Poster Session #1 Presentations

1 – Abraham Villa-Mundo

Evaluation Of Thermal Inkjet Bio Printed Vs Manually Seeded MDA MB 231 Cell Line for The Development of More Realistic Triple Negative Breast Cancer Research And Drug Screening Models

We conducted a systematic investigation of the effects of thermal inkjet bioprinting on MDA MB 231 cells that are commonly used in triple negative breast cancer research. This project will expand our current knowledge and lay the foundation for developing more predictive models using bioprinting technology, which researchers have not successfully achieved before and is currently only in the research phase, not fully applied to the clinical or industrial level.

2 – Diana Olivas

Elucidating the mechanism of Alzheimer's Disease

The Focus of this study is to understand how alterations to cell signaling proteins involved in Microtubule (MT) Assembly alter neurite morphology, impairing their function. Loss of communication amongst neurons is a critical feature in neurodegenerative disorders such as Alzheimer's Disease. Our laboratory has shown that Gbg, a protein, is involved in MT assembly and neurite outgrowth. Results from this study further solidify Gbg as a potential biomarker for therapeutic strategies for AD.

3 – Ruma Rani Paul

Development of an Impedance and QCM-Based Electrochemical Biosensor for the Detection of Colon Cancer-Secreted Protein-2 (CCSP-2), a Potential Colorectal Cancer Biomarker

Colorectal cancer (CRC) is the third most common cause of cancer death in the United States. Early screening can significantly reduce the overall mortality rate from CRC. The application of electrochemical biosensors for (CRC) diagnosis has been one of the recent advancements in CRC research. Our study results enabled a precise evaluation of the developed immunosensor's performance, ensuring a reliable assessment of its suitability for early colorectal cancer screening.

4 – Rosa Flores

School Connectedness as Protective Factors for Students at Risk to be Successful in Academics

There are several factors that limit college students to achieve their educational dreams. I identify several issues that are impediments to the learning process of college students and explored the resiliency and protective factors in the students to not give up on higher education but a combination of language barriers, lack of resources and discrimination to name a few are major triggers to overcome.

5 – Akindele Ogunleye

Investigating A Study Abroad Program as A Reflective Development Of Intercultural Competence For Students In A Hispanic-Serving University

Assessing ICC has been at crossroad since Study Abroad (SA) was defined as academically unproductive. Developing Intercultural Competence through SA would be challenging and restrictive. HEIs must find a new way to reform SA for the radically globalizing interdependence.

6 – Daisy Wilson

Profiling the Molecular Signature of Per and Polyfluoroalkyl Substances (PFAS) Toxicity: Bridging the Gap between Chemical Structure and Adverse Health Effects

PFAS, the so-called "forever" chemical is linked to adverse health effects in adult humans and infants. We propose to investigate structural and functional consequences associated with the exposure of two PFAS chemicals, viz. PFOA and PFDA. The proposed experimental and computationally-driven work is relevant because, if successful, it begins to define an atomic and molecular understanding by which these manufactured chemicals disrupt cellular homeostasis and impact organismal health.

7 – Kaushik Pradhan

Characterizing hydraulic fracture formation during enhanced geothermal system experiments using coda waves

Researchers explore Enhanced Geothermal Systems (EGS) to tap Earth's heat. Injecting water creates underground fractures, acting as heat exchangers. Studying these fractures is challenging. Our study uses seismic waves and a genetic algorithm to reveal hidden fracture patterns, optimizing EGS energy production.

8 – Joshua Labadah

Surrogate Markers of Impaired Glucose Tolerance among Healthy Mexican-American Population without Diabetes

Impaired glucose tolerance (IGT) is a risk factor for the development of diabetes. This study aimed to identify blood markers for IGT in a healthy, predominantly Mexican-American population (n=176). Higher levels of white blood cells (neutrophils), platelets, triglycerides, and very low-density lipoprotein, while at clinically normal levels, were indicative of IGT. Monitoring these surrogate blood markers may contribute to early diabetes detection and prevention in an otherwise healthy population.

