices to highlight individual hardships and trauma as opposed to rehashing prior criminal investigations. Produced as an audio-only investigative podcast, the series explores the night of the fire, the legal proceedings that followed, and the lasting impact the event has had on the victims and family members affected by it. Through interviews with experts based at Texas State University, legal observers and individuals familiar with the case, the series reconstructs the timeline of the disaster and the broader questions it raised about fire safety, psychological responses to trauma and the criminal justice system in Hays County. Unlike previous coverage that focused primarily on the immediate aftermath of the fire, this project centers on the present-day status of the victims as they go on with their lives even as justice is agonizingly far away. The central point of focus for this project – where it will go further than other investigations – is the fallout from the decision by a Hays County grand jury to not indict Jacobie Ferguson, the individual accused – at the time - of starting the fire. The podcast examines the reactions of victims and community members to the no-bill decision and explores the sense of uncertainty and unresolved grief that remains years after the event. Audio for the series will be gathered through recorded interviews, archival reporting, and ambient sound designed to recreate the atmosphere of the events and the emotional tone of the interviewees. Ultimately, the goal of the series is to reignite public interest in the case and encourage renewed discussion about accountability, safety regulations and the enduring impact of the Iconic Village fire.

The Sound of Love: Connecting Music Taste and Dating Preference

Panel: Love, Sex, and Algorithms: Music, Education, and Power in Modern Dating

Location: LBJSC 303

Time: 9:00AM - 10:30AM

Presenter: Blake Pulido

Department of Psychology

College of Liberal Arts

Supervisor: Jess Cascio

Abstract:

Studies have explored how dating preferences and music tastes each relate to personality, but few have examined the direct relationship between dating preferences and music taste. This project is an online survey based study investigating the potential correlations between music taste and dating preferences among Texas state students. Utilizing the short Big Five Inventory¹⁰, mate design study from Li et al., and music preference tests from Rentfrow and Gosling, student tastes and personality traits will be collected and analyzed for potential trends. Unlike previous music taste studies which focused on enjoyed genres, the present research will place more emphasis on listening habits. Past research points to connections between personality and music/dating taste individually, but there is little existing research connecting the two. This study aims to bridge the gap in the two separate fields of interest.

Level 1 Autism: Interventions, Evaluations, Now What

Panel: Understanding Autism: Camouflaging, Intervention, and Support Systems

Location: LBJSC 314

Time: 12:30PM - 2:00PM

Presenter: Emily Quartz

Department of Psychology

College of Liberal Arts

Supervisor: Jon Lasser

Abstract:

Through the exploration of academic evaluations on students with Autism Level 1, previously known as Aspergers Syndrome, I will explore current interventions and examine their effectiveness through pre and post assessments. As I will continue to explore this topic, I will identify what evaluations are being used to identify academic progress in students with Autism Level 1. Next, I will look at current academic interventions for students with Autism Level 1. Then I will examine the outcome of those interventions through the results on post assessments. I hope to find substantial information on effective interventions for students with Autism Level 1.

Campus EMS Programs: Impacts on Clinical Preparedness and Career Readiness In PreHealth Students

Panel: Multilevel Health Approaches: Prevention, Clinical Training, and Physiological Intervention

Location: ALKEK 442 (B)

Time: 9:00AM - 10:30AM

Presenter: Nic Quezada

Department of Health Sciences

College of Health Professions

Supervisor: Carlton Fong

Abstract:

Campus volunteer EMS organizations are a way for pre-health students to gain clinical preparedness as well as becoming ready for their future careers in medicine. These organizations are important to help these students prepare for gaining experience before having their clinicals in whichever medical career they pursue. We are investigating the impacts these organizations have on students clinical preparedness and career readiness. We want to see how well these EMS-related organizations are able to prepare students compared to non-EMS related volunteering health organizations. The design of our study is a quasi-experimental experiment. We will compare students involved in EMS related volunteering organizations to non-EMS related volunteering organizations. The data will be collected using surveys where we will be measuring the self efficacy these students have gotten in their volunteering. We hypothesize that the students involved in the EMS related volunteering organizations will be more prepared clinically and ready for their careers in medicine. This research will give students a better foundation to what type of experience they should be looking out for to improve their readiness in future clinicals and making them better prepared for their future careers in medicine.

Seahorse XF Analyzer Vs. Livebearing Fish: Verifying and Optimizing Mitochondrial Flux Assay Procedures for Poeciliidae

Panel: Model Organisms, Fundamental Questions: Insights from Animal Systems

Location: ALKEK 441 (A)

Time: 3:30PM - 5:00PM

Presenter: Norah Rinehart

Department of Biology

College of Science and Engineering

Supervisor: Peggy Biga

Abstract:

The purpose of this experiment is to determine the drug concentrations and procedures necessary to measure cellular respiration for various species of the family Poeciliidae. Poeciliidae are a family of ray-finned, live-bearing fish, native to fresh and occasionally brackish waters in tropical to subtropical regions in the Americas. They are quick to adapt, have a high fry survival rate compared to egg-laying species, and wide genetic diversity. All of this makes them ideal models for experimentation. Our efforts to quantify cellular respiration focus on members of the Xiphophorus genus and species Heterandria formosa- respectively known as Swordtails and Least Killifish. Using tissue samples from the liver, spleen, brain, ovaries, and muscle of these fish, we are able to measure cellular respiration through oxygen consumption rate. The Biga lab of Molecular Physiology can use the information gained here to inform future experimentation into our main venture, the study of aging.

Identifying Callous-Unemotional (CU) Traits in the Juvenile Justice System: Perceptions and Barriers to Early Intervention

Panel: Unsolved, Overcrowded, and At Risk: Rethinking Justice from Cold Cases to Youth Intervention

Location: ALKEK 442 (B)

Time: 3:30PM - 5:00PM

Presenter: Kasey Rodriguez

Department of Psychology

College of Liberal Arts

Supervisor: Shayne Jones

Abstract:

Juvenile-justice involved youth with callous-unemotional (CU) traits, which include a lack of empathy, minimal remorse, and shallow emotions, are at a higher risk for ongoing antisocial behavior and poor treatment results. Although the Inventory of Callous-Unemotional Traits (ICU) is the standard tool for assessment, its usefulness in forensic settings is often hindered by social desirability bias and limited access to primary informants. This study looks at a retrospective method for identifying these traits. It does so through a detailed content analysis of archived juvenile probation case files in Central Texas. A coding rubric was developed based on the DSM-5 “Limited Prosocial Emotions” specifier converting narrative documentation from X amount of case files into quantitative scores for callousness, uncaring, and unemotionality. Preliminary findings show that behavioral indicators of CU traits can be reliably extracted from intake summaries and police reports. Further statistical analyses confirm that higher archival CU scores link to factors such as greater offense severity and an earlier age of characterization. These findings suggest that archival records can serve as a useful option for identifying high-risk developmental paths in area where clinical screening is not available. By connecting clinical psychological theory with administrative justice records, this study provides a framework for local departments to facilitate more focused rehabilitation programs.

The Power and Control Cycles of Domestic Abuse: A Short Memoir

Panel: Writing the Self: Identity, Experience, and the Creative Process+K406. Writing the Self: Identity, Experience, and the Creative Process

Location: LBJSC 325

Time: 2:00PM - 3:30PM

Presenter: Kasey Rogers

Department of Psychology

College of Liberal Arts

Supervisor: Amanda Mixon

Abstract:

“The Power and Control Cycles of Domestic Abuse” is a short memoir detailing my experience in an abusive, romantic relationship. I explore the cycle of power and control, or the cycle of domestic violence, through a non-linear timeline over the course of two and a half years. Power and control tactics maintain a level of dependence on an abusive partner; to exemplify this, the memoir includes authentic text messages and jarring instances of emotional and physical abuse. Additionally, I seek to illustrate the internal conflict of leaving domestic violence, offering insight into why a victim may stay. This capstone confronts the nuance of an abusive relationship and how it operates cyclically.

