47th Annual

SRCC

Student Research and Creativity Conference

Student Research and Creativity Conference

April 6, 2022

EASTERN NEW MEXICO UNIVERSITY

Explore. Experience. Excel.

Eastern New Mexico University

Student Research and Creativity Conference

2022

Conference Proceedings

Portales, New Mexico
April 2022

About the Student Research and Creativity Conference

Eastern New Mexico University's annual Student Research and Creativity Conference is designed to showcase research and creative projects being done by undergraduate and graduate students. Students present their work in professional poster/creative work display and paper/performance sessions and are judged and critiqued by an inter-disciplinary group of faculty members. Through this process, students can see how their work compares with that of other students, get feedback on their work and presentations, and practice their professional presentation skills. Students, faculty, staff and community members are invited to attend the presentations. Cash awards are presented at the evening banquet.

The Eastern New Mexico University Student Research Conference began in 1974 with a grant from the ENMU chapter of Sigma Xi, the Scientific Research Society. The first director of the conference was Dr. Ram Sharma, who held the position for 25 years. While the conference was originally for students in the sciences, later on students from all academic disciplines were eligible and encouraged to participate. A poster session was added to the conference in 2011. Creative work display and fine arts performance sessions were added for the first time in 2018, broadening the scope of the conference to include students in all majors. For the 2019 conference, 199 students made 251 presentations representing 21 different academic disciplines. 81 faculty and staff members served as judges and 48 students received cash awards.

For More Information

www.enmu.edu/srcc
www.facebook.com/ENMUSRCC

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2021-2022

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Darren Pollock
Kim Potters
Britta Urness
Christy Ruby
Sarbagya Shakya
Erik Stanley
Robert Stokes
Manuel Varela
Michael Venewege
Krisitin Waldo

2022 Conference Schedule
Wednesday, April 6th

9:00 - 11:00 a.m.	Poster session in the Campus Union Building Ballroom
9:00 - 11:00 a.m.	Creative work display session in the Campus Union Building
1:00 - 3:00 p.m.	Paper and performance sessions in rooms across campus

2022 Conference Award Winners

Van Thang
Advisor: Mr. Scott Golem

Madelyn Schauer
Advisor: Dr. Jim Constantopolous

Jonathan Delgado-Naegele
Advisor: Dr. Erik Stanley

Ashanay Spillman
Advisor: Dr. Steven Karpowicz

Sierra Shoemaker
Advisor: Dr. Ivana Mali

Melanie Greenham
Advisor: Dr. Gary Bond

Jacey Banther-McConnell
Advisor: Dr. Ivana Mali

Carson Fraze
Advisor: Dr. Hamid Allamehzadeh

Lucy Martinez
Advisor: Dr. Michael Rizza

Devin Chavez
Advisor: Dr. Brian Pasko

Melissa Murray
Advisor: Darrell Roe

Clara Khalsa
Advisor: Darrell Roe

Wesley Cartwright
Advisor: Darrell Roe

Erick Hernandez
Advisor: Darrell Roe

Olayinka Sodunke
Advisor: Darrell Roe

Sierra Villanueva
Advisor: Dr. Jon Barr

Poster and Creative Work Display Presentation Abstracts

Creative Work Display Group 1

Right & Wrong (Winner)

Presenter: Van Thang
Project Advisor: Scott Golem

I will be displaying one of my oil paintings on canvas. It is 19.5" x 23.5" in frame.

The Ambassador

Presenter: Cindy Gentry
Project Advisor: Greg Senn

I will be displaying a sculpture.

Group 2 - Mixed Posters

Understanding Science Fiction using Machine Learning and Natural Language Processsing

Presenter: Thomas Wight
Project Advisor: Dr. Eduardo Ceh-Varela

Although most people have a general idea of what "science fiction" is, giving a precise definition is difficult. In this project, we applied machine learning (ML) and natural language processing (NLP) techniques to analyze text from novels and short stories from the science fiction (Sci-Fi) genre. We used a corpus downloaded from The Project Gutenberg website. In total, we worked with more than 2,700 documents. Using the BERT deep learning algorithm, we generated a vector representation (i.e., embedding) for each document. Using these representations, we clustered similar documents with the HDBSCAN algorithm. Intuitively, similar documents should be about the same topics. We obtained the top-10 most important words for each cluster using the c-TF-IDF algorithm. These words gave us a general representation of each cluster and a general view of the topics defining “science fiction”. In conclusion, applying these ML and NLP techniques to the Gutenberg corpus of Sci-Fi novels helped us understand better the definition of "science fiction"

Student Perception of Adjudicated Diminished Responsibility Cases

Presenter: Valencia Owens
Project Advisor: Dr. Kristin Waldo

The United States has, since the 1980s, fought numerous ‘tough on crime’ campaigns resulting in punitive punishments and the largest prison population in the world. The general attitude toward criminal punished tends toward punitiveness. The target population for this study is ENMU Criminal Justice majors and minors and focuses on student reactions to the facts of five US criminal cases in which a diminished responsibility / diminished capacity defense was used. Through the use of a digital survey administered to the population of interest, this study will document student perceptions of the facts of the case and reactions to the defendants’ claims of diminished responsibility. Student responses will be compared to the actual jury decisions at criminal trial for each of the cases

Analysis of Physical and Chemical Properties of Solonetz Soil, Castor, Alberta, Canada (Winner)

Presenter: Madelyn Schauer
Project Advisor: Dr. Jim Constantopolous

Understanding soil composition is necessary for many aspects of life on earth, with one main reason being the agricultural industry. In this research, the purpose is to learn more about the physical characteristics, elemental and mineral composition, and pH of solonetz soil to expand knowledge on how to properly manage this soil type. Solonetzic refers to an order of soils that occur predominantly in the central and southern portions of Alberta Canada (Figure 1). According to Miller and Brierley (2011), solonetz soil consist of a Bn or Btn horizon, in which the "n" represents the high concentration of exchangeable sodium, which makes them saline and/or alkaline. These soils have distinct prismatic or columnar structure that are hard to very hard when dry. Many Alberta farmers and ranchers in the prairie have experienced hardship because of this soil. By studying the chemistry of this sample, a better understanding of how management practices influence the soil can be gathered and improved. The sample for this study was collected west of Castor, Alberta, chosen due to the strong physical solonetz characteristics. Figure 2 shows the land in which the sample was taken from. From the photo, it is clear to see where the solonetz soil is located from the light grey topsoil color and sparce grass and alfalfa growing. To understand the physical and chemical composition of this soil, the sample was brought to Eastern New Mexico University to undergo tests including physical examination

Poster Group 3 - Anthropology

Scoring Morphological Traits of the Human Skull: Assessing Student Agreement and Accuracy

Presenter: Janae Hughes
Project Advisor: Dr. Susan Kuzminsky

Sex estimation of the human skull is an essential part of establishing a biological profile to aid in medicolegal death investigations. The Walker scoring method, which utilizes five cranial traits (nuchal crest, mastoid process, supraorbital margin, glabella, and mental eminence), is a common non-metric approach used by bioarchaeologists and forensic anthropologists. One concern, however, is the subjectivity involved with this visual assessment. Unlike metric analysis, the non-metric approach uses the degree of trait expression instead of metric measurements and multivariate statistical tests. Therefore, scoring agreement of morphological traits is key to ensuring accuracy since the method is commonly taught and used in forensic and archaeological contexts, especially when only the skull is present. In this study, we evaluated user experience and trait scores of the Walker system with the undergraduate students in Dr. Kuzminsky's Forensic Anthropology course. Students examined five skulls from the ENMU Human Osteology collection, then assigned trait scores for each, using the modal value to estimate male or female sex for each skull. Results showed students most reliably scored the glabella (brow ridge) trait, while the nuchal crest and mental eminence (chin traits) were least reliably scored. Even as novice users learning osteological methods, students assigned sex correctly for four of the five skulls. This study demonstrates that while students may need additional training to score more nuanced traits in the Walker system, the method continues to be an invaluable tool for those whose career will involve osteological work within the sub field of biological anthropology.

