

Sponsor Recognition	5
Message from Our Faculty Advisor	7
Message from Our Co-Chairs	8
About URS and the Honors College	9
Maps	10
Sessions:	
A - Oral-Media-Panel Presentations	18
B - Oral-Media-Panel Presentations	21
C - Poster Presentations	23
D - Oral-Media-Panel Presentations	28
Abstracts:	
Oral Media	30
Poster	42

ALL ORAL-MEDIA SESSIONS WILL BE

8:00-8:45	Registration
8:45-8:55	Welcome and Opening Remarks Room C070
9:00-10:15	Session A, Oral-Media Presentations
10:30-11:45	Session B, Oral-Media Presentations
12:00-1:30	Lunch with Speaker Dr. Tami Cook, Director of E.U.R.E.C.A. LSC Ballroom
1:45-3:00	Session C, Poster Session LSC Ballroom
3:15-4:30	Session D, Oral-Media Presentations
4:45-5:00	Closing Ceremony Room C070


ALL ORAL-MEDIA



The Undergraduate Research Symposium
Is Sponsored By:

College of Health Sciences

The URS especially thanks Dr. Hiranya Nath for his
generous Assam Scholarship





The Texas State University System Board of Regents, 2016

Jaime R. Garza, Chairman, San Antonio
Rossanna Salazar, Vice Chairman, Austin
Charles Amato, San Antonio
Veronica Muzquiz Edwards, San Antonio
David Montagne, Beaumont
Vernon Reaser III, Bellaire
William F. Scott, Nederland
Donna N. Williams, Arlington
Spencer Copeland, Student Regent, Huntsville
Brian McCall, Chancellor, Austin

Honors Council

Kimberly Bell	Chair, English
Frank Fair	Philosophy
William Hyman	Health & Kinesiology
Victoria Lantz	Theatre
Brian Loft	Mathematics
Joyce McCauley	Education
Kenneth McIntyre	Political Science
Holly Miller	Criminal Justice
Valerie Muehsam	Business
Janet Mullings	Criminal Justice
Jeff Wozniak	Biology
Pamela Zelbst	Management
Rick Bello	Communication Studies
Michelle Martinez	Newton Gresham Library

Welcome to the Ninth Annual Undergraduate Research Symposium, hosted by the Ambassadors of the Elliott T. Bowers Honors College! This conference provides a professional environment in which student scholars can share their past, current, and ongoing research. Because national studies have shown that undergraduates who participate in research are better communicators and more effective leaders, the URS acts as a springboard for post-graduate success. Several of our past participants have gone on to experience inspiring professional endeavors which have had their foundation at this conference. For those faculty who have worked closely with their students in preparation for the URS, this accomplishment is a source of enormous gratification.

The Honors Ambassador co-chairs Shealynn Vogan, Sarah Kavanagh, and Everett Moore have worked extraordinarily hard over the past year to make this conference an ongoing success. This wonderful team worked over the summer to overhaul the URS website and registration module to ensure ease of navigation during the registration process. To encourage student success, they provided information links that covered the varied etiquettes of conference presentation, from dress to poster design. Additionally, they have organized several information sessions and sent out information packets to e

In 2008, the Honors Student Ambassadors began the Undergraduate Research Symposium (URS). The goal was two-fold: to share research with fellow students and to gain experience in preparation for future conferences. Today, the URS continues to provide a forum where all SHSU undergraduate students can present their research to others in a professional environment while giving students the opportunity to gain expertise in their field and to receive feedback from other scholars and members of the academic community. Additionally, the URS offers three \$500 awards: The Assam Scholarship for Honors Research Award, The Honors College Award for Best Overall Oral-Media Presentation, and the Honors College

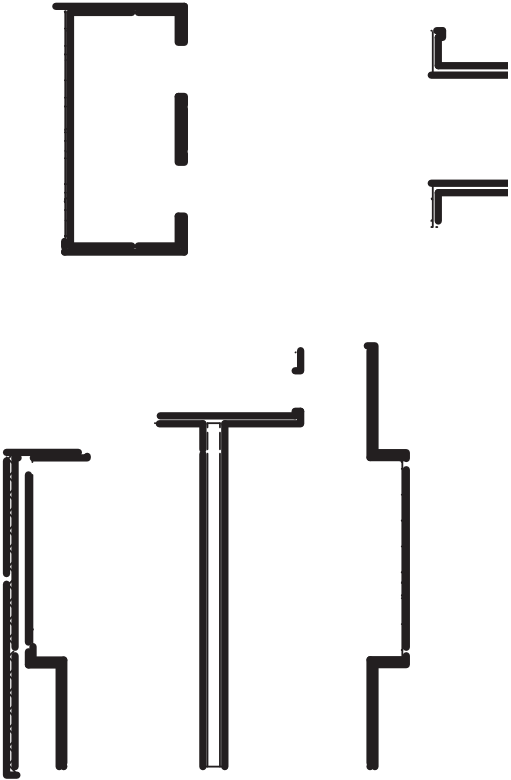
Dean
Associate Dean
Associate Dean

Kimberly Bell, Ph.D.
Maria Holmes, Ed.D.
Patrick Lewis, Ph.D.

**The Undergraduate Research Symposium
Faculty Committee**

Dr. Maria Holmes

CHSS Concourse Floor

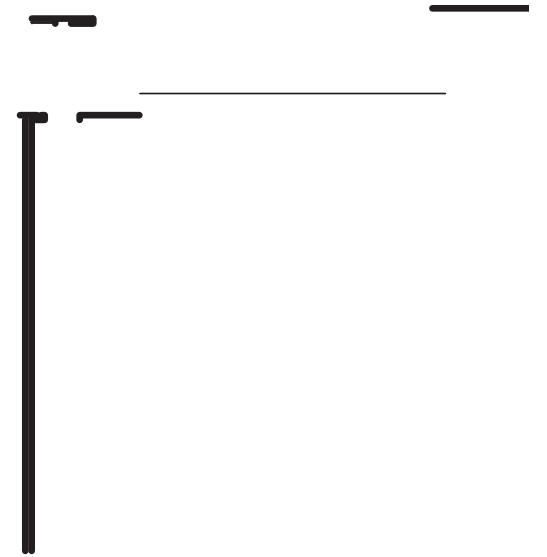
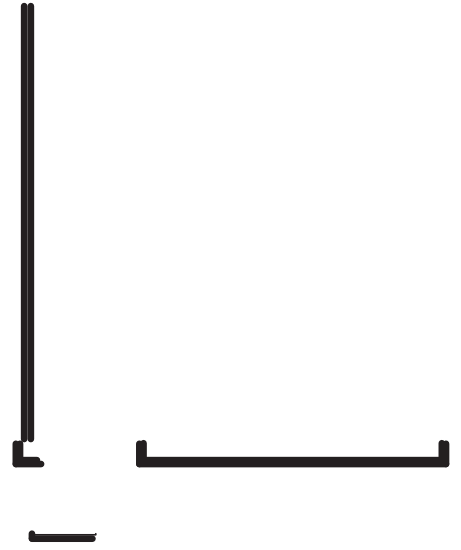
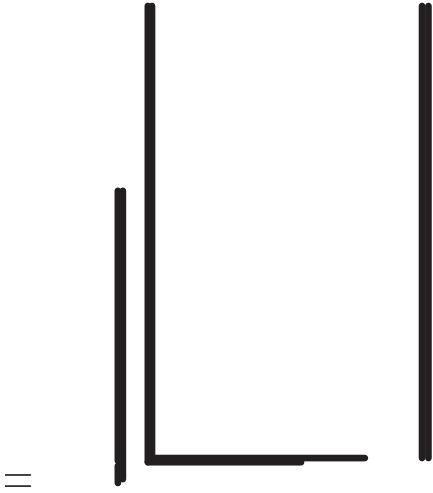