Sex Education in Hindsight: College Students' Reflections on What They Learned and What They Wish They Had Learned

Panel: Love, Sex, and Algorithms: Music, Education, and Power in Modern Dating

Location: LBJSC 303

Time: 9:00AM - 10:30AM

Presenter: Ana Ronquillo

Department of Psychology

College of Liberal Arts

Supervisor: Amy Meeks

Abstract:

Sex education in the United States is delivered through a range of formal and informal sources, including schools, families, religious communities, peers, and digital media. This project examines how college students describe the sex education they received and how those experiences have influenced their personal development and relational decision making. Selected participants engage in a recorded, discussion style podcast conversation with one peer, reflecting on what they were taught, what they wish had been different, and how they would redesign sex education if given the opportunity. Through qualitative analysis of these conversations, the study identifies recurring themes in perceived strengths, limitations, and long-term impacts of diverse sex education experiences. By centering student voices, this project contributes to broader conversations about how young adults perceive the adequacy or inadequacy of their prior sex education.

Democratic Erosion in Bukele's El Salvador

Panel: Polarization, Radicalization, and Democratic Erosion: The Dynamics of Political Behavior

Location: LBJSC 303

Time: 3:30PM - 5:00PM

Presenter: Oscar Rubio

Department of Political Science

College of Liberal Arts

Supervisor: Sanchez-Sibony

Abstract:

This study examines how President of El Salvador Nayib Bukele used public dissatisfaction towards the country's party system to rise to power and singlehandedly erode its democracy. Drawing on several peer-reviewed articles, this project analyzes the cause behind such dissatisfaction that caused the Salvadoran political party system to collapse and ultimately facilitate his election. It also draws on interviews with and regarding the president and his country to understand how this same dissatisfaction has allowed for the erosion of democracy. The findings demonstrate that political dissatisfaction stemmed from the inability of previous governments to curb rampant gang violence and that Bukele's use of mano dura policies against it has been increasingly popular with the Salvadoran people. Salvadorans' desire to end gang violence has consequentially led to them losing several democratic rights as the mano dura policies remain in effect. This project highlights how gang violence has negatively affected Salvadoran democracy.

The Girls' Guide to Joining ISIS

Panel: Polarization, Radicalization, and Democratic Erosion: The Dynamics of Political Behavior

Location: LBJSC 303

Time: 3:30PM - 5:00PM

Presenter: Katherine Ruisard

Center for International Studies

College of Liberal Arts

Supervisor: Ed Mihalkanin

Abstract:

From the ashes of 9/11 rose ISIS, or Daesh, the worldwide terrorist organization that is infamous for its crimes against humanity and disturbing internet presence. They follow an alternative, extreme form of Islam which they insist on spreading through jihad. But despite their hostility for the West (Europe, the Americas, Australia, etc.), the volume of Western foreign fighters, some of them converts, is astonishingly high. Of those foreign fighters are radicalized women and young girls who – of their own volition – joined the Islamic State despite its perspective on women and their value. Much of the intrigue about these Western women and girls surrounds the why and how they even aligned with, much less joined, such an intolerant extremist organization. But what they used to achieve this status is the very thing average people use everyday: the internet, the Islamic State's domain. Through algorithms, subtle communication devices, and direct messages, young girls and women are molded into becoming the future wives and mothers of the Islamic State. By studying and analyzing cultural developments in Western societies in relation to those in the Middle East, can we answer why and how this particular demographic has arrived behind enemy lines in the War on Terror.

Amplifying Theatre in San Marcos, Texas

Panel: Stories of Self and Place: Film, Podcasting, and Community Voices

Location: LBJSC 325

Time: 12:30PM - 2:00PM

Presenter: Kameryn Schwertner

School of Theatre, Dance & Film

College of Fine Arts and Communication

Supervisor: Jordan Morille

Abstract:

How did theatre in San Marcos develop into what it is now? Follow along with this three-episode podcast to hear how theatre got its start in this town and to hear from the leaders of the top performing theatre companies. Episode one delves into research dating back over fifty years to take the audience through the history of theatre in San Marcos. Episodes two and three include interviews with the leaders of Texas State Theatre and a local company, Broke Thespians. Through timeline exploration and first-hand accounts, see why San Marcos theatre should be the model for small towns across the globe.

A Pirate's Life for Me: Examining the Lived Experiences of Pirates During the Golden Age

Panel: Culture, Craft, and Exchange: Interfaith Relations, Indigenous Knowledge, and Alternative Social Worlds

Location: LBJSC 324

Time: 10:30AM - 12:00PM

Presenter: Joel Scott

Department of History

College of Liberal Arts

Supervisor: Bryan Glass

Abstract:

The Golden Age of Piracy, from around 1716 to 1726, has long been regarded with legendary and romanticized mysticism, spurring Hollywood portrayals and long-lasting societal fervor for the period. Renowned Golden Age figures such as Edward “Blackbeard” Teach defined the era through sensationalized accounts of their piratical antics and immensely feared reputations. Beyond being seafaring villains though, these pirates often represented rebellion against oppressive systems, specifically for sailors of the day, and were imbued with a “Robin Hood-esque” or antihero persona. Accordingly, research has focused on the famous actors from the period and their popularized practices, like the use of the iconic “Jolly Roger” or their emphasis on the collective sharing of profits. However, even with this attention to the subject, little is known about the lived experiences of Golden Age pirate crew members. Through examinations into pirate constitutions, court records, and personal accounts, this project investigates pirate crew members' feelings and encounters with life on the sea, ranging from their experience with their material environment to their unique piratical social systems. Findings point to a varied and complex existence characterized by communalized living, an intense shifting sense of the self, and affective bonds among crew members. These results help to further understanding of piracy during the mythicized Golden Age and more holistically demonstrate what real life was like for those who partook.

The Effect of Affect: Affective Polarization and Voters' House Candidate Preferences in Contemporary U.S. Elections

Panel: Polarization, Radicalization, and Democratic Erosion: The Dynamics of Political Behavior

Location: LBJSC 303

Time: 3:30M - 5:00PM

Presenter: Joel Scott

Department of Political Science

College of Liberal Arts

Supervisor: Lauren Rowlands

Abstract:

Affective polarization, or the propensity to view one's own political party with feelings of affinity while increasingly viewing opposing political parties with feelings of disdain, has been a phenomenon with growing prevalence within world democratic governments, with profound increases being seen in the United States. This has led to a growth in partisan behavior and a decreased willingness for Americans to associate with out-group political members. However, even with significant scholarly focus on affective polarization, there is a relative lack of research regarding its influence on congressional electoral outcomes. Using American National Election Studies survey data, this project seeks to analyze the relationship between voters' preferences for House candidates and affective polarization in modern American elections. Findings indicate that increases in affective polarization are associated with more polarized House candidate ratings for members of both major political parties. These results emphasize the potential for broader electoral influences of affective polarization and imply a more structural role in defining voter preferences.

Nudging Help-Seeking: A TPB Intervention for Suicidal Ideation in College Students

Panel: Stressors, Stereotypes, and Help-Seeking: Mental Health in Black and Minority College Students

Location: LBJSC 303

Time: 12:30PM - 2:00PM

Presenter: Paige Shunn

Department of Psychology

College of Liberal Arts

Supervisor: Megan Rogers

Abstract:

Suicide is a leading cause of death for emerging adults, with over 49,000 U.S. deaths in 2022 (CDC, 2024). Despite high-risk, the "help-negation effect" often discourages professional help-seeking (Wilson & Deane, 2010). This study utilized the Theory of Planned Behavior (TPB; Ajzen, 1991) to evaluate whether brief "behavioral nudges" targeting Attitudes, Subjective Norms, or Perceived Behavioral Control (PBC) could increase help-seeking intentions. Undergraduate students (N=16) with recent suicidal ideation were randomized into four conditions: Attitudes, Subjective Norms, Perceived Behavioral Control, or a neutral control.

While mixed ANOVAS showed no significant immediate effects on help-seeking intentions, exploratory analyses revealed a significant longitudinal reduction in "lack of knowledge" regarding mental health services across all conditions at a four-week follow-up ($p = .025$). Additionally, baseline help-seeking attitudes were significantly more positive among participants with a history of suicide attempts ($p = .037$). These findings suggest that while brief nudges may not immediately shift complex psychological intentions, they effectively lower practical barriers by increasing resource awareness. Implementing such scalable, resource-focused interventions in university settings may enhance mental health literacy and facilitate life-saving care.