Poster Session #1 Presentations

9 – Melanie Escobar
Assessing Urban Tree Coverage Along The U.S.-Mexico Border: A GIS Analysis Of Paso Del Norte

This research investigates the distribution of urban tree canopy (UTC) in El Paso, Texas, and Ciudad Juarez, Chihuahua, along the U.S.-Mexico border. Leveraging advanced mapping techniques and GIS tools. It compares land cover classifications, assess variations in UTC distribution across census tracts and Área GeoEstadística Básica (AGEBS), address environmental injustices, and explore potential spatial clusters indicating inequalities. (insulin sensitivity) in a Hispanic dominant population. Increasing time spent in MVPA can be important in improving cardiovascular and metabolic health.

10 – Agniprava Banerjee
Ciudad de Paso

I'm a Photographer, a writer, and an immigrant. I'm living in El Paso, far from those I love. Every day I go to the Segundo Barrio, near to the border, and I take a single photograph, with my Polaroid SX-70. Why? Maybe because this neighborhood reminds me my people and my country. Gradually, I'm doing a photographic diary and an assay, about What? About this city I live in, about the distance that separates me from those I love, and about the experience of living in a city of passing through.

11 – Christian Lozoya, Juan Molinar, Christopher Mendoza
Modular Flatsat for a Robot Payload

A flatsat is a ground-based testbed enabling testing of satellite software and hardware. This presentation regards a modular box flatsat developed for testing motors that serve as rotating robot joints. The modular box is extensible to adapt to any number of motors. This flatsat provides a safe testing environment for the motors mitigating risk of damage to the motors and robot links. This presentation discusses the electrical design of the robot, the design of the modular box, and software.

12 – Perla Perez
The Psychometric Properties of the Perceived Risk of Climate Change on Health Scale in a College Sample

Impacts of climate change are often associated with the environment; however, climate change will have effects on human health. The aim of the study was to develop a scale that assessed perceived risk of climate change on health. Students recruited were asked to complete a series of questionnaires. The scale proved to be related to climate change concern, worry, and policy support. The development of this scale will help in understanding the health-risk perceptions of climate change.

13 – Isaac Frausto Hernandez
Transfronterizo/a teachers inhabiting the borderlands and promoting Nepantlera Pedagogy

This study employs in-depth, phenomenological interviews to explore how transfronterizo/a teachers in the U.S.-Mexico borderlands draw on their migration backgrounds as they develop agency to advocate for students with similar backgrounds within their teaching practices. Findings suggest that the livings of these teachers helps them understand the challenges faced by their students, and allows them to foster a pedagogy to create a safe space for students navigating in-betweenness.

14 – Carla Jaquez
Transitioning Beyond the Classroom: Pláticas with Female Public School Teachers in El Paso, Texas on the U.S. - Mexico Border: Work in Progress

This research study employs a sequential design and aims to understand better the causes behind female school teachers' decision to leave the profession and find ways to keep teachers in the classroom. The study's goal is to comprehend teachers' experiences when they decide to leave the classroom. This research will add to the body of knowledge concerning the ongoing discussion about teacher retention. The population selected for the study is female teachers in the El Paso, Texas, area.

Remember to submit your presentation materials to **Scholarworks@UTEP** to let your friends, family, and future employers see your work!

https://tinyurl.com/bdhc7ead

Poster Session #2 Presentations

1 – Augusto Rocha Ramirez
The Cubs of the Revolution

The intellectual work and political activity of José Maximiliano Revueltas Sánchez, against the background of a life lived in a rapidly changing Mexico, is the subject of my presentation, as it speaks to the development of the Left(s) in Mexico during the long 1930s. Revueltas was part of a revolutionary movement with different expressions that made nationalist and populist demands for political and social change and was radicalized by state violence and the precarity of Mexico's working class.