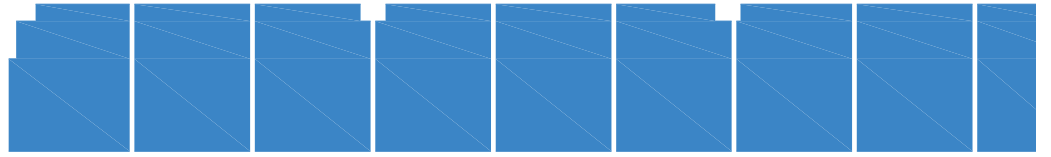
11

CHSS First Floor

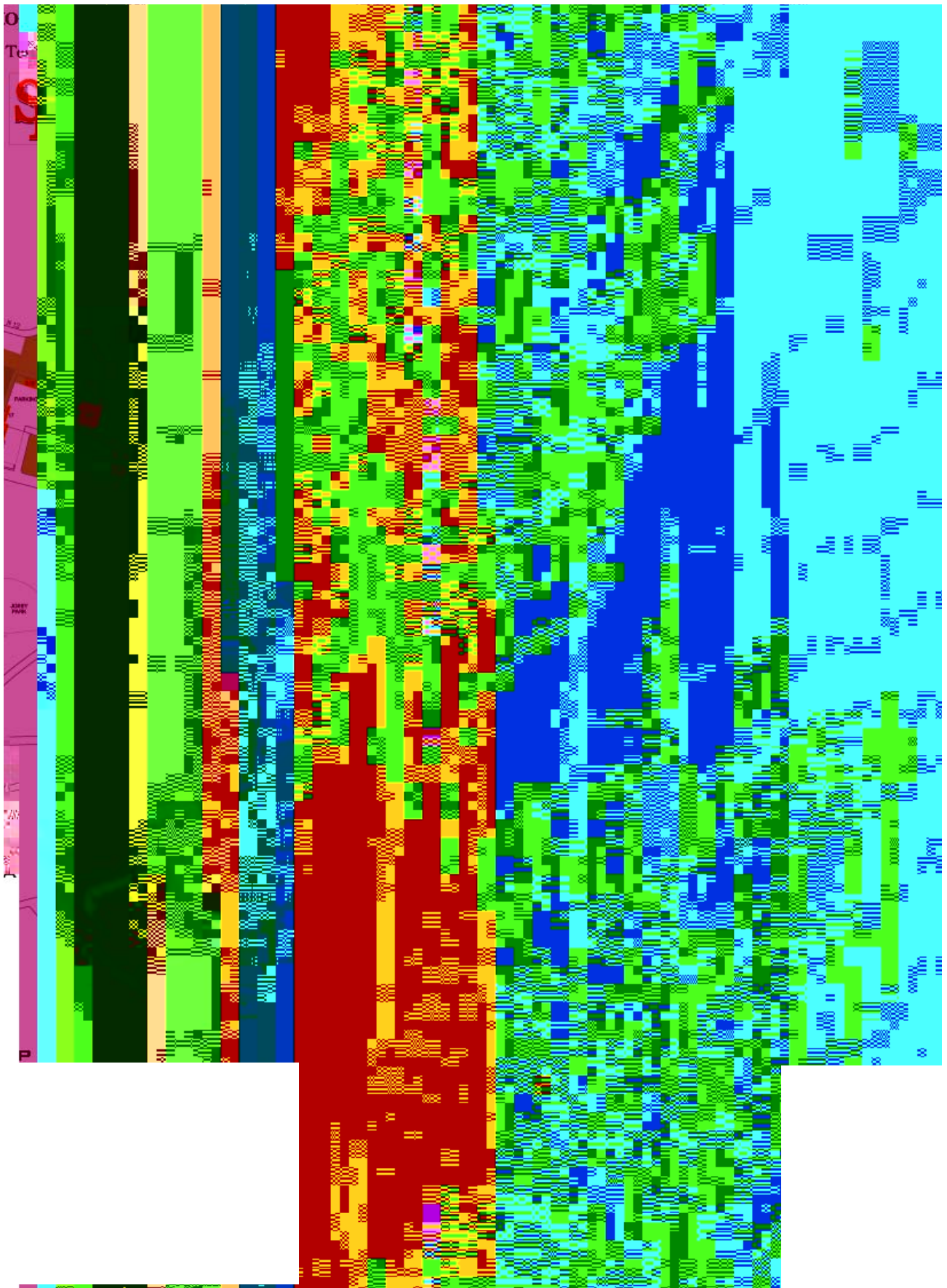


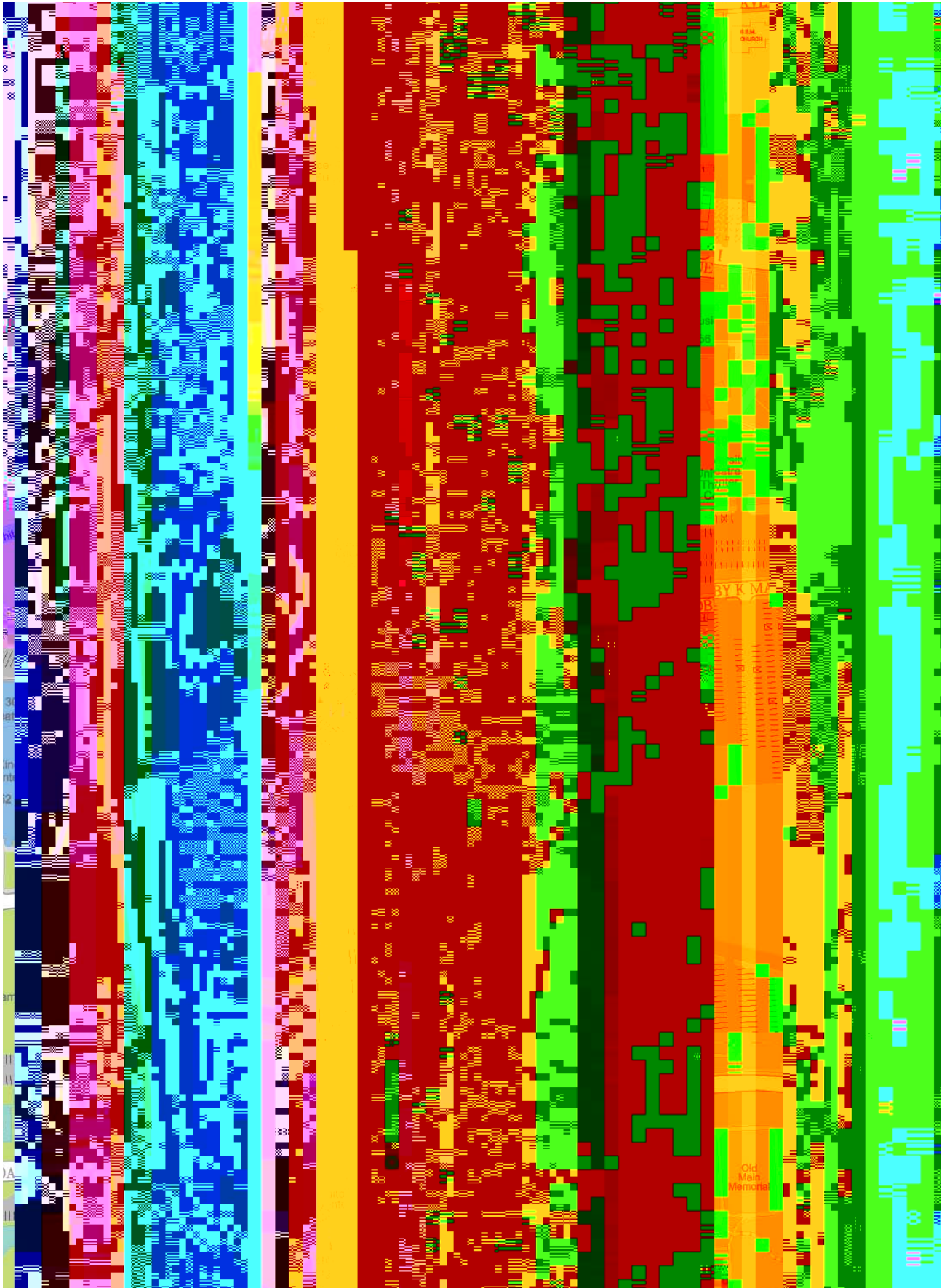






Campus Map





Session A

9:00-10:15

**ROOM
206**

Psychology and Criminal Justice I

Nievesha Birdine

Lizette Andrade

Catherine Stallard

Christopher Holmes and Kayla McCarns

**ROOM
220**

History: New Harmony Panel

Uncovering New Harmony

Elissa Aquino, Ashlei Brooks, Jordan Martinek, Luis Ochoa, Michele Robertson

Faculty Advisor: Dr. Zachary Doleshal

**ROOM
226**

Literature: Archetypes

Fallen Heroes

Preston Balluck

Faculty Advisor: Dr. Michael Demson

Auden as Hephaistos

Clayton Bradshaw

Faculty Advisor: Dr. Tracy Bilsing

Challenging God, Gender, and Justice: A Feminist Philosophical and Sociological Analysis Towards Frankenstein