An Examination of the Chronic Effects of Slow Deep Breathing on Blood Pressure: A Systematic Review

Panel: Multilevel Health Approaches: Prevention, Clinical Training, and Physiological Intervention

Location: ALKEK 442 (B)

Time: 9:00AM - 10:30AM

Presenter: Jake Smith

Department of Health and Human Performance

College of Education

Supervisor: Stacy D. Hunter

Abstract:

Breathing techniques have been practiced for thousands of years and are associated with a range of physiological benefits. Among these benefits, reductions in blood pressure (BP) have been reported. However, hesitancy exists among leading authorities regarding the recommendation of this technique for the treatment of hypertension due to inconsistent study results. Discrepancies in findings could be attributed to variations in BP measurement technique. This review aimed to examine the chronic effects of isolated slow deep breathing interventions on BP and to further scrutinize outcomes by BP measurement technique. For this systematic review, we searched PubMed for studies published from 2010 to 2026. We excluded studies with interventions shorter than 7 days to examine chronic effects and also excluded studies which simultaneously deployed yoga posture interventions to delineate the isolated effects of slow, deep breathing on BP rather than slow deep breathing in conjunction with other modalities. Of the 451 studies identified, 413 were excluded based on eligibility criteria and 38 studies were included in this review. Studies implemented device-guided and non-device-guided slow breathing techniques and interventions were 7 days to 6 months in duration. Non-device guided breathing interventions included pranayama most frequently. Overall, reductions in BP ranged from 1.19 to 21 mm Hg and 1.6 to 11 mm Hg for systolic and diastolic BP, respectively. Of the 38 studies, 8 measured 24-hour ambulatory BP while 30 measured office or home BP. Reductions in ambulatory BP ranged from 2.9 to 9 mmHg and 1 to 5 mm Hg for systolic and diastolic BP, respectively. Reductions in office BP ranged from 2 to 21 mm Hg and 1.6 to 10 mm Hg for systolic and diastolic BP, respectively. Results indicate that slow deep breathing exerts a more pronounced BP-lowering effect on office compared with ambulatory BP.

Opossum: A Criticism of True Crime Through a Theatrical Lens

Panel: Devices of the Stage: Space, Structure, and Audience Reimagined

Location: LBJSC 325

Time: 9:00AM - 10:30AM

Presenter: Morgan Smithwick

School of Theatre, Dance & Film

College of Fine Arts and Communication

Supervisor: Jordan Morille

Abstract:

When the Menendez brothers' case broke the news, many people were quick to latch on to their appearances in a romantic and sexual view. In doing so, they disregarded the perspective of the victims in the case and those involved. This perspective shift could be a reason the argue that the Menendez brother's case was trialed wrong as those involved in the judgement neglected the situations that lead up to their murder. There have been waves of people (predominantly women) in America professing their affection for criminals and killers far worse than the Menendez brothers and it's a topic that isn't discussed enough for its negative impact. There's been a wave of women on social media in the past few years displaying and encouraging these traits to thousands of others. Now is the time to strike and reverse the encouragement of this behavior through thoughtful reflection and display of the negative effects. In response to these epidemics, I am writing and producing a theatrical production in the genre of horror. The story follows an active serial killer and a girl who has an obsessive romantic fascination with him. After witnessing this toxic pursuit, the audience will then be made to choose the ending they will view. They will decide if she will continue her pursuit or return home. With this immersive element, the audience will be pushed into a spot where they are made to reflect on their desires for the girl and how this reflects on them in modern society.

Using the Synthetic Compound Colchicine as an Anti-cancer Agent for Neuroblastoma Cells

Panel: Molecular Targets and Therapeutic Strategies: Disease Pathways and Cancer

Treatment

Location: ALKEK 441 (A)

Time: 2:00PM - 3:30PM

Presenter: Eva Solorzano

Department of Biology

College of Science and Engineering

Supervisor: Liqin Du

Abstract:

Neuroblastoma is a form of cancer that predominantly affects children under the age of five. It is a nerve cell cancer that occurs whenever immature neuroblasts begin to grow uncontrollably which causes tumors to form. Currently, treatment options for neuroblastoma cancer is aggressive, so the search for a targeting therapeutic compound is essential. In this study, the compound Colchicine was tested for its anti-cancer properties against neuroblastoma cells. Colchicine impairs mitotic spindle formation affecting cell division and tumor growth. To test the compound, different concentrations were used against the neuroblastoma cell line 2268 and then the cell viability was analyzed through MTT assay. The IC_{50} values illustrated a relationship between concentration and reduction of cell viability. These findings demonstrated the potential of Colchicine as an anti-cancer agent.

Spinning the Digital Thread: Code, Colonial Linguistics, and Textile Metaphors

Panel: Culture, Craft, and Exchange: Interfaith Relations, Indigenous Knowledge, and Alternative Social Worlds

Location: LBJSC 324

Time: 10:30AM - 12:00PM

Presenter: Alejandra Sosa-Lopez

School of Art and Design

College of Fine Arts and Communication

Supervisor: Tyler Rico

Abstract:

The contemporary design sphere frequently overlooks the historical roots connecting traditional craft practices, such as weaving, to modern computational logic, perpetuating the erasure of Indigenous technological knowledge. This practice-based research project challenges this colonial narrative by establishing structural parallels between codified textiles and computational systems. Drawing on media archaeology, the study frames ancestral textile practices as complex technological "black boxes" containing embedded programming codes, positioning them as precursors to algorithmic governance. Simultaneously, it examines the structural resilience of Indigenous languages during colonial transitions, focusing on the "micropoetics" of hypertrophic words in colonial Nahuatl and the tactile materiality of Classic Maya hieroglyphs. Addressing the lack of artistic research that integrates these domains, this project employs a methodology of "thinking by making" to answer how material crafts serve as metaphors for code. The central inquiry investigates what happens when colonial-era linguistic concepts (Nahuatl to Spanish to English to programming languages) are translated into stitch patterns. The experimental method involves a synthesized approach: first, digitally translating linguistic data into sequential bitmap patterns using Python and Processing, and second, manually reinterpreting these computer-generated codes through indigenous weaving and colonial knitting techniques. By forcing a tactile inquiry into the relationship between digital signs and material surfaces, this research visually demonstrates how deep semantic complexity endures through physical craft despite colonial pressures. Ultimately, this project contributes a critical mapping of technology, gender, and colonial power structures outside hegemonic scientific paradigms, actively integrating marginalized Indigenous forms of knowing into contemporary design practice.

The Exeunt/Enter Cycles: An Audience-Initiated Shakespeare Study

Panel: Devices of the Stage: Space, Structure, and Audience Reimagined

Location: LBJSC 325

Time: 9:00AM - 10:30AM

Presenter: Jordan Spena

School of Theatre, Dance & Film

College of Fine Arts and Communication

Supervisor: Kate Glasheen

Abstract:

Today's theatrical landscape faces an increasingly alarming slate of challenges; shortening attention spans, the slashing of arts funding, and the rise of AI could all be pointed to as omens that the performing arts are in trouble. Under such circumstances, it is necessary to consider what theatre offers that no other form of entertainment can, and perhaps the best place to begin the search is with the Bard. Shakespeare's plays easily justify themselves as pieces that must be experienced live, with their heightened language, larger than life characters, and epic emotional journeys. They are true events, written for a rowdy Elizabethan crowd that had its own unique set of attentiveness obstacles (audiences at the Globe stood throughout the entirety of each performance, sweating under the beating sun, walking about and speaking at full volume). Shakespeare had to fight for their engagement, and did so by packing his plays with overt theatricality, recurring characters, and fourth wall breaks. The Exeunt/Enter Cycles takes these devices, and blows them up to an extreme that fits a modern audience. In it, a central Chorus figure traverses through Juliet's Verona, Prospero's island, Puck's forest, and many other worlds, suggesting a shared universe between them, and tracking their connection. The audience acts as an integral storytelling force, deciding which path to follow and which thread to pull, resulting in a different show each night. The Exeunt/Enter Cycles is a piece of theatre about theatre, and the way we choose to tell stories. By using writing techniques of the past, it makes a case for the importance of the performing arts today.