2 – Freddy Cabral
Upholding Identity Through Memory: An Autoethnography of a Lipan on the History of the Lipan Apache

This autoethnography dissertation will investigate why the non-reservation Lipan Apache Tribe of Texas superficially assimilated to Mexicanidad or Hispanidad to blend themselves with the Mexican or Hispanic population in Texas to survive the colonization of Texas in the last centuries. The goal of this dissertation is to show that Native people compromised and adopted to colonizer's social order to survive and not get eliminated from individual assimilation or annihilation.

3 – Kazi Saima Banu
Exploring The Versatility of Hyperspectral Microscopy In Environmental Forensics And Ecotoxicology: Applications And Insights

This review highlights the role of Hyperspectral Microscopy (HSM) in environmental forensics and ecotoxicology, focusing on its utility in identifying and analyzing contaminants from environmental crimes like illegal dumping. HSM captures spatial and spectral data to determine contaminants' types and sources, crucial for legal evidence. It's pivotal in monitoring environmental changes, assessing food quality, identifying microplastic pollution, and evaluating pollutants' impact on aquatic system.

4 – Neidy Ocuane
Cobalt Porphyrin@ZnHHTP Composite for Enhanced Electrocatalytic Oxygen Evolution Reaction

Growing concerns over combustion-related issues and non-renewable resource depletion drive the quest for carbon-neutral energy sources. Electrochemical water splitting offers a sustainable solution for hydrogen and oxygen generation. This study explores a cobalt porphyrin@ZnHHTP composite, revealing its potential as a stable catalyst. Characterization confirms composite formation, with enhanced activity in oxygen and hydrogen evolution reactions, showcasing its promise for sustainable energy.

5 – Sharif Uddin Ahmed
Partial immobilization mediated by low density polyethylene (LDPE) nanoparticles on Caenorhabditis elegans.

There is a dearth of reports on Micro and nanoplastics effects on terrestrial ecosystems. In this study, we successfully synthesized and characterized low density polyethylene (LDPE) (254.0nm–932.0nm) particles with Dynamic light scattering and OPTIR and evaluated its effects on the nematode Caenorhabditis elegans (C. elegans). Using movement decline as a measure of health, we used Wormlab software to evaluate the effect of LDPE nanoparticles on the average speed of C. elegans.

6 – Caroline Salas
Latina's Journey in Sense of Belonging in Engineering at an HIS

The purpose of this qualitative case study is to gain insight on how Latinas experience sense of belonging throughout their time in their undergraduate engineering program at an HSI. This study is to construct narratives to tell how Latinas in engineering at an HSI experience sense of belonging throughout their undergraduate career to determine factors that may be specific to this population.

7 – Maricarmen Lerma
An Environmental Qualitative Assessment in Fine Jewelry via X-ray Fluorescence Spectroscopy in El Paso del Norte Region

Heavy metal contamination in raw materials has spread widely in the United States. Prior studies in low-cost jewelry have shown the presence and high content of heavy metals. In this study, conducted in the Paso del Norte region, 143 of gold jewelry were evaluated for the presence of heavy metals using X-ray fluorescence (XRF) spectroscopy. 42.7% of the pieces exhibited the high content of Ni, but no Pb was found in the metal alloy. 7.7% showed the presence of Pb in gemstones.

8 – Eli Nyawunu
The linkage of above and belowground structural diversity within a shrub invaded Chihuahuan Desert landscape

There are different dimensions of diversity, both above-belowground, that each play a crucial role in ecosystem processes. Structural diversity. However, the spatial patterns and linkage of above-belowground structural diversity is not all well characterized. Remote sensing was used to quantify spatial patterns in above-belowground structural diversity across a shrub invaded landscape. Preliminary results show spatial heterogeneity in metrics that describe the biomass and root arrangement.