Paleolithic Migration Caches at Blackwater Draw

Presenter: JoAnna Schultz
Project Advisor: Dr. Robert Stokes

Presentation to show that Caches like those found at the Blackwater Draw site have great significance in migration patterns.

Identification of Selected Kachina Figures in the Miles Collection (Winner)

Presenter: Jonathan Delgado-Naegele
Project Advisor: Dr. Erik Stanley

This project seeks to identify two of the carved and painted figures, referred to as Tihu by the Hopi, which were included in the purchase of the Miles collection by Eastern New Mexico University. It also seeks to provide a brief ethnographic history of the Hopi and give the reader a complete picture of the meaning of Kachinas to the Hopi.

Temper Sourcing in the Sapillo Valley, NM: From a study of painted ceramics from the Lake Roberts Vista site

Presenter: Jonah Jankovik
Project Advisor: Dr. Robert Stokes

This poster presents the progress of work to identify the valley source(s) of temper raw material in the upper and middle Sapillo Valley, southwestern, NM. Alluvial sand samples were taken from side drainages during the summer of 2021. Using an optical microscope and X-ray Diffraction, petrographic characterization was done to those samples. The characterizations were grouped and visualized to be applied to the temper material of painted ceramics from the Lake Roberts Vista Mimbres site, analysis of which is underway.

Examining Differences in Cranial Vault Modification Among Coastal and Highland Communities in the pre-Columbian Andes

Presenter: Esteban Rangel
Project Advisor: Dr. Susan Kuzminsky

Cranial vault modification (CVM) has long been of interest to bioarchaeologists and archaeologists due to its presence around the world, and especially among the ancient peoples of the South American Andean region. CVM, thought to be a powerful marker of social identity is conducted in childhood through the manipulation of the cranial structure to create a specific desired head shape. The practice was varied but previous studies have divided it into two main types of intentional modification. The first type, tabular shape, was created by fronto-occipital compression with head splints. The second type, annular shape, was created through the application of circumferential pressure with bands. Both types have been reported in the Andes, along with reports of additional styles that have been documented in individuals from 7000 years of prehistory. In this paper, I discuss my research on the types of head shaping reported and their geographical distribution in the Andes. I will then compare the geographical patterns of the head shapes with biological (DNA and morphological) data to better interpret the broader context behind the ethnic, social, and biological relationships among coastal and highland populations in the Andean region. This work provides a synthesis of these head-shaping types in the Andes that can be applied to further research on this biocultural practice among ancient people.

AWKWARD

Presenter: Rebecca Bond
Project Advisor: Dr. Erik Stanley

The concept of this research is to gauge awkward response to specific question. This is to see how in comparison men and women react to a specific question that is weird or awkward and if one is more awkward than the other. There will be an overview of verbal and physical responses and categorizing them accordingly.

Posters Group 4- Biology/Chemistry

Synthesis of Ladder Type Oligo(p-Phenylene)s for Organic Solar Cells

Presenters: Kaelyn Thomas & Trenton Crookshanks
Project Advisor: Dr. Juchao Yan

Solar panels circumvent energy wastage by harnessing the power of photons from the sun. Typically, this has been done with silicon-based solar cells; however, this is not the most efficient method. Silicon is recyclable, but not renewable. The energy cost for recycling silicon is high, while its conductive abilities are weak. In recent years, organic solar cells containing branched ladder-type oligo(p-phenylene)s have demonstrated optimal characteristics for mobilization of electrons through providing a conjugated, planar surface in the form of benzene ring chains. These molecules are photovoltaic, becoming excited by light and releasing energy. Past research has uncovered the unique properties of oligo(p -phenylene)s, such as in the discovery of wave packets that demonstrate that molecules such as these can in fact receive and maintain energy by creating balanced, yet active electronically delocalized clusters that can better transport and withstand today's energy demands. From fall 2020 to the spring of 2022, we have been working to synthesize two distinct types of the oligo(p-phenylene) molecules. This process involved the multi-step organic synthesis reaction known as Suzuki Cross Coupling between aryl bromide and aryl boronic acid, with meticulous purification. In the future, the products from our synthesis will be further developed through cyclization, bromination, and alkylation and then analyzed at Brookhaven National laboratory to confirm structure and electron mobility. Once we properly synthesize enough of these oligo(p-phenylene)s for testing and implementation purposes we can mainline organic solar cells as a newer, more cost effective and efficient core of solar panel technology.

The Kinetics of Cystamine Oxidation by Diamine Oxidase (Winner)

Presenter: Ashanay Spillman
Project Advisor: Dr. Steven Karpowicz

The substrate kinetics of the oxidation of cystamine by diamine oxidase (DAO) was studied. In varying cystamine concentrations, the oxidation of cystamine by DAO was examined using Michaelis-Menten kinetics to predict the rates of cystaldimine degradation to thiocysteamine and the formation of cysteamine to regenerate cystamine in the reaction scheme mechanism. Thiocysteamine was captured by iodoacetic acid to demonstrate the rate of cysteamine formation from the regeneration of H2O2 production. Results indicated this step of H2O2 production is slower than the consumption of H2O2 in the beginning of the reaction. Degradation of cystaldimine forming thiocysteamine, a C2 fragment (suggested as glyoxal), thiotaurine, and hypotaurine will be analyzed using mass spectroscopy to further validate the identification of these metabolic compounds.