Balancing Books and Paychecks: The Relationship Between Workhours and Student Success

Panel: Coping with College Stress: Paychecks, “Hangxiety,” and Hiking

Location: LBJSC 314

Time: 10:30AM - 12:00PM

Presenter: Ruth Susheel Kumar

School of Health Administration

College of Health Professions

Supervisor: Kelly Haskard Zolnierok

Abstract:

This Honors Capstone Project will explore the relationship between students’ employment status, whether they work full-time, part-time, or not at all, and their academic performance and stress levels at Texas State University. This information will be gathered through an online survey, and this will be a correlational study design. It is hypothesized that there will be a relationship between students’ employment status and their academic performance and stress levels. Specifically, students who work part-time will report moderate stress levels and higher academic performance compared to those who work full-time, who are expected to experience higher stress levels and lower academic performance. Students who do not work are expected to have lower stress levels and higher academic performance because they do not have to balance job responsibilities. A negative relationship is expected between the number of work hours and GPA — meaning that as students work more hours, their GPA will be lower. In contrast, a positive relationship is expected between work hours and stress levels, where students who work more hours are likely to report greater stress.

Evaluating Efficacy of Colchicine and Combrestatin-A4 in Neuroblastoma: Tubulin Polymerization Inhibitors

Panel: Molecular Targets and Therapeutic Strategies: Disease Pathways and Cancer

Treatment

Location: ALKEK 441 (A)

Time: 2:00PM - 3:30PM

Presenter: Kevin Tat

Department of Biology

College of Science and Engineering

Supervisor: Liqin Du

Abstract:

Cancer is a disease characterized by the uncontrollable growth of cells, and it is the cause of about 10 million deaths worldwide in 2022. While cancers vary in severity, neuroblastomas (NB) are worrisome due to the age range that they appear in. Infants and young children are predisposed to the disease due to the high amounts of neuroblasts found within developing children. These neuroblasts differentiate from the cells of the brain like neurons or glial cells but can become cancerous due to a multitude of disruptions to the cell cycle. Up to 1,000 cases of neuroblastoma occur in the United States alone and traditional treatment like chemoradiotherapy has more drawbacks than advantages. While new innovations have allowed for more targeted therapies, these can cost thousands of dollars. Colchicine is an established medication for gout and familial mediterranean fever (FMF) and is a microtubule disruptor, binding to the colchicine binding site on microtubules. This binding disrupts the tubulin polymerization and induces apoptosis of cancer cells, but colchicine at high doses can have toxic effects so analogs, like Combrestatin-A4 (CA-4), have the potential to produce the same binding and disruption as colchicine. The anticancer activities between colchicine and CA-4 have not been fully characterized. The goal of my project is to compare the anti-survival activity between colchicine and CA-4 in a panel of neuroblastoma cell lines by measuring IC50 values. My results indicate that CA-4 has a lower IC50 than colchicine and needs a lower dose to produce the same potency.

San Marcos River Personhood: Urgent and Necessary

Panel: Ethics in Theory and Practice: Veganism, Environmental Personhood, and Conscious Experience

Location: ALKEK 442 (B)

Time: 2:00PM - 3:30PM

Presenter: Taylor Tate

Department of Finance and Economics
McCoy College of Business Administration
Supervisor: Elissa Marek

Abstract:

The San Marcos river is a cultural cornerstone, historic sight, and vital proponent of local ecosystems in central Texas. Increasingly, the sustainability of the river is under threat from increasing population, commercial activity, and lack of protection. This paper considers legal personhood as a potential solution to the issues plaguing the San Marcos river. This paper begins with an analysis of the river and its potential threats, considers the legal frameworks governing the river, compares this with frames where other personhood schema have been implemented, and finally proposes a legal personhood mechanism for the San Marcos river. The paper concludes with an analysis on potential implications and objections to the personhood scheme and defends the conclusion in the wake: personhood is urgent and necessary for the San Marcos River.

AI-Guided Design and Evaluation of Spiropyran Analogs for Cytotoxicity Testing

Panel: Molecular Targets and Therapeutic Strategies: Disease Pathways and Cancer

Treatment

Location: ALKEK 441 (A)

Time: 2:00PM - 3:30PM

Presenter: Buruke Tesfa

Department of Biology

College of Science and Engineering

Supervisor: Shiva Rastogi

Abstract:

Neuroblastoma is a rare but aggressive pediatric malignancy with limited targeted treatment options and significant therapy associated with toxicity. Photoresponsive spiropyrans represent a promising class of anticancer pharmacophores due to their reversible structural conformation between a closed spiropyran (SP) form and an open merocyanine (MC) form under light activation. The MC form exhibits enhanced polarity and biological activity, however, its rapid thermal reversion to the SP form limits sustained cytotoxic activity. This study investigates the addition of electron withdrawal group such as fluorine in SP scaffold and study of influence on the SP \leftrightarrow MC equilibrium and cytotoxic performance. We hypothesize that fluorine substitution will stabilize the merocyanine state, increase steady state MC concentration, and enhance cytotoxic activity. Novel analogs will be synthesized and characterized using IR and NMR spectroscopy. Photophysical properties will be evaluated via UV-Vis spectroscopy before and after irradiation to quantify shifts in equilibrium and assess MC retention. To enhance rational design and synthetic efficiency, we will integrate the AI driven DrugFilter AI platform to guide synthetic planning, predict physicochemical properties, and support structure activity relationship analysis between SP and MC forms. Cytotoxicity will be assessed in HeLa cells using IC₅₀ determination under both dark and UV-irradiated conditions. Colchicine will serve as a positive control to benchmark antiproliferative potency. By combining AI assisted optimization with experimental photochemical and biological validation, this work aims to advance safer, light activated anticancer systems with improved merocyanine stability and therapeutic precision.

Birds Across the Gradient: The Effects of Urbanization on Bird Species Diversity and Feeder Visitation

Panel: Wildlife In and Out of Place: Biodiversity, Behavior, and Habitat Across Environments

Location: LBJSC 324

Time: 2:00PM - 3:30PM

Presenter: Kylie Thackeray

Department of Biology

College of Science and Engineering

Supervisor: Clay Green

Abstract:

Every spring and fall, millions of migratory birds travel through Central Texas, using it as a refueling station on their migration, especially the Trans-Gulf migrants: migratory species that cross the Gulf of Mexico in a single flight. Central Texas is their last opportunity to forage and regain energy to survive their long journey. As human infrastructure overtakes land, foraging habitats are replaced by streets and buildings, altering birds' natural behavior, visitation rates, and species diversity across landscapes. This study aims to examine how bird visitation rates and species diversity vary based on the level of urbanization across San Marcos, Texas. Bird feeder activity will be compared across three sites representing a gradient of anthropogenic pressure: Downtown San Marcos (high urbanization), Falcon Wood neighborhood (medium urbanization), and Freeman Ranch (low urbanization). Observations will take place in February 2026, with motion-activated game cameras monitoring five bird feeders at each site. The study will compare patterns of feeder use across environments. Statistical analyses, including ANOVA and linear regression, will be used to evaluate differences among the sites. By identifying which environments support higher levels of bird visitation and diversity, this project aims to inform local conservation and habitat management and increase bird-friendly urban planning in the developing region of Central Texas.

Salt in the Sugar Bowl: Transactional Dating & Gender Role Performance on Social Media

Panel: Love, Sex, and Algorithms: Music, Education, and Power in Modern Dating

Location: LBJSC 303

Time: 9:00AM - 10:30AM

Presenter: Kathryn Thompson

Department of Sociology

College of Liberal Arts

Supervisor: Anissa Chitwanga

Abstract:

In recent years there have been a large number of social media creators and trends that have emerged which center around promoting transactional dating within heterosexual relationships. In this paper, I will explain the societal conditions which have fostered the growth of these trends as well as how they interact with the evolving social construction of gender and its subsequent power imbalances. The discourse regarding transactional dating exists at a crossroads between modern conceptions of gender norms, power stratification society, and economic based conflict. This research will examine how this social media content utilizes benevolent sexism to promote a socially conservative version of gender role performance to their target demographic of young women with the promise of men's wealth as the reward. While this notion has existed for much of modern history, the ways in which this content both draws upon yet denounces neoliberal feminism when engaging with the audience speaks to the varied and nuanced changes towards gender role performance within modern American culture, particularly in intimate relationships. Additionally, the popularization of content that promotes female attractiveness and male finances as the center of power balance within the relationship has created space for existing voices in the 'sugar-dating' sphere to normalize the dynamic in way that drives a wedge between themselves and other forms of sex work, instead of dignifying and creating safeguards for this form of labor, which has been the focus of many feminist activists and scholars in recent decades.