Poster Session #2 Presentations

9 – Charles Ojodale Igomu
Six Possible Origins of Moab Valley's Circum-diapir Carbonates

The salt walls and adjacent strata of the Paradox Basin are important repositories for resources such as petroleum, uranium, and potash. Despite their importance, the origin and history of salt diapirism, sediment deposition, and fluid flow are only recently being re-assessed in the context of a modern salt tectonic framework. This work re-evaluates the origin of the carbonates exposed around the Moab Valley salt wall. Using fieldwork and stable O-C isotopes, findings reveal lacustrine origin.

10 – Mauricio Leyva Aranzabel
Gallium Nitride Electrodeposition at Indium Tin Oxide and Fluorine Tin Oxide Electrodes in Ammonium Nitrate and Gallium Nitrate Aqueous Solution

The potential of gallium nitride thin films in semiconductor technology and devices has garnered interest. This study aims to develop an effective GaN electrodeposition technique that compared 2 different working electrodes (ITO and FTO). To determine the optimal electrodeposition conditions, cyclic voltammetry was done on a boron-doped diamond electrode at 0.01 mV/s potential scan rate and chronoamperometries were done at -1.7 V applied potential during times ranging from 3600s to 7200s.

11 – Agniprava Banerjee, Sara Rodriguez
Five Years of Mentoring: A replicable model to prepare faculty

Holistic mentoring and professional development are recognized as effective strategies for supporting the growth of a diverse STEM workforce for the future. The West Texas Regional Collaborative (WTxRC), an NSF- INCLUDES initiative partnering 2 and 4-year colleges has worked over the last five years by engaging cohorts of graduate students in a one-semester PD experience that yielded positive effects on encouraging graduate students to consider future faculty careers. Our work showcases our mode.

13 – Frank Nabi
Akan Funeral Rhetoric: Visuality and the Crisis of Communication

Communication crisis occurs when traditional and modern communicative strategies, especially those persuasive techniques recognized in rhetorical studies fall short of overcoming communication challenges. This proposal examines the multilayered role of Akan funeral rhetoric within the broader context of contemporary communication practices focusing on funeral practices.

14 – Alex Acquah, Christopher Rivera, Andi Scarola
Sandboxing in Data Science: An Exploration of Youth Learning Using Open-Inquiry Approaches for Computing-based Data Mining

Some industries have categorized data science as the fourth industrial revolution because this area permeates disciplines in everyday life, with an emphasis on innovation, occupational attainment, and public literacy (Bureau of Labor Statistics, 2021; National Science Foundation, 2022). The result is a growing interest in how educators can support pre-college students in constructing knowledge using data (Finzer, 2013; Lee & Wilkerson 2018).

Remember to submit your presentation materials to **Scholarworks@UTEP** to let your friends, family, and future employers see your work!

https://tinyurl.com/bdhc7ead

GradEXPO

Poster Session #3 Presentations

1 – Claudia Gil
Monitoring seizure susceptibility in larval zebrafish with mutations in the HCFC1 gene.

cblX is a rare multiple congenital anomaly disorder caused by mutations in the HCFC1 gene. cblX causes intellectual disability, intractable epilepsy, and abnormal cobalamin metabolism. The mechanisms that cause intractable epilepsy are not well studied. Our study hypothesized that mutation of zebrafish HCFC1 causes enhanced seizure susceptibility.

2 – Melissa Molina Garcia
Hcfc1a regulates radial glial cell development.

cblX is a disorder caused by mutations in the HCFC1 gene characterized by neurodevelopmental defects, metabolic deficits, craniofacial dysmorphia, and movement disorders. We have shown that mutations in the zebrafish HCFC1 gene reduce the number of radial glial cells (RGCs). The goal of this study is to identify whether RGCs undergo cell death or reduce overall proliferation.

3 – David Paz
Generation of domain specific mutations in the zebrafish hcfc1b gene.