Characterizing Taurine interactions with the enzyme GATM

Presenter: Camron Pitcher & Enrique Martinez
Project Advisor: Dr. Steven Karpowicz

Taurine is an amino acid derivative that is found in animal tissues and is used for vision, digestion, heart muscle function, and to maintain a healthy immune system. Many taurine-related products have been observed in other eukaryotes and similar products have been found in humans but the reactions that create them have not been studied or quantified yet. By quantifying a taurine metabolic reaction, we can interpret how taurine might be utilized in organisms. The enzyme GATM catalyzes a reaction between arginine and taurine in rats, and the reaction products are also found in humans. This study aims to quantify the kinetic values of the GATM reaction in humans. PCR and an in vitro protein translation kit will produce active protein from the GATM gene. Use of thioarginine as an alternative substrate will permit real-time measurement of the enzymatic reaction by Visible Spectroscopy. The expected results will quantitatively demonstrate if taurine is metabolized in a human biochemical pathway to form the neuro-active compound taurocyamine

Synthesis and Characterization of Carbonyl Functionalized Oligo (p-phenylenes) for Probing Electron Delocalization

Presenter: Chimezie Onukwuli
Project Advisor: Dr. Juchao Yan

Current intense activity in utilizing potent Multiphoton absorbing (MPA) organic compounds has led to a greater focus on pi conjugated p-phenylenes as an excellent material for the development of various organic solar cells (OSCs), organic lasers, light emitting diodes and other MPA applications. Electron delocalization and the impacts of its energetics and dynamics are pivotal in the design of OSCs with excellent power conversion efficiency (PCE). Previous studies have shown that nitrile functionalized ladder-type oligo (p-phenylenes) and those end capped with diphenylamino and flourophenyl/fluoride have been synthesized and used to investigate electron delocalization. Albeit, these rigid coplanar compounds are IR responsive and do not degrade in the presence of heat, maximum PCE is 18%. Here, we introduce an IR responsive carbonyl group into the ladder-type oligo (p-phenylenes) structure further instigate electron delocalization. The proposed compounds will be synthesized via palladium reductive carbonylation using N-formyl Saccharin as source of carbonyl. The synthesized compound will be characterized using pulse radiolysis followed by time-resolved infrared spectroscopy at Brookhaven National Laboratory.

Poster Group: Biology/Wildlife Science/Forensic Science

Game camera survey of wildlife diversity on the Black River, New Mexico

Presenter: Joshua Gonzalez & Ashlyn Reynolds
Project Advisor: Dr. Ivana Mali

Rivers play a key role in maintaining regional biodiversity, especially in desert ecosystems. Not only do they support aquatic and semi-aquatic wildlife, but many terrestrial species depend on desert rivers as the sole source of water. Riparian areas represent an important transitional zone between an aquatic and terrestrial habitat. They have the ability to transfer energy between both habitats, making them capable of sustaining high flora and fauna biodiversity. This research project focuses on the Black River riparian habitat of the Chihuahuan Desert in Eddy County, New Mexico. Agricultural, industrial, and residential water usage is common in the area, which poses a potential threat to wildlife. The Black River is also home to two aquatic species of conservation concern, a federally endangered freshwater mussel (Popenaias popeii) and a state threatened freshwater turtle (Pseudemys gorzugi) that depends on riparian habitat for nesting. Our objective was to identify and, when possible, quantify the usage of the Black River riparian areas by regional wildlife. From May to August 2020, we set thirty-two game cameras on 6-foot posts along the river up to 25 meters away. We identified different wildlife species that frequently visit the riparian area, from carnivores (e.g., racoons), herbivores (e.g., mule deer), to songbirds (e.g., painted bunting). Surveying the biodiversity of the Black River creates baseline information for future generations to quantify damages that could occur to the Black River riparian environment.

Population Trends in Juvenile Rio Grande Cooter on the Black River, New Mexico (Winner)

Presenter: Sierra Shoemaker

Project Advisor: Dr. Ivana Mali

The Rio Grande Cooter (Pseudemys gorzugi) is a medium to large riverine species whose range is limited to the lower Rio Grande watershed. The Rio Grande Cooter is a threatened species in New Mexico and of growing conservation concern in Texas. The greatest threats to this species include habitat alteration due to river flow alterations through dam construction, irrigation practices, and more recently oil and gas extraction. This species is relatively abundant in the Black River, a tributary of the Pecos River, and the Devils River, a tributary of the Rio Grande. However, the Black River is the only system where juveniles are readily observed and captured via hoop net traps. We used capture mark recapture data collected in the past six years from two sites on the Black River to study P. gorzugi population composition, focusing primarily on juvenile turtles (<110 mm plastron length). Specifically, we aimed to show the changes in distribution of juvenile turtles of different size classes. Although every year we have consistently caught juvenile turtles (~30% of all captures), there is an obvious decline in turtles of the smallest size classes. Our results point to a lack of recruitment, but the underlying causes are currently unknown. More research is needed in the area of reproductive ecology and nesting of Rio Grande Cooter on the Black River. Overall, this data can be used to direct future research and management efforts on the Black river.

Abundance and Diversity of Bumblebees Across a Time-since-burn Gradient in the Lincoln National Forest of New Mexico

Presenter: Margaret Bass

Project advisor: Dr. Kenwyn Cradock

Bumblebee populations have been experiencing drastic declines in recent decades. It is essential to conservation efforts to examine bumblebees and the threats they are facing. Climate change is increasing the frequency of high severity wildfires. Fires play a huge role in insect evolution and ecology with many benefitting directly from fires, but with others experiencing declines. The relationship between fires and bumblebees is especially important for future conservation efforts as bumblebees are essential for many ecosystems to function. I am looking at native bumblebee abundance and diversity along a time-since-fire gradient in the Lincoln National Forest of New Mexico. This relationship has never been examined in the region before, but it is especially important as there is an endemic bumble bee (B. cockerelli) and a vulnerable bumblebee (B. morrisoni) in the area. This can inform conservation and management efforts to preserve these bumblebee populations and possibly the Sacramento Mountain Thistle

The Effects of Electroculture on Seedlings Germination and Growth Rate

Presenter: Ashlyn Reynolds & Sierra Shoemaker
Project Advisor: Dr. Young Cho

Electroculture is the use of artificial electricity to stimulate plant growth. Benefits include increased protection from frost, diseases, or insects, increased crop production and quality, and faster growth rate. There are many techniques possible for conducting electroculture. In this research project, we applied a direct current to the soil through either a 9-volt or 12-volt battery. Three plant species were used: soybean (Glycine max), field corn (Zea Mays), and cucumber (. Each contained a control group of 3 seeds, a treatment group of 3 seeds receiving 6-volt shocks, and another treatment group of 3 seeds receiving 12-volt shocks. Shocks were administered for 10 minutes twice weekly for 8 weeks. Germination rate was examined to determine if shocking increased the rate. Plant height and number of leaves was documented once a week. After harvesting plants will be fresh weighed, dry weighed, and length of root will be measured. The purpose of this project is to determine if electroculture over a short-term period increases germination rate, plant growth rate, and plant production (i.e., number of leaves) in these species. Effects on monocots (corn) versus dicots (soybean and cucumber) can also be compared. Electroculture research provides standard information for future generations to determine if the application of electricity is beneficial to agriculture use, such as crop yield.