Conservation of Innate Immune Genes in the Other Cnidarian Symbiosis: The Green Hydra

Panel: Model Organisms, Fundamental Questions: Insights from Animal Systems

Location: ALKEK 441 (A)

Time: 3:30PM - 5:00PM

Presenter: Kevin Tran

Department of Biology

College of Science and Engineering

Supervisor: Raul Gonzalez-Pech

Abstract:

Cnidarians represent one of the earliest diverging animal lineages, making them an essential example when understanding evolutionary origins of innate immunity. Despite the extensive study of Hydra as a model cnidarian, the green Hydra (*Hydra viridissima*) remains comparatively understudied at the genomic and molecular levels. As a symbiotic freshwater species, *H. viridissima* can be used as a valuable system for examining how immune gene families may have been conserved or modified over evolutionary time compared to other symbiotic cnidarians, e.g., reef-building corals. This study performs a comparative genomic analysis of cnidarian genomes to evaluate the evolutionary conservation and divergence of innate immune gene families, with a focus on *H. viridissima*. By comparing gene presence and variation across species, this research aims to identify both shared immune components and lineage differences, as well as to understand the mechanisms underpinning the green alga-Hydra symbiosis. The results will help clarify whether distinct symbioses evolved convergent or divergent innate immune systems within cnidarians and contribute to our broader understanding of early animal immune evolution.

Resilience Rising: How Students from Single-Parent Households Thrive

Panel: Learning to Thrive: Classroom Climate, Educational Policy, and Student Resilience

Location: ALKEK 442 (B)

Time: 10:30AM - 12:00PM

Presenter: Adriana Vega

Department of Management

McCoy College of Business Administration

Supervisor: Floyd Quinn

Abstract:

This paper will present my research on resilience and academic success among students raised in single-parent households. The purpose of this study will be to examine the protective factors and support systems that may contribute to positive academic and emotional outcomes despite challenges commonly associated with single-parent family structures. While existing literature often emphasizes economic strain and developmental risks, this study will focus on conditions under which students thrive. I will conduct a qualitative study involving approximately 20 undergraduate students at Texas State University who self-identify as having been raised in single-parent households and who maintain a cumulative GPA of 3.0 or higher. Participants will be recruited through snowball sampling. Data will be collected through online surveys featuring open-ended questions designed to capture reflections on emotional support, mentorship, motivation, and coping strategies. Responses will be analyzed using thematic analysis to identify recurring patterns related to resilience and achievement. It is anticipated that findings will show that thriving students commonly report strong emotional support from a parent or caregiver, early development of independence, and mentorship from educators or community members. Participants are also expected to frame their upbringing as a source of motivation and adaptability. This study will contribute to research on family structure and student success by highlighting strengths-based perspectives and may offer implications for educational support and mentorship initiatives.

"The Hare": Making a Case for Experimental Animation in Video Games

Panel: Game Design as Creative Practice: Innovation, Storytelling, and Experimental Play

Location: ALKEK 441 (A)

Time: 10:30AM - 12:00PM

Presenter: Kayla Vincent

Department of Computer Science
College of Science and Engineering
Supervisor: Isayas Adhanom

Abstract:

"The Hare" is a story-based 2D platformer that investigates the effects of experimental animation on storytelling in video games, intending to showcase experimental animation's potential in games. Experimental animation here is defined as using various artistic media to animate different scenes in the same art style. Guided by examples of mixed-media animation in film and television, this project explores how alternative methods of animation can enhance the emotional impact of storytelling in video games. This game's story is centered around an Arctic Hare making its way south for the winter, surviving the harsh environment and discovering what happened to its missing family along the way. Different animation media is used to animate the game's cutscenes and to visually distinguish certain story elements, such as using digital art to separate the character from a background made with acrylic paint. Each animation media has intended emotional effects tied to them and their effectiveness is analyzed using thematic analysis and questionnaires.

If You Say What I Say, Do You See What I See? Correlating Lexical Alignment and Perspective-Taking Ability

Panel: Thinking in Motion: Attention, Sleep, Memory, and Social Cognition

Location: LBJSC 314

Time: 9:00AM - 10:30AM

Presenter: Ian Vonderharr

Department of Psychology

College of Liberal Arts

Supervisor: Kristen Tooley

Abstract:

Effective communication relies heavily on people's ability to consider their conversation partner's perspective. Brown-Schmidt (2009) defines this perspective-taking process as an individual's ability to take a partner's knowledge, spatial view, and other perspective-related variables into account during interaction. Prior research suggests that people default to egocentricity during conversations (Keysar et al., 2000). Therefore, for an individual to successfully consider another person's perspective, they must override their preconceptions of a situation (Brown-Schmidt, 2009). Similarly, linguistic alignment, where individuals reorient mental representations of language to match conversation partners, also represents a social-cognitive orientation toward successful communication (Pickering and Garrod, 2004). Linguistic alignment, or priming, has been linked to perspective-taking ability in children (van Zwet and Unsworth, 2024). However, there is minimal research correlating linguistic alignment and perspective-taking ability in interactive-adult contexts. Therefore, the core study seeks to analyze the correlation between these two variables. The current study uses the Director Task, an interactive perspective-taking measure developed by Keysar and colleagues (2000), requiring participants to cooperate with a confederate researcher to correctly move objects in a grid. An additional measure has been added to the task, in which the participant is asked to name selected objects, testing the participant's lexical alignment with the confederate. This paper, separate from the current study, analyzes the task in greater detail, observing the potential relationship between lexical alignment and perspective-taking ability within the Director Task. This paper hypothesizes that lexical alignment is associated with perspective-taking measures within the Director Task. A positive correlation would suggest that those with greater perspective-taking abilities are more likely to align their use of terminology with their conversation partner. Broadly, these research findings will refine the field's understanding of how sources of linguistic alignment and social-cognitive abilities, such as perspective-taking, are related.

“My Girl Birdie”

Panel: Writing the Self: Identity, Experience, and the Creative Process+K406. Writing the Self: Identity, Experience, and the Creative Process

Location: LBJSC 325

Time: 2:00PM - 3:30PM

Presenter: Katherine Wabbersen

Department of English

College of Liberal Arts

Supervisor: Jordan Morille

Abstract:

"My Girl Birdie" is a novel that traces the two-week emotional journey of Florence, a 23-year-old writer who moves to Seattle in search of personal and artistic growth. When she discovers her seemingly "perfect" boyfriend, Teddy, plans to propose, Florence is thrust into a love triangle that upends her sense of stability. The novel challenges traditional notions of romantic security—marriage, commitment, and loyalty—by placing Florence’s quest for independence and self-definition at its core. Structurally, the novel is non-linear, alternating between third-person past tense and first-person present tense. This dual narrative perspective reflects Florence’s fractured sense of self, allowing the reader to experience both her external actions and internal consciousness simultaneously. In addition to romantic relationships, the novel foregrounds sisterhood as a formative influence, examining how familial roles shape responsibility, emotional development, and self-perception. Ultimately, My Girl Birdie explores the instability of identity during transitional periods of adulthood and interrogates the assumption that emotional maturity is achieved through romantic permanence. By situating Florence’s artistic ambition alongside her romantic uncertainty, the novel makes visible the complex, nonlinear process of becoming, and the ways in which independence is often forged through self confrontation.