Missense mutations in the HCFC1 gene cause cblX syndrome, an X-linked recessive disorder characterized by neurodevelopmental and vitamin B12 defects. In silico analysis of HCFC1 mutations has shown that mutations in different protein domains are associated with unique phenotypes. We generated 3 novel germline alleles using CRISPR/Cas9 in the zebrafish. We will demonstrate sequence and expression validation of these novel alleles.

5 – Abayomi Omoogun
Tandem Proteus Vulgaris and Ni-Pt Core-Shell Formation on Boron-Doped Diamond Electrodes for Urine to Enhanced Ammonia Oxidation for Clean Energy and Water Production.

The recycling of human urine has become a key focus in wastewater treatment due to water scarcity. Urea, a major urine component, can cause water pollution when accumulated in the environment. We propose using Proteus vulgaris, a urease-containing bacterium, to catalyze urea conversion to ammonia. This ammonia can then be oxidized using Nickel and platinum, producing nitrogen for clean energy and water generation, addressing both environmental and resource challenges.

6 – Jyotish Kumar
Development of novel polyphenolic carbon quantum dots to intervene in neurodegeneration induced by emerging contaminants.

Carbon quantum dots (CQDs) possess the ability to cross the BBB. In this study, CQDs were synthesized by the green chemistry method using caffeic acid, quinic acid, and chlorogenic acid were able to inhibit fibril formation and possess great antioxidant properties. In-vitro neuroprotective efficacy of CQDs was investigated in the SH-SY5Y cell line, and in-vivo studies were performed in C. elegans. Findings suggest that CQDs were efficient in protecting paraquat-insulted dopaminergic neurons.

7 – Suzatra Chatterjee
Rotating Disk Slurry Electrodeposition of Trimetallic Nickel-Cobalt-Iron Nanoparticles Electrocatalyst on Vulcan Xc-72R for the Oxygen Reduction Reaction in Alkaline Media

Although platinum and platinum group metals (PGMs) catalysts are the most efficient for oxygen reduction reaction, the cost and scarcity of the metals are the reason to look for alternative electrocatalysts. Transition metals, such as cobalt, iron, and nickel, have shown promise as an alternative catalyst to oxygen reduction reactions (ORR). In this work, we electrochemically synthesized nickel-cobalt-iron trimetallic alloy nanoparticles dispersed on carbon Vulcan using Rotating Disk electrode.

8 – Adebusola Adewale
The Moderating Roles of User Demographics and Usage Behavior on Consumer-Generated Reviews and Electronic Word-of-Mouth Effects among Generation Z.

Gen Z consumers are influenced by other shoppers' consumer-generated reviews and e-WOM. My thesis empirically tested whether believability (H1), credibility (H2), and trust (H3) of CGRs and e-WOM subsequently influence consumers' subjective norms (SN), attitudes toward social commerce (ASC) (H4) and social shopping intention (SSI) (H5). 319 users were conveniently recruited to study the moderating effects of demographics (H5) and past shopping experiences (H6).

Poster Session #3 Presentations

9 – German Rodriguez Ortiz
Optical and Particulate Properties of Aeolian Dust In El Paso, Texas

El Paso is characterized for receiving mineral dust from sources as far as ~200 km. We characterized the optical and particulate properties of aerosols during 26 dust events that occurred in 23 days from April to June 2021. The mean AAE of these dust events were lower than expected from widely published values. While, SSA values confirmed the low absorption nature of El Paso's dust. Using the AAE and SAE ratios, dust events in El Paso were classified as dust-carbon mixture instead of pure dust.

10 – Jayanga Hambange Don
Multi-Physics Based Modelling Approach to Understand Plunging Flows in Scaled-Down Geometrically Similar Laboratory Experiment and Field–Scale Bedrock Rivers Using Eddy-Resolving Models

Fluid flow-induced incisions in canyon-bound bedrock rivers play a significant role in landscape evolution. Yet, the involvement of flow dynamics in bedrock rivers for incision mechanisms is unclear. Therefore, to understand landscape evolution in bedrock rivers, this study developed multiple numerical models at laboratory and field scales. The developed models show promising results, demonstrating that construction-pool-widening and associated plunging flows ultimately cause landscape change.