Cheyenne Moore

Faculty Advisor: Dr. Kandi Tayebi

The Modern Epic: Deadpool

Paige Nelson

Faculty Advisor: Chris Foster

Perspectives on Science Teacher Professional Development
Travis Hites and Katrina Reeves

The Changing Male Voice: Classifications, Strategies, and How to be a Better Teacher
True Hernandez

Our Common World
Amanda Henehan and Kindall Jackson

The Player and the Pawn: An Analysis of Geoffrey Chaucer's Narrators in Book of the Duchess and House of Fame
Elisa Holcomb and Angela Shackelford

Session A

9:00-10:15

ROOM
262 Cultural History

Unlocking the Mystery of Ritual and Trophy Skulls
Natasha Clontz and Ashley Nguyen

*When Numbers and Words Collide: The Hidden Mathematics In
Geoffrey Chaucer's Book of the Duchess*
Tyler Josefsen

"Water Music" and the Gender Identity It Establishes in Vanuatu
Hannah Talton

The Historical Erasure of the LGBTQ Community
London Sneden

ROOM
206 Literature: Love and Hate

Love - An Exploration into Emotion and its Effects

Mark Reyes

Faculty Advisor: Dr. Maria Holmes

Metaphors and Suicide: A Study of Sylvia Plath's Canon

Kristina Lewis

Faculty Advisor: Dr. Gene Young

Love and the Conquering of Women

Haven Gomez

Faculty Advisor: Dr. Michael Demson

Rape Ideology in Ancient Mythology

Ashlee Fuller

Faculty Advisor: Dr. Michael Demson

Playing with God: Games and the Divine in Geoffrey Chaucer's Book of the Duchess

Daniel Agey

Session B

10:30-11:45

ROOM
262 History: National and Regional

Espionage in the American Revolution: The Culper Spy Ring
Miranda Sandlin

Neither Citizen nor Slave: The Choctaw Freedmen
North Oldham

Texas Settlement – Deception in the German Hills
Briana Weaver

Religion in America
Amy West

Why are North American Frogs Less Diverse than South American Ones?

Sonali Aggarwal

Faculty Advisor: Dr. Patrick Lewis

The Economic Ripple of the Blue Bell Shutdown

Preston Balluck

Faculty Advisor: Dr. Michael Demson

Evolution of Body Plans: Why Have No New Body Phyla Evolved?

Ashley Barragan

Faculty Advisor: Dr. Patrick Lewis

Descriptive Comparisons Between Inpatient Incompetence to Stand Trial

Populations in Forensic Hospitals

Laura Beene, Brandon Hollingsworth, Kevin R. Kurian, Billy James, Michael Jumes

Faculty Advisor: Dr. Adam Schmidt

Science and Humanities: The Role of Foreign Language Skills in Anatomy

Sarah Bivens, Chris Bell, Juan Diego Daza, Patrick Lewis

Faculty Advisor: Dr. Patrick Lewis

The Importance and Use of Play in Schools

Christina Blackmon, Aimee Sambrano, Ana Sanchez, Laura Flores, Tujuanna Dixon

Faculty Advisor: Dr. Elizabeth Lasley

Preventing Sexual Harrasment in the Workplace

Chaucer's Portrayal of the Divine Sisters, Fortuna and Fama

Haley Crenwelge, Claudia Valle

Faculty Advisor: Dr. Kimberly Bell

The Existence of Harry Mason

Jaren Crist

Faculty Advisor: Dr. Maria Botero

A Game of Chess with Fortuna in Chaucer's Book of the Duchess

Amber Crouch and Diana Martell

Faculty Advisor: Dr. Kimberly Bell

The Importance of Play

Elizabeth Cunningham, Ieshia Goosby, Rachel Lechmann, Kelly Ong, Cassie Zurovec

Faculty Advisor: Dr. Elizabeth Lasley

Practicality vs. Human Life in Food Politics

Elizabeth Crenwelge, Haley Crenwelge, Claudia Valle, Jaren Crist, Amber Crouch, Diana Martell

Faculty Advisor: Dr. Michael Demson

Genetically Modified Organisms and the General Public

Heather Deel

Faculty Advisor: Dr. Michael Demson

The Development of the Victorian Asylum

Rylea Ducote

Faculty Advisor: Dr. Audrey Murfin

A Comparison of Heart Rate Between Established Methods and Smart Phone Application

Raunce Ellis and Christina Waters

Faculty Advisor: Dr. Page Glave

Jaw-musculature in Primates as an Effect of Evolutionary Dynamics Driven by Changing Dietary Habits

Christiana Fakhri

Faculty Advisor: Dr. Patrick Be IO TmM369t1o 54 448.298 9(onkDrivTc.Ph9(ellyTc-)-8 TD2 T-)-1 Tv000mart Phone Applic

The Truths about Wild Caught Salmon

Agom Menyuah

Faculty Advisor: Maki Hatanaka

Variation in Mandibular Anatomy of Zygaspis based on X-ray Computed Tomography

Sarai Mesa, Lauren Rudie, Sarah Bivens, and Dr. Juan D. Daza

Faculty Advisor: Dr. Patrick Lewis

Mathematical Modeling of the ANWR Ecosystem

Abigail Miller and Chris Johlle

Faculty Advisor: Dr. John Alford and Dr. Edward Swim

Why Haven't More Invertebrates Evolved Flight?

Shyon Motlagh

Faculty Advisor: Dr. Patrick Lewis

An Investigation of Magnetic Grain Sizes in Marine Sediments Cored at Site U1387 Off the Margin of Spain and Portugal

Matthew Nowicki, Syukri Aviscenna, Cameron Currier

Faculty Advisor and Co-researcher: Gary Acton

Coral Bleaching: Causes and Consequences with Emphasis on The Effect of Climate Change

Daniel Nwosuocha

Faculty Advisor: Dr. Diane Neudorf

A Clean Purple Sweep: Gold Bioremediation Using Rhodobacter sphaeroides

Caroline Obkirchner and Hannah Johnson

Faculty Advisor and Co-researcher: Dr. Choudhary

Study of Shifting Oral and Fecal Skin Bacterial Communities during Human Cadaver Decomposition in Southeast Texas

Laura Paez, Lauren R. Smith, Joseph F. Petrosino, Sibyl R. Bucheli

Faculty Advisor and Co-researcher: Dr. Aaron Lynne

Living Arrangements for the Elderly

Kaitlin Patterson

Faculty Advisor: Dr. Victoria Titterington

What Really Went Wrong with Blue Bell?

John Pinard

Faculty Advisor: Dr. Michael Demson

Corporate Influence on Health Standards and Public Opinion

Brenna Pospisil

Faculty Advisor: Dr. Michael Demson

Using Magnetic Susceptibility and Stable Isotopes to Correlate Outcrops of the Engadine Group within the Hiawatcha National Forest of the Upper Peninsula, MI

Mallory Ramos, Jordan Vega, Allison Quiroga, Isaac Burton, Erik Larson

Faculty Advisor and Co-researcher: Dr. Jonathon Sumrall

Industrialization & Immigration, Chicago, IL (1870-1920)

Gabriela Rangel

Faculty Advisor: Dr. Katherine Gaskamp

Building a Dream World: Symbols of Instability in Chaucer's Book of the Duchess and The House of Fame

Elizabeth Resch, Erin Wiggins

Faculty Advisor: Dr. Kimberly Bell

The Effects of Team Instruction on Scores in a Team-Based Learning Course

Jaclyn Robinson, L. A. Wolfskill, and Shyam S. Nair

Faculty Advisor and Co-researcher: Dr. Foy D. Mills, Jr.