Relational Care: Growth as Practice

Panel: Rebuilding Meaning: Faith, Migration, and Mental Health in Personal Narrative

Location: LBJSC 303

Time: 10:30AM - 12:00PM

Presenter: Ariyana Wells

Department of Psychology

College of Liberal Arts

Supervisor: Olga Gerhart

Abstract:

Plant care starts with observation. Light, soil moisture, and subtle shifts in posture signal when to intervene and when to wait. This creative project uses plant care as a relational model for understanding mental health and personal recovery. The project will draw from my lived experiences dealing with anxiety, burnout, boundaries, trust, stability, and motivation. Across six first-person narratives, specific plants are paired with emotional themes. Fast-growing plants reflect consistency and reassurance. Dramatic plants model the need for boundaries and being sensitive to differences. Drought-tolerant plants require restraint, while other, more reactive plants reflect cycles of anxiety and reset. Through these pairings, patterns of self-overcorrection, impatience, and neglect become easier to notice. The series examines how effort can be mistaken for care and how urgency can be misidentified as responsibility. Structured as six focused stories, the project demonstrates that growth is nonlinear, relational, and sometimes invisible. Plant care functions not simply as a metaphor but as a method. Attentive observation, intentional action, and strategic restraint become practices that build self-trust. Ultimately, tending to plants becomes a framework for caring for oneself.

Skeletons

Panel: Speculative Motherhoods, Family Secrets, and 100 Years of Heroines: Reimagining Performance and Storytelling

Location: LBJSC 325

Time: 3:30PM - 5:00PM

Presenter: Tyler White

Department of Counseling, Leadership, Adult Education & School Psychology

College of Education

Supervisor: Jordan Morille

Abstract:

After the unexpected death of his grandmother, Anthony returns home. Not only does Anthony have to confront his family, but he now must also face the past—a secret that now places the family in the throes of their mortality. *Skeletons* is a supernatural horror film that explores the power of withholding the truth, leaving “skeletons” to fester overtime until they can no longer be kept in the dark. I came up with the idea for this horror film after reflecting on the relationships that I share with the members of my family, where the maintenance of traditional thought and suppression of true emotions weld an iron curtain—one that I have climbed over—that keeps out change. This screenplay has been difficult to write, but also cathartic. Through this screenplay, I have confronted the bad that exists in my family but found time to reflect on the good that has led me to the person I am today.

“Deep Blue Katabasis: A Southern Gothic Video Game Demo”

Panel: Game Design as Creative Practice: Innovation, Storytelling, and Experimental Play

Location: ALKEK 441 (A)

Time: 10:30AM - 12:00PM

Presenter: Athene Yowell

Department of Computer Science
College of Science and Engineering
Supervisor: Jordan Morille

Abstract:

Deep Blue Katabasis is a video game which uses the mechanics of survival horror games and Southern Gothic storytelling to explore the trauma of flooding and climate change induced natural disasters, along with the complex identity of being queer in the south and the structural failure of institutions to protect their people. The game takes place on a repurposed oil rig during a hurricane as the facility starts to flood. The player character is stuck in a never-ending nightmare as every time they fail to escape the floodwaters they wake up at the start of the accident, there the player character descends further into the traumas of their past as she tries to escape.

ALKEK - 09:00AM – 10:30AM

| Room / Time: ALKEK 441 (A) 9:00-10:30 | | |
|--|------------|--|
| Panel Chair: Dr. Mary Vaughan, Department of Mathematics | | |
| Panel: Modeling and Machine Intelligence: From Mathematical Theory to Real-World Systems | | |
| Last Name | First Name | Project Title |
| Haro | Jerardo | Fractional Derivatives: Definitions, Theory, and Various Applications in Real-World Phenomena |
| Fahmi | Rayed | Benchmarking LLM Summarization Metrics: Towards an Adaptive Evaluation-and-Correction Framework |
| Omidvar | Armin | Design and Implementation of an Intelligent Machine Learning–Driven Stock Trading System |
| Panta | Prashant | Benchmarking Deep Learning Training Performance at the University LEAP-2 High-Performance Computing System |

| Room / Time: ALKEK 442 (B) 9:00-10:30 | | |
|--|------------|---|
| Panel Chair: Dr. Stacy Hunter, Department of Health and Human Performance | | |
| Panel: Multilevel Health Approaches: Prevention, Clinical Training, and Physiological Intervention | | |
| Last Name | First Name | Project Title |
| Chauvette | Kenedy | The Social Factors in Prevention: A Mixed Methods Analysis of Kindergarten Vaccination in Texas |
| Quezada | Nic | Campus EMS Programs: Impacts on Clinical Preparedness and Career Readiness In PreHealth Students |
| Smith | Jake | An Examination of the Chronic Effects of Slow Deep Breathing on Blood Pressure: A Systematic Review |

ALKEK - 10:30AM – 12:00PM

Room / Time: ALKEK 441 (A) 10:30-12:00

Panel Chair: Jordan Morille, Honors College

Panel: Game Design as Creative Practice: Innovation, Storytelling, and Experimental Play

| Last Name | First Name | Project Title |
|-----------|------------|---|
| Merlick | Roman | Exploration of Genre Innovation: Developing a Roguelike Factory-Builder |
| Vincent | Kayla | "The Hare": Making a Case for Experimental Animation in Video Games |
| Yowell | Athene | "Deep Blue Katabasis: A Southern Gothic Video Game Demo" |

Room / Time: ALKEK 442 (B) 10:30-12:00

Panel Chair: Dr. Eunjin Seo, School of Family and Consumer Sciences

Panel: Learning to Thrive: Classroom Climate, Educational Policy, and Student Resilience

| Last Name | First Name | Project Title |
|-----------|------------|---|
| McGee | Brielle | The Psychology of Classroom Belief: Student Perceptions of Instructor Mindset and Autonomy Support |
| Nodler | Sabrina | Children Left Behind: Retrospective Analysis of "No Child Left Behind" and the Legacy of America's Failures in Public Education |
| Vega | Adriana | Resilience Rising: How Students from Single-Parent Households Thrive |

ALKEK - 12:30PM – 2:00PM

Room / Time: ALKEK 441 (A) 12:30-2:00

Panel Chair: Dr. Tania Betancourt, Department of Chemistry and Biochemistry

Panel: Molecular Design and Interaction: Tools, Structures, and Applications in Chemistry and Biomedicine

| Last Name | First Name | Project Title |
|-----------|------------|--|
| Gee | Dillon | Developing a Russian-Doll-Inspired Biomaterial for the Smart Delivery of Doxorubicin |
| Johanson | Mark | Development and Testing of a New Method for Analysis of Telomere DNA Sizes |
| Miller | Ava | Mapping Molecular Handshakes: Defining the ZGRF1–RAD51 Interface in Homologous Recombination |
| Mudoka | Abby | Inside the Cage: Exploring Molecular Confinement Through Electrometallofullerenes |

Room / Time: ALKEK 442 (B) 12:30-2:00

Panel Chair: Jon Zmikly, School of Journalism and Mass Communication

Panel: More Than a Game: Mindset, Performance, and the Business of Sport

| Last Name | First Name | Project Title |
|-----------|------------|---|
| Butkus | Brooks | Personality Differences in GRIT and Mindset |
| Chang | Harrison | Rounding the Branding Bases: Building a Brand Direction and Visual Design System of a Professional Baseball Organization |
| Garces | Evan | Short-Term Changes in Countermovement Jump and Arm Strength and Mobility Metrics Association With Injury Classification in Collegiate Baseball Pitchers |
| Medina | Mariam | What It Takes to Build a Formula 1 Team: Engineering, Economics, and Global Strategy |

ALKEK - 2:00PM – 3:30PM

Room / Time: ALKEK 441 (A) 2:00-3:30

Panel Chair: Dr. Micaela Vargas, Department of Biology

Panel: Molecular Targets and Therapeutic Strategies: Disease Pathways and Cancer Treatment

| Last Name | First Name | Project Title |
|-----------|------------|---|
| Coltman | Paige | TTC31 as a Novel Modulator of Liver Disease Pathogenesis |
| Solorzano | Eva | Using the Synthetic Compound Colchicine as an Anti-cancer Agent for Neuroblastoma Cells |
| Tat | Kevin | Evaluating Efficacy of Colchicine and Combrestatin-A4 in Neuroblastoma: Tubulin Polymerization Inhibitors |
| Tesfa | Buruke | AI-Guided Design and Evaluation of Spiropyran Analogs for Cytotoxicity Testing |