12 – Ummy Habiba Sweety
Interfacial Interactions between Engineered Plastics and Biological Systems

The persistent presence of nanoplastics (NPs) in the environment is associated with deleterious health outcomes in adult humans, infants, and fetuses. Here, we have investigated the impact of a model NP, viz., PVC on the structure and function of milk and blood proteins, neuronal assemblies, and organismal behavior.

13 – Valentina Sanchez Castano
Hybridization of Physics-based Models and Deep Neural Networks (LSTMs) as Surrogate Modules Using a Cascading Mode to Predict Time Series Analysis of Anisotropic Turbulence

Physics-based models, like CFD with LES, offer insights into complex phenomena, aiding understanding despite computational costs. This research optimizes velocity prediction in the Colorado River using LSTM networks trained on LES data. Preliminary results show promise (NSE = 0.73, RMSE = 0.031 m/s, R2 = 0.75). LSTM networks, with proper time step ratios and epochs, yield improved accuracy. This approach, pending validation, promises efficient 3D flow prediction, reducing computational time.

14 – Jehu Apaflo
Neuromuscular Electrical Stimulation Increased Energy Expenditure and Improved Glycemic Control

Neuromuscular electrical stimulation (NMES) is an involuntary means of muscle contraction. This study investigated the effectiveness of 30 minutes of NMES on blood glucose/glycemic control and energy metabolism (n=33). NMES reduced blood glucose and improved other clinical markers of glycemic control on the day of stimulation compared to baseline (previous day). NMES also increased energy expenditure during stimulation. NMES is a novel strategy for improving metabolic health.

15 – Mohammad Rahman
Artificial Intelligence and Techno-Securitization in Border Control: A Philosophical Appraisal

The study appraises the application of artificial intelligence (AI) and smart technologies in border control in philosophy of immigration context. Focusing on the US-Mexico border, the AI role is philosophically evaluated as one of the factors of algorithmic oppression on borderland gender and ecology. Study aims to orient philosophical approaches regarding smart border related AI technologies research to the Science, Technology, Engineering, and Math (STEM) programs.

16 – Robbie Kennebrew
Pathways to Health Disparities: The Relationship between Race, Ethnicity, and Food Security in a Predominantly Hispanic Community

This study assesses the relationship between race, ethnicity, and food security in El Paso County, Texas. Using linear regression, we find that Hispanic respondents are less likely to be food secure, while no significant relationship is found for African American. This study identifies racial and ethnic groups experiencing higher rates of food insecurity in a predominantly Hispanic community. These findings can inform intervention development aimed at reducing food-related health disparities.

Remember to submit your presentation materials to **Scholarworks@UTEP** to let your friends, family, and future employers see your work!

https://tinyurl.com/bdhc7ead

THE UNIVERSITY OF TEXAS AT EL PASO
GRADUATE SCHOOL

GradEXPO

Poster Session #4 Presentations

1 – Tanushree Chatterjee
Connecting Work and Family Life: The Effects of Family-Related Moderators on Idiosyncratic Deals of Employees and Work Outcomes

Idiosyncratic deals are non-traditional working arrangements that address the different needs of a diverse workforce. However, not a lot of attention is given to the varying backgrounds of employees, specifically their family structures and parenthood. This study examines four family characteristics of employees seeking i-deals: parent status, number of children, family support and gender, and how it impacts turnover intentions and job performance, through effects on their work-life interface.