Effect of UV Exposure on recA Mutant of Rhodobacter sphaeroides
Veronica Rodriguez, Wanji, Banda, Berra Koskulu, Hannah Johnson
Faculty Advisor and Co-researcher: Dr. Choudhary

The First Record of Wormian Bones in Lizards
Lauren Rudie, Sarai Mesa, Juan D. Daza
Faculty Advisor and Co-researcher: Dr. Patrick Lewis

Analysis of Monotheistic Religions and Their Afterlives
Angela Schackelford
Faculty Advisor: Dr. Jason Payton

Petrographic Analysis of Bahamian Paleosols
Kristen Sides and Jeanne Sumrall
Faculty Advisor: Dr. Jonathon Sumrall

Transient Depersonalization-Derealization: a Neuroscientific Review
Catherine Stallard
Faculty Advisor: Sharon Hunter

Characterization of the Apocynaceae Family for the Presence of Bioactive Compounds
Alison Stephens, Dr. Justin Williams, Dr. Donovan Haines
Faculty Advisor and Co-researcher: Dr. Anne Galliard

Brenham and Blue Bell
Morgan Stickley
Faculty Advisor: Dr. Michael Demson

Incorporating Classroom Research to Clarify Common Misconceptions in Genetics
Melissa Sutrisno, Gabreal Geleta, Hannah Johnson
Faculty Advisor and Co-researcher: Dr. Choudhary

The Blue Bell Incident, and Why the FDA Needs Money
Connor Tones
Faculty Advisor: Dr. Michael Demson

“Wash My What?”
Asia Williams
Faculty Advisor: Dr. Michael Demson

Vietnam POW/MIA Awareness
Danica Brett Yates
Faculty Advisor: Dr. Tracy Bilsing

Understanding Messianism

Emily Essman

Faculty Advisor: Dr. Jason Payton

A Study of Language and Cultural Progression in the Bible: Two Lexical Illustrations

Rebekah Scholz

Faculty Advisor: Dr. Helena Halmari

Native Culture as Reflected in Creation Mythology

Sarah Daniels

Faculty Advisor: Dr. Jason Payton

The Misconceptions of Satan

Natasha Suza

Faculty Advisor: Dr. Jason Payton

Sex, Lies And Videotape: A New Era of Cinema

Jake Bevill

Faculty Advisor: Dr. Grant Wiedenfeld

Walt Disney's Multipanel Camera

Tara Cole

Faculty Advisor: Dr. Grant Wiedenfeld

The Influence of Structuralist Filmmaker James Benning

Rylee Henson

Faculty Advisor: Dr. Grant Wiedenfeld

Science Fiction's Future

Deysi Marquez

Session D

2:45-4:00

ROOM
242B Business and Politics

Analysis of The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010: Causes and Effects

Lauren McCollum

Evolution of the Resumé

Savannah Turner

#Mudslinging on Twitter: When Twitter Fingers Become Trigger Fingers

Alexis Gonzales and Sean Smith

Oral-Media Abstracts

Agey, Daniel

Playing with God: Games and the Divine in Geoffrey Chaucer's Book of the Duchess

Chaucer's *The Book of the Duchess* was assumable composed in memory of Blanche of Lancaster, the deceased wife of Chaucer's patron, John of Gaunt. However, *The Book of the Duchess* is a dream vision structured as a series of games and not standard memorial elegy. Yet, each game in the text subtly connects to the divine. In this way, *The Book of the Duchess* acts as a consolation by delivering the message to focus on God. By using games to highlight this message, Chaucer's delivery is both innovative and indirect and thus avoids the message being misinterpreted as the directions of an earthly man.

Akin, Amber

The Avoidance of Epidemics in Animal Shelters

Contrary to what the public believes, animal shelters are not the source of diseases among animals. Animals that are being brought in are bringing unknown pathogens to the shelter and if not treated correctly, will spread to the entire shelter, making it impossible to get the animals adopted out. In trying to avoid such epidemics, we need to first understand what we are trying to keep from spreading. This paper will look at multiple common diseases/ viruses to further understand how they are spreading. Once there is a better understanding, it will be easier to find ways to stop an epidemic. With the correct preventative methods we will be able to adopt out more animals to happy, loving homes.

Andrade, Lizette

Impact of Drug Use on Families: A Scientific and Personal Review

Drug use is a common issue many encounter on a daily basis. With every drug use, the user and even the families, come into contact with problems. But it seems when parents use drugs, the problems hit the family members twice as hard. For instance, if there are children involved, there are two possible outcomes; they can turn to drugs, like their parents, or they can be taken away and forced to live elsewhere. Not every family will face the same problems, but they all share one thing in common: the negative outcomes. In this presentation, the presenter will discuss the scientific literature surrounding drug use within a family, the consequences on the family, and provide personal insight to the troubles families face when seeking help.

Aquino, Elissa, Ashlei Brooks, Jordan Martinek, Luis Ochoa, Michelle Robertson

Uncovering New Harmony

This panel will present the results of a semester long research project into the history of the New Harmony Settlement, a model-farming village created by George Washington Grant soon after the close of the Civil War. The settlement was meant to embrace the promise of Reconstruction, seeking to build an integrated community a few miles to the east of Huntsville. Quaker educators were brought in, churches were built, and several agricultural gins and mills began whirring. Yet it seems that only freed blacks took Grant up on his offer to settle in the colony. Grant died in 1899, but little is known as to what happened in the colony. We do know that after World War One most of the land was broken up and sold off to the National Forest Service in 1936. The panel will reveal its findings for the first time to the public at the U.R.S.

Balluck, Preston

Fallen Heroes

This paper examines the distinct archetype of fallen heroes in literature, graphic novels, and film, in order to extrapolate a firmer definition of the 'fallen hero'. Upon further examination, many of literatures greatest antagonists should actually be considered fallen heroes based upon the establishment of new criteria discussed in this paper. This examination brings to light the pasts of Lucifer, Ganelon, Saurumon, and Darth Vader, which are often forgotten in light of a their future actions, which should be used to evolve our understanding of what is three main literary archetypes, not two.

Bevill, Jake

Sex, Lies And Videotape: A New Era of Cinema

At the end of the 1980's, the film industry was undergoing a backlash: in opposition to the overzealous budgets and eccentric storytelling of American 1980's films, the success of *Sex, Lies and Videotape*, a low budget debut from director Steven Soderbergh in 1989, marked the beginning of a new era of Cinema and saw the birth of a generation of filmmakers who opposed the Hollywood system, deciding to produce and distribute their films independently. In my presentation, I will analyze the trends in filmmaking set by Hollywood in the 1980's and how Independent Cinema defied those conventions, using *Sex, Lies and Videotape* as the primary example. I will

also be noting the influence of the french new wave movement of the 1960's and Dogme 95 on the stylistic and narrative trends of American Independent Cinema, referencing films such as *Slacker* by Richard Linklater and *Elephant* by Gus Van Sant.

Birdine, Nieesha

Examining the Academic Success, Retention, and College Completion of First Generation Students of Color

First-generation students, especially those of color, are more likely to fall short of completing their college degree. The research done in this literature review will examine the different determining factors that will aid in the retention of first-generation students of color.

Bivens, Sarah

Geoffrey "Big Ego" Chaucer: The Man of Authority and the Great Game of Metaphor

Geoffrey Chaucer's early dream vision *House of Fame* ends mid-sentence with "But he seemed for to be / A man of gret auctoryty....," leaving the audience to wonder who indeed this man might be. Through the transfer of knowledge, cultural, and political authority from one empire to another (known as *translatio studii et imperii*), Chaucer constructs a wild game of metaphor in *House of Fame* from start to finish. This presentation will show just how Chaucer uses *translatio* to inarguably establish himself as the man of ultimate authority in regards to culture, language, and translation.

Bradshaw, Clayton

Auden as Hephaistos

This presentation explores the motivations and message of W.H. Auden's "The Shield of Achilles." Auden grew up surrounded by his father's obsession with Greek mythology, so it only makes sense that he would turn to mythology to present truths in literature. Disappointed by his early attempts at activist poetry, he used Homer's shield passage from *The Iliad* to address concerns over post-World War II society in his own ekphrastic attempt. W.H. Auden considered himself as a modern day Hephaistos, utilizing his craft to bring realistic imagery in a criticism of war-driven society.

Brega, Melanie

Leslie Marmon Silko's Use of Landscape and Color in "Yellow Woman"

This research explores Leslie Marmon Silko's use of color within the landscape in her short story "Yellow Woman." Silko primarily draws upon the Laguna Pueblo culture, storytelling, and lore in order to enrich her main character's journey into a mythical space where she gains both understanding and appreciation for her Native American heritage. Silko embeds Laguna Pueblo culture in her story deliberately, especially through color, to reveal the rich quality of the heritage and to challenge pre-conceived notions of Native American lifestyle.

Brenek, Austin, Christopher Randle

Assessment of Reproductive Death in Marginal Populations of Buffalonut (*Pyrolaria pubera*), a Dioecious Parasitic Shrub.