Room / Time: ALKEK 442 (B) 2:00-3:30

Panel Chair: Dr. Deacon Newhouse, Department of Philosophy

Panel: Ethics in Theory and Practice: Veganism, Environmental Personhood, and Conscious Experience

| Last Name | First Name | Project Title |
|-----------|------------|---|
| Ixba | Asher | Animal Ethics in Action: Transforming Philosophical Literature Into Vegan Activist-Ready Rebuttals |
| Johnson | Ashley | Irreversibility, Time, And Conscious Experience: Physical Asymmetry and the Structure of Experience |
| Tate | Taylor | San Marcos River Personhood: Urgent and Necessary |

ALKEK -3:30PM – 5:00PM

| Room / Time: ALKEK 441 (A) 3:30-5:00 | | |
|---|------------|---|
| Panel Chair: Dr. Ryan Peterson, Department of Chemistry and Biochemistry | | |
| Panel: Model Organisms, Fundamental Questions: Insights from Animal Systems | | |
| Last Name | First Name | Project Title |
| Hamilton | Olivia | <i>PdOpDH</i> and the Cu-Responsive Pathway in <i>Pseudogymnoascus destructans</i> |
| Rinehart | Norah | Seahorse XF Analyzer Vs. Livebearing Fish: Verifying and Optimizing Mitochondrial Flux Assay Procedures for Poeciliidae |
| Tran | Kevin | Conservation of Innate Immune Genes in the Other Cnidarian Symbiosis: The Green <i>Hydra</i> |

| Room / Time: ALKEK 442 (B) 3:30-5:00 | | |
|---|------------|--|
| Panel Chair: Michelle Sotolongo, Honors College | | |
| Panel: Unsolved, Overcrowded, and At Risk: Rethinking Justice from Cold Cases to Youth Intervention | | |
| Last Name | First Name | Project Title |
| Koska | Bella | The Impact of Programs Designed to Solve Cold Cases: With a Case Study of Texas State's Cold Case Team |
| Long | Madeline | Mass Incarceration: Health and Safety Deficits for Prisoners |
| Rodriguez | Kasey | Identifying Callous-Unemotional (CU) Traits in the Juvenile Justice System: Perceptions and Barriers to Early Intervention |

LBJSC - 09:00AM – 10:30AM

| Room / Time: LBJSC 324 9:00-10:30 | | |
|--|------------|--|
| Panel Chair: Dr. Claudia Roeschmann, School of Art and Design | | |
| Panel: Designing Wellness, Safety, and Belonging: From Museums to Mobility to Healing Environments | | |
| Last Name | First Name | Project Title |
| Bordosky | Brianna | Making Space: Reframing Museum Engagement for Gen Z |
| Jemal | Dania Iefa | Emerging Pines: A Biophilic Behavioral Health Center Rooted in Resilience and Gradual Healing |
| Milo | Emily | Designing for our Future: Human-Centered Design in the Age of AI |
| Muhamadiva | Yula | From SOS to Safety City: Integrating Gendered Rideshare Safety With Municipal Infrastructure in Austin |

| Room / Time: LBJSC 325 9:00-10:30 | | |
|--|------------|---|
| Panel Chair: Jordan Morille, Honors College | | |
| Panel: Devices of the Stage: Space, Structure, and Audience Reimagined | | |
| Last Name | First Name | Project Title |
| Arungwa | Chikodi | Magnolia Masquerade: A Multimedia Project That Explores Masculinity |
| Davis | Emma | Help! There's a Pillar in My Theatre! |
| Smithwick | Morgan | Opossum: A Criticism of True Crime Through a Theatrical Lens |
| Spena | Jordan | The Exeunt/Enter Cycles: An Audience-Initiated Shakespeare Study |

LBJSC - 09:00AM – 10:30AM

| Room / Time: LBJSC 314 9:00-10:30 | | |
|---|------------|---|
| Panel Chair: Dr. Kristen Tooley, Department of Psychology | | |
| Panel: Thinking in Motion: Attention, Sleep, Memory, and Social Cognition | | |
| Last Name | First Name | Project Title |
| Flores | EJ | Reaction Time Variability and Learning Stability During Multitasking |
| Legus | Madison | Sleep, Music, and Memory: Examining the Contribution of Sleep to the Beneficial Effects of Music for Memory |
| Lodzinski | Grace | The Contribution of Sleep-dependent Memory Consolidation to Negative Memory Bias in Depression |
| Vonderharr | Ian | If You Say What I Say, Do You See What I See? Correlating Lexical Alignment and Perspective-Taking Ability |

| Room / Time: LBJSC 303 9:00-10:30 | | |
|--|------------|--|
| Panel Chair: Dr. Amy Meeks, Department of Psychology | | |
| Panel: Love, Sex, and Algorithms: Music, Education, and Power in Modern Dating | | |
| Last Name | First Name | Project Title |
| Pulido | Blake | The Sound of Love: Connecting Music Taste and Dating Preference |
| Ronquillo | Ana | Sex Education in Hindsight: College Students' Reflections on What They Learned and What They Wish They Had Learned |
| Thompson | Kathryn | Salt in the Sugar Bowl: Transactional Dating & Gender Role Performance on Social Media |

LBJSC - 10:30AM – 12:00PM

| Room / Time: LBJSC 303 10:30-12:00 | | |
|--|------------|-------------------------------------|
| Panel Chair: Jeffrey Park, Honors College | | |
| Panel: Rebuilding Meaning: Faith, Migration, and Mental Health in Personal Narrative | | |
| Last Name | First Name | Project Title |
| Desilos Rodriguez | Magaly | Evidence that God Lives |
| Matta | Julio | El Choque: A Story of Two Worlds |
| Wells | Ariyana | Relational Care: Growth as Practice |

| Room / Time: LBJSC 325 10:30-12:00 | | |
|--|------------|---|
| Panel Chair: Dr. Holly Wissler, School of Music | | |
| Panel: Harmonic Worlds: Music, Culture, and Connection Through Sound | | |
| Last Name | First Name | Project Title |
| Alvarez | Edwing | Harmonic Bridges: Fusing Musical Traditions to Cultivate Compassion |
| Dickerson | Anna | Musical Instruments and Their Environments: How Indigenous Flutes of the Quechua Q'eros People are Determined by the Vertical Ecology of the Peruvian Andes |
| McLellan | Malia | Unbloom: A Sonic Archive of Undergraduate Growth |

LBJSC - 10:30AM – 12:00PM

| Room / Time: LBJSC 314 10:30-12:00 | | |
|---|------------|---|
| Panel Chair: Dr. Kelly Haskard-Zolnierrek, Department of Psychology | | |
| Panel: Coping with College Stress: Paychecks, “Hangxiety,” and Hiking | | |
| Last Name | First Name | Project Title |
| Susheel Kumar | Ruth | Balancing Books and Paychecks: The Relationship Between Workhours and Student Success |
| Pandey | Bibek | Stress, Alcohol Use, and "Hangxiety": Exploring the Roles of Cortisol Awakening Response and Family History in College Students |
| Bunting | Jessica | Group Hiking May Improve Overall Wellbeing of TXST Students Through Anxiety Reduction |

| Room / Time: LBJSC 324 10:30-12:00 | | |
|--|------------|--|
| Panel Chair: Dr. Carlos Abreu Mendoza, Department of World Languages & Literatures | | |
| Panel: Culture, Craft, and Exchange: Interfaith Relations, Indigenous Knowledge, and Alternative Social Worlds | | |
| Last Name | First Name | Project Title |
| Hamze | Ronny | The Iberian Kiln: Muslim and Christian Interfaith Relations as Exemplified by Hispano-Andalusian Wares |
| Julich | David | <i>Sin Ligaduras</i> : Jorge Isaacs and the Eastern Cultural Frontier |
| Scott | Joel | A Pirate's Life for Me: Examining the Lived Experiences of Pirates During the Golden Age |
| Sosa Lopez | Alejandra | Spinning the Digital Thread: Code, Colonial Linguistics, and Textile Metaphors |