Organic matter decomposition and nutrient release of winter cover crops in a semi-arid agroecosystem

Presenter: Amrit Dhoj Adhikari
Project advisor: Dr. Young Cho

Soil organic matter (SOM) and nutrient depletion in semi-arid regions have adverse effect on crop production and agroecosystem sustainability. An addition of winter cover crop on cropping system can improve nutrient cycling and accumulate SOM. To achieve these benefits, it is critical to understand the decomposition process of cover crop residues. This study aims to evaluate Triticale (×Triticosecale), radish (Raphanus sativus) and Austrian Pea (Pisum sativum L) using litter bag method. This study will be conducted in New Mexico State University- Agriculture Science Center (ASC) located in Clovis, New Mexico in the ongoing corn-sorghum rotation study with and without winter cover crops. The study will have a Randomized Complete Block Design with three treatments and four replications within each phase of corn-sorghum rotation. Cover crop residues equivalent to their aboveground biomass production will be put in litter bags, allowed to decompose at field condition, and analyzed for nutrient content (lignin and protein content, C: N ratio etc.) every week in lab. We have hypothesized that due to high lignin-to-protein content and C: N ratio, Triticale will have slower decomposition rate compared to radish and Austrian pea. Also, we hypothesize that being a leguminous, nitrogen fixing crop, Austrian pea will add more nitrogen to the soil compared to other species under study. The study will broaden the understanding cover crop residue decomposition, and their effects on SOM and nutrient cycling in semi-arid forage cropping system

Effects of cover crops and bt (cry 51 aa2) technology on thrips population dynamics in cotton seedlings

Presenter: Raju Sapkota
Project Advisor: Dr. Kenwyn Cradock

Cotton, (Gossypium hirsutum) requires a long growing period for fruit and fibers maturation which makes it vulnerable to insects pests thus, affecting the seed cotton yield. Cotton thrips (Thysanoptera: Thiripidae) is one of the major insects impacting cotton yield, specifically in Texas High Plains. The information on the use of cover crops (rye & winter wheat) and Bt technology in thrips management in Texas, the largest cotton producing region in the world, is lacking. Thus, we aimed to review the available literature on the effects of cover crops and Bt-technology on cotton thrips population. Preliminary results showed that Bt does reduce both thrips injury and numbers proving non-preference against tobacco thrips (Frankliniella fusca). Similarly, integrating cover crops on cotton production systems showed reduction of thrips count significantly in strip tillage method. To broader our understanding, Field research is underway at the Texas A&M AgriLife Research farm in Lubbock which help to find the effect of cover crops on thrips population dynamics in seedling cotton and determine the efficacy of Bt technology (cry51Aa2) against thrips population. We expect that the terminated cover crops will generate residue that affects the response variables including thrips population in seedling cotton, population dynamics, damage, crop growth profile, yield, and fiber quality. Similarly, the use of Bt cotton affects the thrips population as compared to non-Bt cotton along with IST (insecticide seed treatment) and foliar application of insecticide during the first true leaf stage of cotton protecting the young seedling cotton

Cardiovascular Deficits in Native American populations with Metabolic Syndrome: Survey of Prescription and Compliance

Presenter: Sydnee Yazzie
Project Advisor: Dr. Matthew A. Barlow

Previous data from the Barlow laboratory showed vascular/physical stress in Native American (NA) participants during specific exercise protocols. Therefore, suggesting that the lifestyle adapted by this population may contribute to vascular and health disparities. Causation of observed physiological effects will be evaluated utilizing a survey that will focus on determining diet/exercise lifestyles differences in urban/rural NA and Caucasian populations. Surveys will be distributed in-person at educational institutions, reservation chapter houses, as well as Indian Health Services Clinics that service our population of interest. There will be six sections consisting of open-ended, scaled and yes/no questions that will evaluate each individual's resource accessibility, lifestyle habits, medical history and also community involvement in health awareness programs offered on the Navajo Reservation. Also included are sections assessing individual compliance and willingness to incorporate healthier substitutions and make lifestyle improvements based on location and resource accessibility. Data collected from this study will be further analyzed statistically and provide further insight into lifestyle influences that could be involved in vascular/health disparities observed in NA populations. As well as identifying lifestyle contributions, we aim to also propose viable methods to improve vascular/health disparate treatments utilizing data collected from our surveys.

The Effects of Insect Repellent on Initial Insect Colonization of Decomposing Pig Remains

Presenter: Cecilia Torres
Project Advisor: Dr. Kenwyn Cradock

Forensic entomology is the branch of forensic science that uses insects as evidence in criminal and civil investigations, including investigations of suspicious deaths. Most commonly, insects are used to estimate a postmortem interval, or time since death. Postmortem interval is estimated by determining the age of the immature insects present on the remains and by analyzing the overall insect fauna on the remains, as different insects colonize remains at distinct points in time. Numerous factors can influence insect colonization and development including temperature, habitat, and the presence of drugs or toxins. This research aims to determine whether insect repellent will influence insect colonization, as it is manufactured specifically to repel insects. I hypothesize that insect repellent will delay insect colonization and that this delay in colonization will directly correlate with the concentration of insect repellent. This study will utilize pig feet as analogs for decomposing human remains. The feet will be divided into four groups: one without repellent, one sprayed with repellent containing 40% DEET, one sprayed with repellent containing 98% DEET, and one sprayed with repellent containing lemon eucalyptus extracts. By observing initial insect colonization, then collecting and identifying the insects, it will be possible determine whether insect repellent influences insect colonization and further enhance the field of forensic entomology.

END OF POSTER PRESENTATIONS

Paper Presentations: Biology/Chemistry

Menstrual Cycle effects on vascular compliance and mechanical reactivity in healthy and overweight/pre-diabetic women

Presenter: Abigail Cameron
Project Advisor: Dr. Matthew Barlow

The goal of this study is to determine the effect of the menstrual cycle hormones on peripheral artery compliance and stiffness. We will address whether the cyclical hormone regulation of the menstrual cycle in pre-menopausal women alters the vascular compliance in healthy vs overweight/pre-diabetic women and if there is a difference in exercise hyperemia. We are assessing the vascular stiffness using Pulse Wave Velocity with a SphygmoCor Tonometry device placed over the peripheral arteries including the carotid and the radial to monitor blood pressure wave forms. After PWV measurements, brachial artery dilatory responses to exercise are assessed using Doppler ultrasound imaging and vascular velocity. Visit 1 will take place when the participants are undergoing menses when estrogen and progesterone are low, visit 2 will take place during the proliferative phase when estrogen is elevated and progesterone is low, and visit 3 will take place during the luteal phase when estrogen and progesterone levels are both elevated. We hypothesize that high estrogen period of the proliferative phase (visit 2) will improve the vascular compliance of the overweight/pre-diabetic group similar to the healthy controls similar to previous research from our lab. We also expect that the brachial artery will exhibit a reduced dilatory response in our overweight participants compared the control participants at all three time points of the menstrual cycle.

Population genomic survey of the Rio Grande cooter (Pseudemys gorzugi)

Presenter: Javier Gutierrez
Project Advisor: Dr. Michael Vandewege

Turtles are an integral component of freshwater ecosystems. They obtain some of the largest biomasses among vertebrates, assume roles in every trophic position, and serve as bioindicators of environmental quality. Among the least studied freshwater turtles in the United States of America (US), is the Rio Grande River cooter (Pseudemys gorzugi). The species is native to the lower Rio Grande Basin and its tributaries. Because of its limited distribution, we wanted to conduct a population genetic analysis of the species to assess its genetic health and identify populations of most concern (i.e., isolated populations with low genetic diversity). To do so, we isolated DNA from 141 samples collected throughout their range and performed double digest restriction-site associated DNA (ddRAD) sequencing to identify genome-wide single nucleotide polymorphisms (SNPs). We identified and assessed 30,121 SNPs. Overall, STRUCTURE and PCA analyses suggested there were two genetically distinct populations, the Rio Grande population and the Pecos River population. FST metrics among populations was approximately 0.2, consistent with moderate-to-high levels of differentiation. Private alleles were most common in the Rio Grande and heterozygosity was higher in the Rio Grande. These results in combination with previous surveys suggest populations along the Pecos River are at most risk, (i.e., these populations isolated from the “source" population). This study demonstrates the importance of understanding genetic diversity of imperiled taxa and can aid in future conservation efforts, which should focus on restoring connectivity of the Pecos River.