The Buffalonut (*Pyrolaria pubera*) of the family *Cervantesiaceae* is a hemi-parasitic shrub that inhabits the understory of forests of the Appalachian Mountains from northern Alabama through southwestern Pennsylvania, where it is listed as rare. Pennsylvania populations have come under special threat due to deer-browsing. *P. pubera* is dioecious and is also capable of asexual reproduction by rhizomatous growth. In this study we assess the reproductive health of SW Pennsylvania populations of *P. pubera* experiencing a spectrum of herbivory. A census was taken at each of four sites at anthesis of female flowers to estimate 1) the number of male and female plants belonging to the population, 2) the number of male and female flowers present, and 3) pollen to ovule ratio. Populations vary considerably in potential for sexual reproduction, likely due to extremely small census size.

Breuer, Matthew, Terah Hardcastle, Anne Gaillard

Using Two-Dimensional Gel Electrophoresis to Isolate a Potential p53-like Protein from *Chlamydomonas reinhardtii*

Programmed cell death (PCD) is a form of cell death which results from a series of intracellular molecular events. One of the most well-studied molecules in this pathway is p53, a transcription factor which performs multiple functions in the PCD process in vertebrates. The goal of this project is to determine if a p53-like protein is present in the unicellular chlorophyte *Chlamydomonas reinhardtii*, since it is also capable of undergoing PCD. Previous wet-lab approaches demonstrate that a *C. reinhardtii* protein weighing approximately 53 kD is recognized by three anti-p53 monoclonal antibodies. The goal of this project is to isolate this potential p53-like protein from a whole cell extract of *C. reinhardtii* in order to have it sequenced. Here, we seek to spatially separate this polypeptide from other proteins in the sample using two-dimensional gel electrophoresis (2DGE). Experiments are currently underway and

show significant promise for the isolation of this polypeptide.

Burns, Savannah

The Ocean

In this essay, I will compare and contrast the portrayals of the ocean within two Old English elegiac poems, "The Wanderer" and "The Seafarer." Specifically, I will investigate the distribution and use of three lexical elements—heart, spirit, and mind—in order to show how, through the use of these words, the poet-narrators are projecting their emotions onto the ocean. The ocean, in both poems, becomes a double-entendre, representing each narrator's physical and spiritual state.

Byington, Meaghan

The Future of Independent Medical Practices

The future of independent, privately owned medical practices is entirely uncertain. Many doctors believe these

seats in 2014 used Twitter during the last two months of their campaign. Using a content analysis of every tweet sent by all candidates for both the U.S. House and Senate, we show that particular individual-level and campaign specific characteristics are related to whether and how often candidates go negative on Twitter. In particular, we show that there are differences based on competitiveness, incumbency, gender, and partisanship. The timing of the negative tweets is also explored.

Hale, Mason, Taylor Zobrist, Marcy M. Beverly Ph.D., Stanley F. Kelley, Ph.D., Mark Anderson, Ph.D., Jessica Leatherwood, Ph.D., Kyle Stutts, Ph.D.

Evaluation of a Feed Supplement and its Effects on Feed Intake in Whitetail Deer

This study focused on increasing feed intake during warm months of the year with a ration containing an additive believed to reduce body temperature. Forty deer were grouped by sex and age. A control and test feed was provided to the deer *ad libitum*. Eating patterns of deer fed the control vs test ration were monitored using game-cameras. The test group had a longer average overall time at the feeder ($P < 0.01$) due to a tendency ($P = 0.10$) for more time at the feeder in the morning. An increased feeding time was seen in the test group during the evenings, time at the feeder was the lowest ($P < 0.01$) for both treatments during this peak temperature interval when compared to cooler intervals. The test ration did increase overall time at the feeder, it did not affect the feeding time during the hottest part of the day as predicted.

Hammack, David, Austin Brenek, Alan Byboth, Kenneth Nobleza

A study in Cactus Conservation by Means of Hydroponics

There are over 800 endangered species of cactus. Current conservation methods are difficult due to lack of volunteers, funding, and awareness. Traditional soil/container methods require more labor and space than is practical. Most plants, including cacti, thrive in hydroponic systems for several reasons: each plant receives maximum nutrients, there is little competition for space, the apparatus requires less space compared to traditional propagation, and the apparatus can be sterilized easier. I have built a simple, inexpensive system for hydroponic propagation of cacti within the greenhouse at the SHSU Center for Biological Field Studies with the assistance of Alan Byboth, Austin Brenek, and Dr. Chris Randle. The study organism is *Echinocereus reichenbachii*, a widely cultivated species. Data will be recorded for two seasons. I hope that this experiment will bring the utility of hydroponic cultivation to the attention of conservationists working in *Cactaceae* and other plants.

Harbaugh, Katelyn, Martez Jones

Radio Frequency Identification: Its Past, Present, and Future

This paper will inform the audience about Radio Frequency Identification (RFID) by discussing its history, how it is used today, and how it can be used in the future. Sources of information will include academic journals and a book on RFID written by an SHSU faculty member. RFID is a rapidly developing technology that is currently used in a variety of industries, such as: retail inventory, hospitals, credit card companies, and libraries. Through ongoing research and development RFID has the potential to have a greater impact in even more industries. This paper will give a more detailed account of these current and future uses.

Henson, Rylee

The Influence of Structuralist Filmmaker James Benning

I will be discussing James Benning, an American experimental filmmaker. The presentation will situate his work within the Structuralist movement, and describe his influence on my own filmmaking and video art. Structuralist filmmakers organize their content around abstract patterns and formulae to represent one idea, rather than following traditional narrative. The presentation will include clips on both Benning's work and my own.

Hernandez, True

The Changing Male Voice: Classifications, Strategies, and How to be a Better Teacher

The presentation is based upon a literature review and research from several theorists and educators from around the country and their research on the changing male voice, its classification, and how one's teaching would be influenced and changed based upon the needs of the students. The approach to teaching differs upon the types and voice classifications of singers in the classroom. Adolescent males go through their voice change at all different ages, starting typically from ages 10 to 15. The techniques one would use in a music classroom would differ and have to be edited upon the different stages and classifications the students' voices were in. These approaches, changes, and strategies are used from information gathered from Dr. Terry J. Barham's collection of interviews entitled *Strategies for Teaching Junior High and Middle School Male Singers*, as well as other theses, books, and education resources, such as DVDs and interviews.

Hites, Travis, Katrina Reeves, Andrea Foster, Renee James, Ph.D

Perspectives on Science Teacher Professional Development

The Astronomy Summer School of East Texas (ASSET) is a two-year teacher professional development program created to help improve secondary school science teachers' knowledge of and attitudes towards Astronomy. Teachers are taught Astronomy concepts and principles through engaging pedagogical techniques. Participants were interviewed before, during, and after the workshop to ascertain their perspectives and understanding of Astronomy. We gauged the effectiveness of the workshop by administering a pre/post content survey. Similar surveys were also administered to the teachers' students in an effort to determine the extent to which teacher's gains were transferred to their students.

Holcomb, Elisa, Angela Shackelford

The Player and the Pawn: An Analysis of Chaucer's Early Narrators

In his early poems, *Book of the Duchess* and *House of Fame*, Chaucer experiments with narrators who recount their fictional dream experiences. Medieval dream narratives typically adhere to certain conventions, including having a problem or issue brought up by the narrator while he is awake, and then finding a solution to the problem in the dream itself that he recounts to his audience. The narrators in these two dream visions each engages in the creative act of turning a dream into a verse, but they undergo vastly different experiences: the narrator in *Book of the Duchess* is an insomniac, who searches for sleep and finds himself in a fictional world constructed by others, namely Ovid and Virgil; in contrast, the narrator in *House of Fame* simply wants to tell a truly exceptional story, and thus he adopts old stories and transforms them into new works.

Holmes, Christopher, Kayla McCarns

The Link Between the Usage of Alcohol or Opioids and Mental Health Among Recently Released Inmates

Research suggests that people with a history of alcoholism and people who abuse depressant-type drugs have a more difficult time readjusting to society after release from long-term incarceration. Reintegration is tougher for those with a lack of emotional support, education, or other core elements. Using data acquired from the Serious and Violent Offender Reentry Initiative (SVORI), we will discuss the effects of alcoholism and depressant-type drug abuse on the individual offender's mental health. Results will be discussed during the presentation.