LBJSC - 12:30PM – 2:00PM

| Room / Time: LBJSC 325 12:30-2:00 | | |
|--|------------|---|
| Panel Chair: Jordan Morille, Honors College | | |
| Panel: Stories of Self and Place: Film, Podcasting, and Community Voices | | |
| Last Name | First Name | Project Title |
| Hurtado | Alyssa | “PENNY!”: Exploring the Neurodivergent Experience through the Tale of a Teenage Clown |
| Phillips | James | The Long and Laborious Wait: Revisiting the Iconic Village Fire |
| Schwertner | Kameryn | Amplifying Theatre in San Marcos, Texas |

| Room / Time: LBJSC 314 12:30-2:00 | | |
|--|------------------|---|
| Panel Chair: Dr. Katherine Warnell, Department of Psychology | | |
| Panel: Understanding Autism: Camouflaging, Intervention, and Support Systems | | |
| Last Name | First Name | Project Title |
| Boling | Fig | Camouflaging and Self-Monitoring in Autistic and Non-Autistic Individuals |
| Quartz | Emily | Level 1 Autism: Interventions, Evaluations, Now What |
| Fitch Mejia | Jordan Adrian | A Mixed Methods Study of the Impact of Support Animals for College Students with Disabilities |

LBJSC - 12:30PM – 2:00PM

| Room / Time: LBJSC 303 12:30-2:00 | | |
|---|------------|---|
| Panel Chair: Dr. Jonathan Vontsteen, IDEA Center | | |
| Panel: Stressors, Stereotypes, and Help-Seeking: Mental Health in Black and Minority College Students | | |
| Last Name | First Name | Project Title |
| Braddy | Shalimar | Comparing Financial Stress, Climate Anxiety, and Racial/Ethnic Discrimination Among Black and Hispanic College Students |
| Oniovosa | Kesiena | Impacts of Gender and Stereotype Threat on Help-Seeking Behavior for Black College Students |
| Shunn | Paige | Nudging Help-Seeking: A TPB Intervention for Suicidal Ideation in College Students |

| Room / Time: LBJSC 324 12:30-2:00 | | |
|--|------------|--|
| Panel Chair: Dr. Christi Townsend, Department of Geography & Environmental Studies | | |
| Panel: Thirsty Systems: Water, Agriculture, and the Politics of Resource Use | | |
| Last Name | First Name | Project Title |
| Aubrey | Braeden | Sustainable Water Management for the Future: A Look Into the Edwards Aquifer as a Source of Water Through the 21st Century |
| Daghri | Leena | Gut Microbiome Responses to Transport-Induced Stress in Santa Gertrudis Show Cattle and the Potential of Probiotics as a Mitigating Strategy |
| McAnarney | Madison | Lonestar Water Intelligence: A Precision Water Management Platform to Strengthen Drought |
| Carolina Cambron | P. | Bottled Up: Coca-Cola and the Political Economy of Water Access in Chiapas, Mexico |

LBJSC - 2:00PM – 3:30PM

| Room / Time: LBJSC 325 2:00-3:30 | | |
|---|------------|---|
| Panel Chair: Jordan Morille, Honors College | | |
| Panel: Writing the Self: Identity, Experience, and the Creative Process | | |
| Last Name | First Name | Project Title |
| Langston | Carrington | In Full Focus: A Literary Collection About the Hidden Struggles of Gen Z Youth |
| Rogers | Kasey | The Power and Control Cycles of Domestic Abuse: A Short Memoir |
| Lowery | Lain | The Self-Concept of the Writer: A Symbolic Interactionist Reflection of the Creative Self |
| Wabbersen | Katherine | “My Girl Birdie” |

| Room / Time: LBJSC 314 2:00-3:30 | | |
|--|-------------------|--|
| Panel Chair: Dr. Shannon Dier, School of Family and Consumer Sciences | | |
| Panel: Social Development Across the Lifespan: Prosocial Lying, Identity, and Risk | | |
| Last Name | First Name | Project Title |
| De Moraes Churi Barbosa | Maria | Research in the Parks: Is There a Relationship Between Theory of Mind and Prosocial Lies in Children? |
| Gonzalez | Alexa | Cultural Differences in Prosocial Lying Development |
| Dawson | Emma Catherine | Importance of Toileting as a Developmental and Social Milestone for Young Children |
| Maldonado | Delsia | Roots as Refuge: Ethnic Identity as a Protective Factor Against Substance Use and Sexual Risk Among Latina Foster Care Alumni Raised Outside Two-Parent Households |

LBJSC - 2:00PM – 3:30PM

| Room / Time: LBJSC 324 2:00-3:30 | | |
|--|------------|--|
| Panel Chair: Dr. Leila Siciliano-Martina, Department of Biology | | |
| Panel: Wildlife In and Out of Place: Biodiversity, Behavior, and Habitat Across Environments | | |
| Last Name | First Name | Project Title |
| Labarr | Hayden | A New Floral Inventory and Rare Plant Survey of Wild Basin Wilderness Preserve |
| Patterson | Alyssa | Behavioral Effects of Temperature on Captive African Lions |
| Thackeray | Kylie | Birds Across the Gradient: The Effects of Urbanization on Bird Species Diversity and Feeder Visitation |

| Room / Time: LBJSC 303 2:00-3:30 | | |
|---|------------|--|
| Panel Chair: Dr. Franziska Newell, Department of Political Science | | |
| Panel: When Systems Hold—and When They Don't: Law, Authoritarianism, and Revolution in Global Perspective | | |
| Last Name | First Name | Project Title |
| Fadl | Amru | Justice Blocked: Enforcement in International Law & How Reservations Affect the Genocide Convention |
| Holmes | Johan | Authoritarian Durability Without Democratization: Party-Led Modernization and Regime Resilience in China |
| Laskowski | Hunter | The Indian Revolution: A Comparative Analysis |

LBJSC - 3:30PM – 5:00PM

| Room / Time: LBJSC 325 3:30-5:00 | | |
|--|------------|---|
| Panel Chair: Chad Hammett, Department of English | | |
| Panel: Speculative Motherhoods, Family Secrets, and 100 Years of Heroines: Reimagining Performance and Storytelling | | |
| Last Name | First Name | Project Title |
| Lewter | Linae | Third Arm Anthology: November, Marlene, and Polly |
| De Guelle | Eva | 100 Years of Monologues: Reclaiming a Century of Women's Voices Through Guerrilla Cinema |
| White | Tyler | Skeletons |

| Room / Time: LBJSC 324 3:30-5:00 | | |
|--|------------|--|
| Panel Chair: Dr. Dana Garcia, Department of Biology | | |
| Panel: Wildlife Systems Under Pressure: Ecology, Evolution, and Environmental Change in Texas | | |
| Last Name | First Name | Project Title |
| Emmons | Anna | Framing Exotic Ungulates in Texas: An Analysis of the Evolution of Frames in Literature Surrounding Aoudad, Axis Deer, and Nilgai in Texas |
| Herrera Salas | JoEdward | Prezygotic Isolation in Two Shrub Species: <i>Berberis trifoliolata</i> and <i>Berberis swaseyi</i> |
| Malousek | Kelsey | Opercularis Muscle in Facultatively Metamorphic <i>Eurycea sp. A</i> Comparison between Paedomorphs and Metamorphs |

LBJSC - 3:30PM – 5:00PM

| Room / Time: LBJSC 314 3:30-5:00 | | |
|--|------------|---|
| Panel Chair: Dr. T. Edwin Chow, Department of Geography & Environmental Studies | | |
| Panel: Hidden Costs: Consumption, Waste, and the Human Impact on the Environment | | |
| Last Name | First Name | Project Title |
| Cameron | Luke | Economics and Sustainability: Realizing the Value of Electronic Waste in Travis County |
| Harrelson | Anthony | College Students' Attitudes About the Environment and Consumer Behavior |
| Heiskell | Ethan | A Comprehensive Energy-Water-Land (EWL) Nexus Analysis of Data Center Resource Consumption and the Power Balances at Play |

| Room / Time: LBJSC 303 3:30-5:00 | | |
|---|------------|---|
| Panel Chair: Dr. Ed Mihalkanin, Department of Political Science | | |
| Panel: Polarization, Radicalization, and Democratic Erosion: The Dynamics of Political Behavior | | |
| Last Name | First Name | Project Title |
| Scott | Joel | The Effect of Affect: Affective Polarization and Voters' House Candidate Preferences in Contemporary U.S. Elections |
| Ruisard | Katherine | The Girls' Guide to Joining ISIS |
| Rubio | Oscar | Democratic Erosion in Bukele's El Salvador |