Experimentation of Using Food Decomposition and Bacterial and Fungi Growth as a Source For An Accurate Estimation of Time of Death

Presenter: Lainey Light
Project Advisor: Dr. Kenwyn Cradock

Since an accurate time of death is immensely important and also difficult to complete I have devised an experiment that I had hoped would be used to have a more accurate determination of time of death by monitoring the growth rate of fungus, mold and bacteria in everyday food items that require minimal preparation.

Ecofriendly Approaches for Managing Major Insect Pests of Okra

Presenter: Usha Panta
Project Advisor: Dr. Zhiming Liu

Okra (Abelmoschus esculentus L.) is an important plant belonging to the family Malvaceae which is also called lady's finger in English. It is attacked by many phytophagous insects during its growth stages. The major limiting factors in the production of okra are fruit and shoot borer (Earias vitella), jassids (Amrasca biguttula biguttula), and Blister beetle (Mylabris pustulata). In this study, we investigated different treatment approaches to control the insect pests in okra.

Methods: The experiment included seven treatments and was replicated thrice in a randomized complete block design. The treatments were T1= Nimbicide @ 5 ml/liter of water, T2= Cow urine @ 1:4 (cow urine: water), T3= Beauveria bassiana @ 3 ml/liter of water, T4=Jhol-mol @ 1:4 (jhol- mol:water), T5= Metarrhizium anisopliae @ 3 ml/liter of water, T6= Bacillus thuringiensis @ 3 ml/liter of water and T7= control (sprayed water). All treatments were applied two times. The first application was made 30 days after sowing and a second application was made 52 days after sowing.

Results: On average the lowest number of blister beetle, jassids, and fruit and shoot borer population was observed from the treatment with Bacillus thuringiensis, and the highest number of them was recorded with a control plot.

Conclusion: The data revealed that Bacillus thuringiensis @ 3 ml/liter of water had the best pest control results.

Significance: The study demonstrated the efficient application of the biological pesticide to control the harmful pests of the okra.

Assessing the effect of robber fly (Diptera: Asilidae) predation habits on prey size

Presenter: Stephen Murphy
Project Advisor: Dr. Darren Pollock

Robber flies (Asilidae) have three different locations where they feed on prey. Some species perch on the ground while feeding, some perch on the ends of dead twigs while feeding, and some hang from vegetation while feeding. This study examines three species of robber flies that each exhibit one of these feeding strategies: Efferia helenae Coquillett, Heteropogon patruelis Loew, and Diogmites bilobatus Loew respectively. The flies will be captured along with their prey while feeding, then the size of both predator and prey will be measured. The size ratio of predator to prey will then be calculated for each species to determine if the predator-to-prey size ratio differs between these feeding strategies.

Immunological and genetic detection of Sin Nombre virus in deer mice species of eastern New Mexico (Winner)

Presenter: Jaecy Banther-McConnell
Project Advisor: Dr. Ivana Mali

Orthohantaviruses can cause two zoonotic diseases in humans: hemorrhagic fever with renal syndrome (HFRS) and hantavirus cardiopulmonary syndrome (HCPS). HCPS occurs primarily in North America, with Cricetid rodents, such as deer mice (Peromyscus maniculatus), as the primary reservoir of Sin Nombre virus (SNV). In the United States, New Mexico (NM) is leading the nation in the number of HCPS cases. However, no reported cases of HCPS have occurred within eastern NM. The objective of our study was to assess SNV seroprevalence and genetically confirm SNV in rodent communities across eastern New Mexico, focusing primarily on Genus Peromyscus. Since 2020, we have surveyed 20 sites over 30,000 trap nights and collected blood and lung samples from 740 rodents. We captured Peromyscus sp. at 17 sites and they constituted 24% (180/740) of all captures. All blood samples were tested through enzyme-linked immunosorbent assays (ELISAs) for detection of IgG antibodies against a full-length SNV nucleocapsid antigen. All Peromyscus lung samples were tested through RT qPCR using SNV specific primers. In total, 11 Peromyscus samples tested seropositive, and 51 samples were positive in the SNV qPCR assay. Both laboratory analyses indicate presence of SNV in eastern New Mexico, with RT qPCR techniques detecting more positive individuals than ELISA. In the future, we will study how rodent community assemblages and environmental variables affect SNV prevalence in Peromyscus sp. This knowledge can aid in predicting future HCPS outbreaks and expand our understanding of hantavirus prevalence within eastern NM

Skippers (Lepidoptera: Hesperiidae) of Nepal

Presenter: Sajan K C
Project Advisor: Dr. Darren Pollock

Butterflies of Nepal were surveyed by the author from 2017-2021. One hundred and nine species of skippers (Hesperiidae) were recorded, of which fifteen species and one subspecies were new records for Nepal. Genitalic analysis of the male specimen(s) was performed to identify most of the cryptic species. Based on its distinctive male genitalia, one species is probably new to science. Most of the species newly recorded for Nepal were obtained a few hundred kilometers from their previously recorded localities in India, while Caltoris bromus bromus (Leech, 1894) and Halpe aucma Swinhoe, 1893 were recorded around 830 kilometers and 500 kilometers respectively away from their nearest previous distribution records in India. Celaenorrhinus pokharus, a probable "sp. nov.", was collected from Pokhara, Central Nepal, in November 2021. The author is currently working on its description for publication.

Mechanisms of Antioxidant Protection by Taurine

Presenter: Kaelyn Thomas
Project Advisor: Dr. Steven Karpowicz

Antioxidants are molecules that protect the body from damage done by unstable molecules known as free radicals. These antioxidants interrupt dangerous oxidation reactions by reacting with the free radicals themselves, shielding more important molecules from losing electrons. When affected by the free radicals, entire metabolic processes can be stopped. Taurine, an organic acid derived from the amino acid cysteine, has been observed to act as an antioxidant. Its absence in the cell appears to inhibit functions such as the Citric Acid Cycle. However, not much is known about the degree to which Taurine acts as an antioxidant, and whether these observations are directly related to an antioxidant property. Therefore, experimenting with the kinetics of Taurine antioxidation reactions is crucial. We are collecting data on the reaction rates of Taurine with H2O2 (Hydrogen Peroxide), a common free radical known to damage cells, as well as with abundant organic molecules, such as Vitamin C, glutathione, linoleic acid, and aconitase. In this way, we will demonstrate if the presence of Taurine changes how H2O2 reacts with organic molecules. This will provide real chemical evidence that Taurine is an antioxidant and will help to further support speculation as to the many roles of Taurine.