Jacobs, Brian

The Death of God, Active Nihilism, and the Dionysian Aspect of the Self

The death of God is a common and recurring concept put forward by German philosopher, Friedrich Nietzsche, through his multiple philosophical works. The notion of the death of God is wielded by Nietzsche as a tool with the goal of influencing the minds of his readers in order to promote the acceptance of certain philosophical principles, specifically the doctrine of active nihilism and the embracement of the Dionysian aspect of the self. Such principles are also heralded and promoted in a variety of other Nietzschean themes, specifically in "the eternal recurrence of the same", "the will to power", and "the overcoming of idols". The overall theme of the concept of the death of God is not constrained to the writings of Nietzsche as such a theme can be gleaned and deciphered in a variety of ways within select writings from Dostoevsky, Kierkegaard, Shakespeare, and Heidegger.

Jackson, Kindall, Amanda Henehan

Our Common World

Responding to the writing of Paulo Freire and other radical pedagogists who sought to reform the centripetal "banking model of education," which privileges memorization over critical engagement and adherence to classroom etiquette over dialogical discourse, Dr. Demson collaborated with us to create a textbook that makes an attempt to resolve the growing alienation of students from the materials they study. Concerned that the highly unstable nature of the classroom, stratified in such a way that the teacher is thought to "lose control" if students express a dissenting opinion, deters rather than fosters a sense of academic investment, we developed the groundwork for a book that necessitates a conversation between the students and their community. In undertaking this project, we hoped to refine the unique voice of each student through the writing process and through a series of unusual assignments, governed by the centrifugal disciplines of ecopedagogy and radical pedagogy.

Johnson, Andrew

The Impact of Confinement Practices on Family-Owned Hog Operations

Members of the American public have ethical concerns about confinement agricultural operations, especially regarding swine production. These unfounded concerns stemming from myths about 'factory farming' are causing consumer fads that place more emphasis on impractical, old-fashioned food production processes that are incompatible with today's need for a food supply that is safe and plentiful enough to feed a burgeoning global population despite decreases in human capital and the availability of agricultural inputs. Animal agriculturists must

take responsibility for initiating a dialogue with the various consumer interest groups and other parties concerned with the rights/welfare of the animals involved to insure their way of life is not irrevocably altered and that the food supply so many Americans take for granted is not endangered.

Josefsen, Tyler

When Numbers and Words Collide: The Hidden Mathematics In Geoffrey Chaucer's Book of the Duchess

Mathematics works with three dimensions, while literature lies within a two-dimensional text. What happens, though, when a literary composition is read in three dimensions? This presentation will illustrate how mathematics holds the key to understanding one of Chaucer's most complicated works, *Book of the Duchess*. If we read *Book*

cadaver decomposed faster than the water-placed cadaver. Further decomposition analysis will be presented during the symposium.

Oldham, North

Neither Citizen nor Slave: The Choctaw Freedmen

The Choctaw Indians of present-day Mississippi found themselves surrounded by European settlers colonizing their burgeoning United States. In an effort to assimilate to new technologies and customs, they adopted the practice of slavery in an effort to not only adopt racial superiority to African slaves, but to blend in with those white contemporaries they struggled so hard to gain equality with for themselves. This study will examine the practice of slavery from Mississippi that was transplanted to Indian Territory west of the Mississippi River with the removal of

Scholz, Rebekah

A Study of Language and Cultural Progression in the Bible: Two Lexical Illustrations

Because of the Bible's long life, its language has undergone great change. This is a significant example of how language itself develops over time. In this study, I have compared the use of words in two English translations of the Bible published over 350 years apart: the King James Version (1611) and the New Language Translation (1996). Focusing on two words, "brethren" and "angel," has allowed me to identify changes in two areas: political correctness regarding gender and the Christian connotation of angels. As cultures evolve, biblical revisions, along with revisions of all literature, will reflect those changes.

Snedden, London

The Historical Erasure of the LGBTQ Community

After a visit to a Holocaust Museum, the author questions the lack of representation that homosexuals receive in regards to the Holocaust. The presenter sets out to investigate and answer three questions. 1. Is sexuality, being a culturally controversial subject, the main reason for the non-recognition of this group (originally in reference of the Holocaust)? 2. Were they too small a portion of the population to be represented (also originally in reference to the Holocaust)? 3. In what other ways has the LGBTQ population possibly experienced historical erasure? To answer this, the author explores the historical presence of, attitudes towards, and treatment of homosexuality/homosexuals, from ancient civilizations up to the modern day Gay Right's Movement, wrapping up by reflecting on the three proposed questions, concluding that the LGBTQ community has faced erasure in every aspect due to discrimination, and in what ways the academic inclusion of LGBTQ history is important.

Stallard, Catherine

Levels of Control: The Function of Transient Depersonalization-Derealization Episodes in College Populations

Depersonalization-derealization disorder has gained attention as a psychological phenomenon in recent years within the realm of dissociative disorders. Transient depersonalization-derealization episodes have been a less focused on phenomenon within the disorder whose symptoms are prevalent in the general population. This paper briefly discusses the neurobiological function of chronic depersonalization-derealization disorder and provides a description for function of transient depersonalization-derealization episodes through a model of cognitive control. This model describes levels of cognitive control and illustrates the function of transient depersonalization-derealization episodes that flow through a fully-conscious base level, through an onset unconscious level, a partial conscious level, and ending in a fully-conscious level again. Additionally, this article will illustrate an experiment testing transient depersonalization-derealization in the college population.

Stanton, Robert, Jacob Perry, Darren Williams, Ph.D

The Replacement of Trichloroethylene and n-Propyl Bromide in Vapor Degreasing for Military Applications

The goal of this Department of Defense funded research is to find replacement solvent blends for trichloroethylene (TCE) and n-propyl bromide (nPB) in vapor degreasing (VDG) operations. The requirements for replacement azeotropes are that the blends are not hazardous air pollutants (HAP), volatile organic compound (VOC) solvents, ozone depleting solvents (ODS), and all solvents must have a low global warming potential (GWP). A new vial test method was generated to test numerous solvents and solvent blends at once. The new method was used to test TCE, nPB, and the azeotropes in their ability to dissolve or displace marine grade grease. Further testing was completed with a Branson 125 vapor degreaser. The blends were not as efficient as TCE and nPB to remove marine grade grease in testing but were successful at removing some of the grease.

Szuja, Natasha

The Misconceptions of Satan

I drew my research from the Oxford Study Bible, Jewish texts, books, and articles which have relevant pertinence to my topic. With my research I hope to derail the basic assumptive concepts which western culture has built around the Christian interpretation of Satan. Currently American politics are progressing in a manner that preferences Christian morals and beliefs. The general agreement on the theological nature of Satan is a fundamental Christian axiom. By revealing misconceptions on such a basic topic due the singularity of the culture that most Americans are immersed in, I hope to draw awareness to the fact that if Christians in America can be so misled about a basic theological concept within their own religion, they can begin to question what the media tells them about other religions around the world which have also been similarly portrayed in only one light or aspect.

Talton, Hann

is composed of musical splashing sounds as well as accompanying vocal melodies. This traditional performance practice by women in Vanuatu is a unique part of their cultural identity. I plan to do a multimedia presentation including sound and video examples to showcase the Vanuatu musical environment. The Vanuatu musical identity is one brimming with historical expression.

Turner, Savannah, Kathryn O'Neill

Evolution of the Resumé

Based on research conducted in 1984 and 1997, work experience, education and professional objectives are most sought after by hiring professionals. In this current research, we explore whether or not the presentation of this information is equally as important as the information itself. Professionals can choose between traditional and graphic resumé. Graphic resúmes contain the same information as traditional resúmes; however, these resúmes portray the information with images, color, and more diverse layout choices. Careers and companies founded in tradition tend to only seek applicants with traditional resúmes; whereas, companies and careers seeking creativity and innovation encourage the use of graphic resúmes. Social resúmes also affect the hiring process. In certain hiring situations, employers will research a possible hire's social media accounts, including LinkedIn, Facebook, Twitter, and Pinterest, to gain further understanding of the applicant's ability to fit within the culture of the company.