2 – Elizabeth Noriega Landa
Fatty acid biomarkers for prostate cancer detection

The lack of accuracy in the current prostate specific antigen (PSA) test for prostate cancer (PCa) screening causes 60–75% of unnecessary prostate biopsies. An alternative diagnostic method that has better accuracy and can prevent over-diagnosis of PCa is needed. We propose a non-invasive urinary fatty acid model for PCa diagnosis though the use of stir bar sorptive extraction coupled with gas chromatography-mass spectrometry.

3 – Daniel Gomez Bustos
Isomer dependence of excited state lifetime and redox potentials of cyclometalated iridium(III) photoredox catalysts

In this work, we study how electronic structure, redox potentials, and excited state lifetime are affected by structural changes of two iridium-based complexes: [Ir(ppy)2(bpy)]+ and Ir(ppy)3. These properties were calculated with computational means at the DFT/TDDFT level. Our calculations show that the isomer effect triggers subtle differences in redox potentials, but it can cause dramatic changes in the excited state lifetime.

4 – Peter Girnt
Computational Drug Optimization for Targeting NLRP3: Unleashing Inflammation Control

Inhibiting the NACHT domain of NLRP3 multiprotein assembly holds promise for treating inflammatory diseases such as traumatic brain injury, Alzheimer's disease, and HIV. Our approach entails a complex study of potential molecular inhibitors incorporating molecular dynamics, docking, and multiple AI tools (e.g.: CAVER). Predictions include pharmacokinetic metrics as well: BBB permeability, hERG blocker ability, and AMES toxicity. Experimental validations ensure safe and effective therapies.

5 – Sabrina Bustillos
En Route to Abortion Care: Billboards and the El Paso/Las Cruces Border

The current study uses critical theory and critical rhetorical analysis to examine billboards related to reproductive health decisions along the El Paso/Las Cruces border. As an integral artery for travel, those leaving Texas see these billboards everyday, making them essential for analysis. Through critical theory, findings reveal how significant these billboards are to abortion seekers traveling across I-10 between Texas and New Mexico to attain safe and legal care.

6 – Aldo Jafet Perez Flores
Human Elements in K-12 and Higher Education, Beyond Metrics

Education should prioritize the cultivation of knowledge and the development of critical thinking skills, rather than confining itself within the boundaries of standardized testing. The prevailing education system is increasingly politicized, often overlooking the requirements of individual learners, including those with neurodivergent needs. A human-centered approach, which considers diverse learning styles and emphasizes the value of learning, should be adopted.

7 – Lourdes Garcia
Cultivating Honor: Indigenous Student Resilience at a Borderlands University

The purpose of this study is to shed light on students' lived experiences regarding Native American and Indigenous Studies (NAIS) at a Hispanic-serving institution. Borderlands University rich in culture and history, where the First Peoples lived for thousands of years. This study sheds light on the importance and necessity of Indigenous studies in higher education and institutional support to improve education for all students. Issue: low number and graduates of Indigenous background.

8 – Stephanie Herrera
Colonial Encounters and Communal Bonds: Reading Hospitality and Survivance in Black Hawk's Life and James Welch's Fools Crow

This presentation explores the concept of hospitality within American Indian literature and asks how colonial encounters challenged tribal customs and beliefs. By analyzing Black Hawk's autobiographical narrative, Life of Black Hawk, and James Welch's historical novel, Fools Crow, I illustrate the course in which hospitality is revised as a tool for survival during settler colonialism. Finally, I convey the political undertones of hospitality as a language that communicates power and resistance.

Poster Session #4 Presentations

9 – Victor Campos
'Una espantosa sensación de fatalidad' - Sacrifice, Exceptionalism, and Knowledge Production in Samanta Schweblin's Distancia de rescate

Samanta Schweblin's ecological horror novel Distancia de rescate portrays the threat that heavy pesticide use in Argentinian soy fields poses for humans and the environment. I analyze how the abuse of such environments is enabled through narratives of sacrifice and exceptionalism. Schewblin's novel encourages us to reject sacrifice and exceptionalism by seeing the human and non-human as one world by adopting non-rational forms of knowledge production like Gloria Anzaldua's concept of facultad.