Paper Presentations: Engineering Group

Portable Charger

Presenter: Anthony Campos
Project Advisor: Dr. Hamid Allamehzadeh

Electronic devices are becoming astonishing smaller while simultaneously needing more energy to function. Consumer demand for a longer lasting battery life challenges today's engineers and designers to continually develop a battery and its circuitry that's power efficient enough that it exceeds the consumer's expectations without compromising performance or features. While our devices have become very efficient over the last decade, it is not enough to satisfy consumers. Today's technology does not allow engineers to reach the expectations of many. Portable chargers have been a favorable solution that has been brought to market. The question is if it's convenient enough for the consumers?

Wireless Power Transfer (Winner)

Presenter: Carson Fraze
Project Advisor: Dr. Hamid Allamehzadeh

Wireless power transfer (WPT) is the transfer of energy through the air without using wires or contacts. This technology has become an increasingly practical way of transferring power to different electronic systems including phones, vehicles, and even medical devices. This presentation demonstrates the use of WPT by using a Royer Oscillator to pass enough power from the coils of a transmitter to the coils of a receiver to power a 12-volt DC light bulb.

Paper Presentations: Humanities & Education

How has the COVID-19 Pandemic Affected College Students' Experiences With Computer Technology?

Presenter: Brianna Gilligan
Project Advisor: Dr. Jayson Evaniuck

How has the COVID-19 pandemic affected college students' experiences with computer technology? The literature review primarily focuses on college students' educational, emotional, and social experiences. The research shows that students had varied experiences regarding their communication experiences with professional and personal contacts. The methods of this research study will reach out to three different southwestern colleges. There will be nine undergraduate and nine graduate college students to interview, participate in focus groups, and collect student journal responses and personal transcripts, forming 18 participants. Gilligan will code and analyze the data and then reanalyze iteratively until reaching a precise conclusion. In addition, there will be a member check and external audit performed to prioritize honesty and integrity in this study. Gilligan intends to take the findings of this study to inform mental health professionals on how to improve college students' educational, emotional, and social experiences regarding computer technology and the COVID-19 pandemic.

Pike's Peak Gold Rush

Presenter: Jeremiah Pease
Project Advisor: Dr. Donald Elder

The Pikes Peak Gold Rush proved to be very important in shaping the Western United States. Taking place just after the California Gold Rush of 1849, the Pikes Peak Gold Rush would lead to the development of communities and towns along the Rocky Mountains in present day Colorado. The Gold Rush itself also directly led to one of the biggest Civil War campaigns in the Western United States. The purpose of this paper is to analyze the impact that these settlers had on Native American populations as well as the impact that they had on shaping the future of the Western United States through the use of both primary and secondary sources.

Last Time

Presenter: Carmen Short
Project Advisor: Dr. Lindsay Tigue

The poem written by Carmen Short called 'Last Time' is a confession of hurt feelings and heartbreak over what she thought was the love of her life. After one too many heartbreaks and investing her love and time, the character presented lays all the emotions out for everyone to see.

The Haitian Revolution: a Glorious Uprising that Shook Nations

Presenter: Lauren Mazuranich
Project Advisor: Dr. Maria Duarte

Few revolts in history have done what the first Haitian revolution accomplished; taking inspiration from the American and French revolutions, the small French colony--mostly comprised of slaves brought over from Africa in the Slave Triangle--rose up against its oppressors. Through sheer will and excellent stratagem, Jean-Jacques Dessalines and the other leaders won the colony from their European captors and established their own country. It served as one of the greatest achievements and also one of the worst downfalls. Haiti's monumental beginnings served to terrify the nations in both the Caribbean and beyond; free to trade their sugar as they wished, no one would do so, fearing the slaves in their own territories, states, and colonies would rise up in the same way. Haiti was the small colony that had beaten back an Emperor, and, yet, their success was tarnished by politics and racism.

The Pursuit of Detached Identity: Navigating Femininity through Trauma Theory (performance) (Winner)

Presenter: Lucy Martinez
Project Advisor: Dr. Michael Rizza

In heteronormative and feminine history, sexual assault has been intertwined into the world of women. In the article "Sexual Violence in Historical Perspective", Carolyn A. Conley and the article "Speak, Trauma: Towards a Revised Understanding of Literary Trauma Theory" by Joshua Pederson tropes and themes will be explored in three free-verse poems. Part one reflects navigating femininity before sexual assault, part two will explore the metaphors in Conley's article, and part three will then mirror part one, focusing on the process of recovery after sexual assault.

Dual Language Immersion, 90/10 model and programs
Presenter: Yitzen Lizama
Project Advisor: Ms. Geni Flores

This paper explores the Dual Language Immersion Model, focusing specifically on the 2-way 90/10 programs that have been created and implemented. I explain this model's origin and theoretical foundations, and how it has been applied in USA schools, and their obtained results. I also discuss how the NMPED Language and Culture Bureau views this model and supports this model in New Mexico's public schools. By doing this, I try to identify this model's advantages, contributions, disadvantages, and opportunity areas regarding bilingual education and how useful it could be for the New Mexican Public schools.

Paper Presentation: Arts & Sciences Online Group

Mimsy Chocolate Prototype

Presenter: Kaytlyn Johnson
Project Advisor: Mr. Scott Golem

Mimsy Chocolates is a prototype design for a chocolate brand that was created in Adobe Illustrator. It includes research on the harvesting, fermentation, and exporting of chocolate. There is a completed packaging that will be shown.

All Weather Watering System for Animals

Presenter: Raymond Marquette
Project Advisor: Dr. , Hamid Allamehzadeh

The original idea for this project design was inspired by a simple circuit found on the Electronics Hub Website which electronically detects the water level of in a cylindrical tank using three transistors and light emitting diodes (LEDs). The modified version expands on that design concept , by adding two additional stages of functionality, while retaining the original basic circuit design. The basic design is an electrical circuit that measures level of water in the tank at three levels: low, medium, and high. As the fluid level in the tank rises the indication will report the state of the tank with the three different colored LEDs. As water is used, the second stage of the design controls a valve that opens, and re-fills the tank with water. The third stage is a 100W "anti-icing" system that prevents the water from freezing by heating the tank when the ambient temperature approaches 0 degrees Celsius.

Studying and Visualizing Projections onto Non-Planar Surfaces (Poster online live; Winner)

Presenter: Devin Chavez
Project Advisor: Dr. Brian Pasko

The projection of vectors onto planes is a common subject taught in college calculus courses. This study was focused on exploring and expanding the understanding of these projections, specifically, of projections onto non-planar surfaces. The software, Maple, was used in order to create visual representations. The first visual representations that were created showed the projection of a smiley face in a planar region onto a plane. By changing the angle of the plane but keeping position that the smiley face was being projected from the same, the image of the smiley on the plane could be seen to start to distort. This was then used to project a smiley onto a sphere. Due to the non-planar nature of the sphere, some distortion could be seen wherever the smiley was projected to. With the knowledge and Maple code gained from projecting the smiley onto a non-planar surface (the sphere), a visual representation of a smiley projected onto a hyperboloid of one sheet was created. The success of the projection onto the hyperboloid leads to the belief that, with some manipulation to the maple code, this smiley can be projected onto any 3D shape that has the proper equation.

Determining the Ag Literacy of New Mexico Undergraduates (Poster online live)

Presenter: Betty Mealand & Makenzie Drake
Project Advisor: Dr. Kalynn Baldock

The purpose of this study is to determine the ag literacy of undergraduates in New Mexico. Gaining a better understanding of the amount of ag literacy of New Mexico undergraduates will aid in determining possible future courses that could be offered.