Vega, Jordan, J.B. Sumrall, E.B. Larson

Cementation History within the Silurian Carbonates of the Hiawatha National Forest, Michigan

Refinement of the Silurian stratigraphy to outcrop scale field observations has been extremely challenging within the Hiawatha Forest (HNF) of the Upper Peninsula of Michigan. Samples were analyzed petrographically and geochemically. These data were used to delineate the Cordell Formation of the Manistique Group, and the Rockview, Rapson Creek, and Bush Bay Formations of the Engadine Group. The dolomite cements filling pores space were utilized in this research in differentiating these units. Dolomite cements were analyzed optically using cathodoluminescence microscopy (CL). Three types of cements have been observed, specific to the two groups (the Engadine and Manistique). These cements show repetitive zoning of differing colors and intensities. Bulk elemental data indicates that the Engadine differs in the amount of activators (e.g. Mn²⁺) and quenchers (e.g. Fe²⁺) from the Manistique

Velez, Yamilex

Euthanasia and Its Lingering Impact

Euthanasia is the decision of a terminally ill person to end their life due to agonizing pain or suffering. There are two kinds of euthanasia: passive where the doctor withdraws necessary life treatment for the individual and active euthanasia where an act is conducted to cause death. This paper focuses on the moral implications of passive involuntary euthanasia --a form of euthanasia where the end of life decision is made by the next of kin instead of the individual. These are referred to as special cases because the concept of self-determination, deciding what is best for one's self, cannot be exercised by the individual but has to be exercised by the next of kin on their behalf. I will argue that to facilitate this difficult decision for families on behalf of their loved ones, both active and passive euthanasia should be available.

Voge, Kayla

A Dance Through Chaucer's Court

Games are goal-oriented systems governed by rules and played by willing participy lifGafuncormati(tain))TJ TD-.0001 Tc.

suggest a reevaluation of Meusebach's effort and present a man whose incompetence, neglect and arrogance assisted in the organization's bankruptcy and eventual collapse along with the countless amount of poor lost souls who perished.

West, Amy

Religion in America

For this presentation, religion in America will be the main subject matter. The presenter will later go into a detailed discussion using an in depth analysis of the way religion and politics have an impact on American Society. Further discussion will focus on religion and the American Presidency and Presidential rhetoric, as well as how the right and left perceive religion on the political spectrum. In addition, the presenter will talk about how attending a university can impact a student's religious participation during college. Although many sources were used for this research, the presentation will rely heavily on primary sources such as Presidential interviews and speeches, as well as statistical data that illustrates how Americans feel about religion in today's society.

Poster Abstracts

Aggarwal, Sonali

Why are North American Frogs Less Diverse than South American Ones?

Greater diversity is seen in the tropics for a wide range of taxa. This pattern is called the latitudinal diversity gradient. Specifically, a divergence is seen in North and South American frog populations. Many theories have attempted to explain this phenomena. Such hypotheses include: the tropical and niche conservation hypotheses, the out-of-the-tropics model, and diversification rate hypothesis. The mechanism explaining this occurrence may be because of glaciation and other geological events as well. Despite these competing theories, such differences are obvious and can be difficult to understand the mechanism.

Balluck, Preston

The Economic Ripple Effect of the Blue Bell Shutdown

This research examines the economic ripple effect that occurred after the Blue Bell shutdown in 2015. This ripple effect had a greater effect than just a loss of ice cream, one which was felt in multiple industries. Starting with the main Blue Bell plant in Brenham and using it as the epicenter, three industries were chosen as the primary focus: the dairy industry, the oil and gas industry, and the grocery industry. Using an economic analysis will show that the shutdown of 2015 had varying financial results.

Barragan, Ashley

Evolution of Body Plans: Why Have No New Body Phyla Evolved?

The wonder of evolution is its diversity of form, and to this day all descriptions of diversity are classified using the term phylum. Each phylum is usually mapped to its own body plan which leads to the argument, why have no new body plans (phyla) evolved in the past 500 years. The phylum and body plans have had little to no changes, while the class- and family-level body plans have had significant changes since the Cambrian explosion. Fitness landscape provides a way of discerning the interactions between evolving potential and the evolutionary success which will be explored to give reason as to why no new adjustments have been made to the phyla body plans.

Beene, Laura, Brandon Hollingsworth, Keven R. Kurian, Billy James, Michael James

Descriptive Comparisons Between Inpatient Incompetence to Stand Trial Populations in Forensic Hospitals

Forensic hospitals nationwide typically do not report their state and regional population statistics, making it difficult to offer comparison of norms (Way, Dvoskin, & Steadman, 1991). Kerrville State Hospital (KSH) is the only state hospital that is exclusively forensic in its mission. As such, it has a unique population of patients that are deemed incompetent to stand trial (IST), with some patients requiring longer term care in cases where competency is unlikely to be restored. This study presents demographic data of IST patients committed to KSH before January 1st, 2015 and makes comparisons to available data from other inpatient forensic populations in the United States. Variables of interest include demographics such as age, gender, ethnicity, and primary psychiatric diagnoses. Implications for mental health practitioners and criminal justice personnel are discussed. Additionally, this study contributes to a much needed archive of descriptive information regarding forensic populations in the United States.

Bivens, Sarah, Chris Bell, Juan D. Daza, Ph.D

Science and Humanities: The Role of Foreign Language Skills in Anatomy

German scientific journals, many dating to the 1920's, are critical to understanding the muscular anatomy of the reptile family *Amphisbaena*, called worm-lizards. Several research projects in the Biology department regarding the anatomy of these unusual reptiles require the information in these articles to proceed. In particular, I need this information for my project, which entails the first digital dissection of jaw muscles for the Amphisbaenids. Little is known about the form and function of the Amphisbaenid jaw; specimens are rare, small in size, and restricted to areas in the Neotropics. As such, traditional destructive dissection is not suitable; instead, we are using high resolution CT scans. Each muscle is individually segmented and rendered to show its placement within the jaw using the program Amira. I will describe the placement and function of the muscles within the *Amphisbaenid* jaw in order to better understand how the group burrows and feeds.

Blackmon, Christina, Aimee Sambrano, Ana Sanchez, Laura Flores, Tujuanna Dixon

The Importance and Use of Play in Schools

This study was to discover whether play is being used in building relationships, the curriculum, building a caring community, learning and development, and assessment in real classrooms. Play is a key element in the growth and development of early childhood cognition. The present study explored the importance and use of play in early childhood classrooms. We compared our research with the results of twenty surveys- ten by teachers and ten by

high school students not pursuing a major in education.

Boggs, Austin, Matthew Hudgens, Ryne Lawson, Bryan Washington
Preventing Sexual Harrasment in the Workplace

Clark, Geneva

The Ear Apparatus of Subterranean Worm Lizards (Squamata: Amphisbaenidae: Zygaspis)

Amphisbaenians are lizards specialized in a subterranean lifestyle. Underground dwellers specialize in low frequency hearing, requiring development of a specialized ear apparatus. We studied this apparatus in 15 species using HRCT data. We sampled all species within the genus *Zygaspis*, which is our focal taxon. HRCT allows us to look into hearing apparatus organization in detail. We used Avizo to measure volumes from endocasts, and measurements from the skull, extracolumella, and stapes. We found a proportionally small extracolumella in *Rhineura*, while this structure is absent in *Bipes*. Within the genus *Zygaspis*, skull length fluctuates from 5.96 mm to 10.4 mm. We found an isometric relationship between the skull length and inner ear volume, showing a well-fit exponential curve when graphed together. The stapes also presents an isometric relationship with the skull length while the size of the extracolumella becomes proportionally smaller and more robust as the specimens increase in size.

Crenwelge, Haley, Claudia Valle

Chaucer's Portrayal of the Divine Sisters, Fortuna and Fama

In the Middle Ages, one of the most symbolic figures was the goddess Fortuna, who was usually depicted in poetry and art as spinning a wheel on which men were bound. Extremely capricious, she was believed to determine a person's good and bad fortunes. Geoffrey Chaucer refers to and includes images of this goddess in many of his works, including his early poem *Book of the Duchess*. Interestingly, in another work, *House of Fame*, he chooses not to portray Fortuna, as would have been expected, but her sister *Fama* (or Fame) in this process. (on Feb 8, in the press, p. 12, (v. 7.8) (the w) 1

practicality will be utilitarianism, which states that the morally right action is the action that produces the most good. One philosophical principle for the side of human life will be Kant's second categorical imperative, which states never to treat humans as a means to an end but as an end in themselves. The second philosophical principle included on the side of human life is my own philosophical principle of human potential, which states that every human has the potential to impact the world in a major way.

Deel, Heather

Genetically Modified Organisms and the General Public

Most members of the general public have their own opinion on genetically modified organisms, or GMOs. The majority of those who support them are aware of exactly what GMOs are and understand their benefits as well as their risks. It's possible that many who are afraid of GMOs do not understand what they are nor how prevalent they actually are in our everyday lives. A study of why the general public does not support GMOs can hopefully enlighten scientists about what information to present to them as a reassurance that they are indeed safe to eat.