10 – Alana Heck
"An Obtainer of Rare Antiquities": Connections Between Archaeology, Colonialism, and Indiana Jones

The Indiana Jones trilogy reflects the colonial origins of archaeology and Jones' characterization as an adventure hero points to deeper historical issues. I explore the representation of archaeology in contemporary media and ask how occult power challenges the limits of academia, needing Jones to act as a colonial explorer to understand these powers. Finally, I show how Jones' blend of a mythical hero and real archaeologist entwines the colonial traditions of the adventure genre and archaeology.

11 – Juan Enrique Martinez Urbay, Md Shahjahan Mahmud
Development of a novel 3D-photoprintable material with potential radiation shielding property

In this study, a 3D-photoprintable material with potential radiation shielding was developed. Resin printability was achieved through depth cure experiments. Nanoindentation tests demonstrated increased hardness and moduli in polymers with higher bismuth content. X-ray shielding experiments confirmed improved radiation shielding capabilities of these new materials compared to resins without bismuth. Shielding effectiveness increased proportionally with bismuth content.

12 – June Contreras
Speaking Fundamental Frequency Patterns in Cisgender and Transgender Spanish-English Bilingual Speakers

Speaking fundamental frequency patterns (SFF) are known to vary by language and gender identity. Further, the type of talking task (read vs. spontaneous) may also influence SFF. This study explored the SFF patterns of Spanish-English Bilinguals from cisgender and transgender speakers. Twenty-four speakers (8 cisgender men, 8 cisgender women, and 8 transgender women) were recorded reading a passage as well as answering interview questions for spontaneously produced speech. Measures of minimum, maximum, range, and median SFF were found to be stable across speaking tasks and languages. A significant effect of gender was found. Cisgender men and women produced the lowest and highest median SFF values, respectively. Transgender women produced median SFF values that were intermediate between cisgender men and women.

13 – Zahra Fatahimeiabadi
Biphasic Glucose Response Curve Morphology is Indicative of Better Metabolic Health and Physical Performance

The shape of the glucose response curve during an oral glucose tolerance test (OGTT) (monophasic versus biphasic – i.e., one or two glucose peak) reflects insulin secretion and sensitivity. This study investigated whether glucose curve morphology can be an indicator of metabolic and cardiovascular disease risk factors. Participants (n=204) with biphasic glucose response during OGTT were more glucose tolerant, and had better beta cell function, aerobic fitness, and muscle strength.

14 – Pilar Gonzalez
Exploring the Impact of STEM Degree Attainment on Social Mobility among Hispanic Students in two Texas-Mexican Border Universities: A Work in Progress

This research will study the impact of a STEM degree on Hispanic intragenerational social mobility. A sequential explanatory mixed methods design will guide the study. Quantitative research will guide the qualitative as triangulation occurs to achieve validity. The strategy planned to gather participants is purposeful homogenous sampling. Participants will be alumni from the LSAMP at UTEP and UTRGV. The study aims for 50 participants and data will be collected starting in the 2024 fall semester.

15 – Jesus Rodriguez-Loya
Dynamic Light Scattering and its Application to Control Nanoparticle Aggregation in Colloidal Systems: A Review

The review discusses the importance of colloidal systems, their limitations, and the role of dynamic light scattering (DLS) in characterizing nanoparticle aggregation dynamics. It highlights DLS's utility in studying size distribution and controlling aggregation in chemical processes. Limitations of DLS, such as dealing with complex systems, are addressed, along with potential solutions and the need to bridge the gap between fundamental research and real-world applications in colloidal science.

Remember to submit your presentation materials to **Scholarworks@UTEP** to let your friends, family, and future employers see your work!

https://tinyurl.com/bdhc7ead

THE UNIVERSITY OF TEXAS AT EL PASO
GRADUATE SCHOOL