Determining if Unmanned Aerial Vehicles Can Be Used To Study Dairy Cattle Behaviors in Open Lots (Poster online live)

Presenter: Makenzie Drake & Isaac Lozano Ceballos
Project Advisor: Dr. Kalynn Baldock

Agricultural literacy is a growing issue across the United States as more individuals continue to become further removed from the basis of agriculture. As a result, many Americans are unaware of agriculture's connection to human health and the environment.Consequently, measuring agricultural literacy is necessary to reduce this limited understanding. The purpose of this study is to determine the Ag Literacy of undergraduate students in New Mexico. Undergraduate students enrolled in New Mexico universities will be emailed the Judd-Murray Agricultural Literacy Instrument for 9-12 grades. This instrument measures the agricultural literacy that students should have at the end of high school. Determining the Ag Literacy of Undergraduate students can aid in the development of courses and curriculum at post-secondary institutions to aid in creating a society that is ag literate. By increasing ag literacy in undergraduate students, we can begin to solve the issue of society having limited lack of knowledge of agriculture literacy.

Agricultural Students' Perceptions of Learning during a Pandemic (Poster online live)

Presenter: Jessiann Dusenbery & Hannah Sanchez
Project Advisor: Dr. Kalynn Baldock

The recent COVID pandemic required many courses traditionally taught face-to-face be converted to online. Many agricultural courses utilize experiential learning as a strategy to help students learn complex concepts. Experiential learning is often one reason students pursue an agricultural degree. Transitioning these courses to an online format had many challenges for professors and students. The purpose of this study is examine ENMU agricultural students' perceptions of learning during the COVID pandemic. ENMU agricultural students will be asked a series of question about virtual learning and their mental health before and after COVID virtual learning. Students taking agricultural courses at ENMU will be emailed a Qualtrics survey over a two-week period. The survey will consist of ten likert-type questions and five open-responses questions. After collecting the surveys the data will be analyzed to determine how the pandemic and virtual learning affected ENMU agricultural students. Gaining a deeper understanding of how the pandemic and online learning affected ENMU Agricultural students will allow the department to implement new strategies for online courses if deemed necessary again in the future. Further the data collected will allow the department to determine ways to better help current students reacclimate to face-to-face learning. The data collected will also provide the department with a better understanding of how to support students both in online and face-to-face courses.

The Effects of Humates on Rhode Island Hens (Poster online live)

Presenter: Haley Warren & Jessica Segura
Project Advisor: Dr. Kalynn Baldock

Humates are dark organic matter that is formed in the soil when plants and animals decompose. The use of humates in chicken feed has reduced unspecific deaths by 3% to 5%, improved the utilization of feed nutrients which increases the live weight of the animal, and stabilizes the intestinal flora within the chicken. The use of humates as a growth promoter in chickens has become increasingly more important. The purpose of this study is to determine the effect of humates on Rhode Island Red hens' growth and development. There are ten hens, 17 weeks of age, that will be divided into two groups comprised of five chickens each. Group 1 will be receiving commercial feed ad litum, while group 2 will be receiving the commercial crumble feed top dressed in the humates. At the end of each week, the chickens from both groups will be weighed, have their height measured, have their feather length measured, and will have their feather appearance documented. We will also be photographing the progress to visually show the improvement of the chickens' physical appearance. Data from this study will provide more information of the benefits of humates on hens.

Paper Presentations: Graduate Television Research

Multimedia Journalism Website (Winner in a 3 way tie)

Presenter: Melissa Murray
Project Advisor: Darrell Roe

This work is a photojournalism image with an accompanying cutline. The photo was taken as part of a photojournalism class assignment that challenged students to seek the permission of a stranger to take their photo while asking, "What are your goals for 2022?". After taking a series of photos throughout the day, I had not found a subject that expressed an authentic story through any of the images captured. Strangers were willing to talk at length about their plans for 2022, often in surprisingly candid detail. However, these interviews made for better feature stories than photojournalism. This assignment taught me that getting a photojournalistic image that can illustrate a story to audiences with only a few words requires quickly synthesizing much detail, assessing the day's tone, and asking what is newsworthy in the community at that moment. After taking a break to think through what I saw and determining what seemed impactful to me, it only took three more photos to get my shot. This photo documents an unseasonably warm February day in Times Square, New York, where residents felt free to enjoy the outdoors for the first time since Omicron hit our city. My subject, Denauli, is pictured sitting outside the TKTS booth in Times Square, enjoying drumming street performers on February 12, 2022.

The Submission of women in Downton Abbey (Winner in a 3 way tie)

Presenter: Clara Khalsa
Program Advisor: Darrell Roe

The recurrent representation of a stereotyped women in the media comes in all forms. By analyzing two episodes from season one of Downton Abby, we can identify a form of this representation by looking for clues that indicates the role of women in society. This study counts the occurrences of how many times women submits to men in episodes five and six. More specifically we count how many times characters Violet and Isobel Crawley are put in submissive roles by men. Here we look into the importance of the women characters within the show and how their characters are developed throughout. The importance of their resistance towards that submission to create a fairer society to all of those involved.

Affection Exchange Theory: Rejecting Stereotypes by Embracing Each Other (Winner in a 3 way tie)

Presenter: Wesley Cartwright
Project Advisor: Darrell Roe

Humans are a social species and most desire each other's company for romantic and platonic reasons. Dr. Kory Floyd (2001) has conducted fascinating research on exchanges of verbal and physical affection positing that the core of our reasons for exchanging physical touch or a kind word are to attract each other. Once we establish attraction, Floyd (2001) explains that we enjoy the benefits of that union including companionship, safety, and ultimately procreation ensuring the survival of our blood line and all of humanity. Floyd (2001) also acknowledges that healthy affectionate communication has benefits including emotional, social, and physical health. American gender norms often prohibit men from freely participating in emotional communication, and especially with one another. This research seeks to compare mediated images of platonic, affectionate exchanges between males, females, and gender nonbinary individuals on Yellowstone and A Million Little Things paying special attention to the father-son dynamic. Noteworthy discoveries included a tie between the male-male and male-female categories in A Million Little Things when expectations were that the female-female category would dominate both shows as this is a more culturally acceptable category regarding displays of affection. Most affectionate displays in Yellowstone remained in the male-female category, and one progressive example of male-male affection existed. There were more examples overall in A Million Little Things. Contemporary mediated images reflecting healthy exchanges of affection between all genders will help aid forward cultural movement allowing men to express themselves affectionately without ridicule.

Paper Presentations: Graduate Media Research

How Colors in Media Can Help the Audience Interpret Emotions

Presenter: Kelly Esquibel
Project Advisor: Darrell Roe

Abstract: In the movie Waves (2019) directed and written by Trey Edward Shults, the use of the colors blue and red help navigate the feelings of the main character and how his mind set changes throughout the length of the movie. In the article "Color-Mood Analysis of Films Based on Syntactic and Psychological Models," (Wei, Dimitrova, and Chang), the table states that red is associated with the emotions of love, hatred, life, and noble while blue is associated with the emotions of peace, tranquility, and noble. These emotions and use of color within the film Waves (2019) can navigate into the Theory of Mind which is "the idea that humans can infer and anticipate what other humans are thinking and feeling," (Soules, 2015). The clear representation of red and blue gives the viewer an insight and potential anticipation of the main characters emotional development throughout the movie.

Mood Management, Still Important? (Winner)

Presenter: Erick Hernandez
Project Advisor: Darrell Roe

This study explores personal choice in media consumption and dissects a theory known as mood management. A dive into past studies reveal interesting findings and potential obstacles for future research such as the environment, habitual behavior, and biological differences, which help shed light on a personal study and past experiences with media consumption. Important conclusions of this study support the existence of mood management theory in regards to media consumption and name the environment as the largest threat to authentic results of future studies.

Denauli in Time Square, Photojournalism Stranger Assignment

Presenter: Melissa Murray
Project Advisor: Edward Caffrey

This work is a photojournalism image with an accompanying cutline. The photo was taken as part of a photojournalism class assignment that challenged students to seek the permission of a stranger to take their photo while asking, "What are your goals for 2022?". After taking a series of photos throughout the day, I had not found a subject that expressed an authentic story through any of the images captured. Strangers were willing to talk at length about their plans for 2022, often in surprisingly candid detail. However, these interviews made for better feature stories than photojournalism. This assignment taught me that getting a photojournalistic image that can illustrate a story to audiences with only a few words requires quickly synthesizing much detail, assessing the day's tone, and asking what is newsworthy in the community at that moment. After taking a break to think through what I saw and determining what seemed impactful to me, it only took three more photos to get my shot. This photo documents an unseasonably warm February day in Times Square, New York, where residents felt free to enjoy the outdoors for the first time since Omicron hit our city. My subject, Denauli, is pictured sitting outside the TKTS booth in Times Square, enjoying drumming street performers on February 12, 2022.

Paper Presentations: Graduate Communication Research

Inclusion of the outcast (Winner)

Presenter: Olayinka Sodunke
Project Advisor: Darrell Roe

The existence of Queer people is as old as time itself and is not necessarily a new phenomenon. Even though this aspect of sexuality is not new, it has only begun to receive main stream acceptance in the society and most especially on television. In this paper, I will be counting and analyzing queer related scenes and conversations in the Netflix series Elite. Even though there are growing acceptances, homosexuality is still a criminal offence in many countries most especially in Asia and Africa. In a country like the United States where these sexual minorities have rights under the law, there is still a high level of discrimination and homophobic attitudes. So queers from around the world still go through isolation, fear, depression and suicidal thoughts. Sexual minority consists of all those people who fall under the categories of Lesbians, Gays, Bisexuals and Transgenders. This series "Elite" helps to make sense of how to normalize and accept people who the lager society sees as been different. I will also be using Cultivation theory to further analyze the effect and impact of these scenes on viewers and the lager society.

GOD, THE ROOT OF ALL EVIL?

Presenter: Olayinka Sodunke
Project Advisor: Patricia Dobson

To someone of faith, the idea of attributing evil to the Jewish God 'Yahweh' is overly devilish and can be seen only as blasphemy. Christians most especially are not in any way open to having a very sensitive conversation like this because it is seen as a disservice to the faith. But, as a believing Christian like me, I am convinced that it is important that we pay attention to this question and give an unbiased answer even though we are of the faith.
The findings of this research do not intend to make God look bad but instead, it is to reveal what the hard truth is. We would be revealing how God is actually the author and creator of evil itself by examining the bible. Has the bible itself said that 'in the end-time knowledge will increase, I believe this uncomfortable truth will help other people of faith to have other perspectives in addition to what they have believed for a very long time

Fine Arts Presentation Group

The Pedophilic Gaze

Presenter: Alex Sena
Project Advisor: Jon Barr

We see how women are used as eye candy in film, but we don't talk about how it can affect men and women in real life. In movies, we see plots that we know are fake, however, they can promote harmful ideas such as pedophilia. Whether it's a boy flirting with a woman, or a woman flirting with a boy, it can not only add to toxic masculinity but also give the acceptance of grooming and pedophilia. In this paper, I will give examples of this in films and expand the conversation.

Let There Be Ladies: The Relationship Between Creation and Women in Science Fiction Movies

Presenter: Samantha Bartl
Project Advisor: Jon Barr

An analysis of the connections between women in science fiction movies with the themes of creation, birth, and motherhood.

The Creative Process: From Page to Stage

Presenter: Aric Saiz
Project Advisor: Anne Beck

This paper covers the process of my writing and directing the fifty-minute comedy "Dining In: Pas De Deux" that opens to the public on Thursday March 24, featuring actors that are enrolled in THEA 304 Open Lab.

Included in the paper is my concept for the show; the writing process; and the directorial phase in which I worked with the ensemble of eight actors. I will discuss the challenges of being student director while working with my peers in a new work and with a shoestring budget.

In my presentation I will use power-point slides that will give the SRCC audience a sense of the show and a brief scene from my play performed by the actors from the production

The Life of Chloe Zhao

Presenter: Nereyda Fait
Project Advisor: Jon Barr

The topic film director Chloe Zhao's life and personal experiences, while also discussing the use of feminism in film.

How the male gaze perpetuates toxic masculinity

Presenter: Minnie Hayhurst
Project Advisor: Jon Barr

I hope to talk about examples of the male gaze and how it creates the idea of being the perfect man as this super masculine guy that doesn't have any emotions that no one can live up to it and creates toxic masculinity.

Winter Break/Found Object

Presenters: Samantha Bartl & Bailey Grady
Project Advisor: Anne Beck

Theater students present 15 minute devised performances based on a common theme-what happened over winter break-created by the actors.

Women's Power in Social Roles seen as subservient (Winner)

Presenter: Sierra Villanueva
Project Advisor: Jon Barr

Throughout history, women have been hidden in the shadow of men. They are the mothers, facilitators, managers, and teachers behind the scenes that keep our world running smoothly. However, women are still the target of oppression as they have been put in these roles without much say in what they do. Through the movie "Madeinusa" by Claudia Llosa, I plan to show how women can use these roles that they are given to take back their power.

The inspiration for Handel's "Fre L'ombre e Gl'orrori", transcribed for woodwind quintet

Presenter: David Bowman (+4)
Project Advisor: Tracy Carr

Georg Frideric Handel (1685-1759) was a German Baroque musical composer of great stature, success, and notoriety. His fame and influence have been virtually ever-present in Western music largely since the premiere of his famed oratorio, Messiah, in 1742 for a charity concert series. His extensive output of both large and small-scale sacred and secular compositions spans generations essentially due to its wide array of melodic appeal, harmonic variety, and impressive range of color and emotion. Having performed Handel's music as both a vocalist and instrumentalist, I am especially fond of his work, "Fre L'ombre e Gl'orrori". Originally scored as an aria for bass, flute, and strings, I have transcribed the work for woodwind quintet featuring the flute, oboe, clarinet, bassoon, and French horn. My SRCC presentation will summarize what I believe to be the salient features of the original work and my transcribed version, followed by a performance of the woodwind quintet transcription.