Ducote, Rylea

The Development of the Victorian Asylum

Madness. Lunacy. Institution. These are words that were commonplace in the Victorian era. Asylums were such a prevalent part of Victorian society that they can be found in an abundance of literature from that time period. This project will discuss how there was a shift in society's view on madness which prompted positive developments in asylums that improved the treatment of patients. It will also address the existence of mental asylums in the classic Victorian novels *Jane Eyre* and *Dracula*.

Ellis, I'Raunce, Christina Waters

A Comparison of Heart Rate Between Established Methods and Smart Phone Applications

There are several established methods to measuring heart rate, among these are ECGs and chest straps. Smartphone technology has now made it possible for heart rate to be measured by using downloaded applications. This research study is being conducted to compare the accuracy of two popular smart phone applications that measure heart rate to the established heart rate measuring methods (ECGs and chest straps). Research participants will complete moderately intense aerobic exercises at no more than 76% of estimated maximum heart rate while connected to a 4-lead ECG; wearing a chest strap; or wearing a fitness bracelet. The exercise session will consist of a 5 minute warm up followed by 15 minutes of moderate exercise using an elliptical. Every 30 seconds the heart rate will be measured using the two smart phone applications. Data from all sources will be analyzed for accuracy and statistical significance.

Fakhri, Christiana

Jaw-musculature in Primates as an Effect of Evolutionary Dynamics Driven by Changing Dietary Habits

This study is a comparative analysis of mastication apparatuses in stem primate specimens. With the rise of anthropoid primates, diet diversified among taxa—some specializing on foliage, others on fruit. I hypothesize that size and orientation of muscle fascicles relates to the dietary preferences observed in primate specimens. My alternative hypothesis is that variation in the size of the masticatory muscles is related to the dietary preferences observed in primate specimens.

depending on motivations and obligations.

Finley, Natalie

Healthcare in Zimbabwe

Any improvement in the healthcare of the Zimbabwean people can only occur with a deeper understanding of its diverse culture. Current and future healthcare resources cannot be effectively utilized until it is adapted to the worldview of African culture, rather than Western culture. The many cultures and lifeways enveloped by Zimbabwe must all be considered as they are further diversified as education, urbanization, and political unrest are factored in. I interviewed and spoke with local people in schools, factories, mines, community centers, hospitals, orphanages, and rural clinics in Bulawayo, Limpopo, Victoria Falls, and Matopos. I then synthesized this information using Leininger's Sunrise Model of Culturally Competent Care. These conversations revealed commonalities in the core cultural values, superstition and taboos deeply embedded in daily life, and starkly contrasting political views among races.

French, Corbett, Annie B. Leonard

Understanding Community Interactions in a Fish Model of Mucosal Microbiomes

Microbiomes are complex communities that have major effects on the host organism's health. Typically, when external bacteria are introduced, they fail to colonize or are outcompeted. This suggests specific control of community members, which likely comes from both host factors and the microbial members themselves. To better understand member interactions, we use a fish (*Gambusia affinis*) skin mucosal layer as a model. *Acinetobacter* is a native organism often found as one of the dominant genera in the skin microbiome. To determine microbiota persistence of *Acinetobacter*, fish are exposed to high concentrations in the water. The microbiome is extracted and bacteria quantified using selective, differential media. We predict that the native organism will persist at a higher rate than what is normally found in the microbiome. This model system should allow future explorations of microbiome community selection, and understanding the interactions with other genera present.

Frerichs, Nicholas, Christopher Garcia, Dallas Haney, Matthew Mcadoo

Can Behavior Based Safety Help Create Improved Work Environment

BBS is Behavior Based Safety. We researched the effect of this practice and how it can make the workplace safer, and also looked into our own personal work histories. We chose this particular practice because the only way to accomplish perfect safety culture is if the workers themselves believe in the importance of safety. We found that if BBS is practiced completely the workplace would be an overall safer place, bringing injuries down to a micro-level.

Garza, Alondra, Cortney Franklin

Exploring Responses to Sexual Assault Disclosure

The aftermath of sexual assault requires further insight concerning the responses expressed by those to whom victims disclose, specifically when assault or victim attributes might impact the type of responses provided to victims upon disclosure. The current study uses a sample of surveys administered to undergraduate students at a mid-sized public university geographically located in the south to assess subject responses to a rape disclosure vignette. Four vignettes are presented to subjects with type of rape (stranger vs. acquaintance) and victim race manipulated. Future implications for research and policy will be discussed.

Gauvey, Kaitlyn, Jean Sumrall

Geochemical Analysis of Calcarenite and Carbonate Paleosol Deposits from Eleuthera, The Bahamas

This study examines the geochemical signature and Insoluble materials of paleosols, ancient soils, on Eleuthera, The Bahamas. Paleosols play an important role in the differentiation between episodes of carbonate deposition and exposure on carbonate platforms, such as The Bahamas. However, paleosols can be misinterpreted and lead to errors in the interpretation of the geologic record. Two distinct paleosols were identified on Eleuthera: terra-rossa paleosols and calcarenite protosols. Utilizing ICP-AES on samples from multiple stratigraphic units developed a geochemical signature for Holocene and Pleistocene carbonates. XRD analysis of two paleosol samples were analyzed for bulk and clay mineralogy. Insoluble material was concentrated by chemical treatments and centrifuged to separate by size fraction. These geochemical and mineralogic data are the first performed on the carbonates of Eleuthera.

Gomer, Britney

The Extinction of Megafauna in North America

During the Late Quaternary

environmental change. The last glacial period, or Ice Age, that occurred towards the end of the Pleistocene era, greatly changed the vegetation and habitat of many species at the time. Those not adapted to lower plant diversity could not survive these harsh conditions. The other hypothesis proposed is the "overkill hypothesis." This claims that the increase of human hunting resulted in extinction of animals who breed slowly and could not maintain population numbers. While other hypotheses have been posed, these two ideas are heavily debated among researchers and it is possible that a combination of both is what caused the extinction of many species of large animals.

Ibarra, Diego, Helen Wakefield

One, Dos, Trois: Bilingual Proficiency and the Acquisition of a Third Language

Factors such as age, motivation, personality, and aptitude have been shown to influence success in foreign language learning. There are, however, few studies focusing on whether native-like fluency in two or more languages helps in the learning of an additional language. Using questionnaire data from four hundred students in language classes at Sam Houston State University and the University of Texas at Austin we explore whether bilinguals have an advantage over monolinguals in the task of language learning. Here, we present the background research, discussing factors that have been established to be a part of an ideal language learning experience.

Johnston, Victor, Devin Gilmore, Poojan Bhandari

Observing Transiting Exoplanets

This study on Exoplanets will show some of the basics for those wishing to gain an understanding in observational astronomy as well as data processing using professional software. Transiting exoplanets are planets that eclipse their host star and are visible from Earth. This study records images of these eclipses and measures the effect they have on the light coming from their host star. We will show some of the techniques used to correct for errors that are inherent in observational astronomy such as light pollution and the effects of the atmosphere. Finally,

e

Paez, Laura, Lauren R. Smith, Joseph F. Petrosino, Sibyl R. Bucheli

Study of Shifting Oral and Fecal Skin Bacterial Communities During Human Cadaver Decomposition in Southeast Texas

Decomposition is a dynamic process whereby features of a cadaver change in a relatively predictable pattern over time. Cadavers decompose, through major stages leading from wet decomposition (fresh, bloat) to dry decomposition (decay, mummification, and/or skeletonization). Little is known about bacterial succession during decomposition. To investigate community structure of the skin, human cadavers were placed outdoors to decompose under natural conditions at the Southeast Texas Applied Forensic Science (STAFS) facility at the Center for Biological Field Studies (CBSF), Sam Houston State University, Huntsville, Texas. The skin of 14 cadavers was sampled by swabbing the fecal and oral sites through the stages of decomposition. Sample processing was sequenced following protocols benchmarked as part of the Human Microbiome Project. Samples were grouped according to site, cadaver of origin, and accumulated degree hours. Initial results suggest different trends of microbial communities before and after the purge stages of decomposition.

Patterson, Kaitlin

Living Arrangements for the Elderly

Descriptive study.

Pinard, John

What Really Went Wrong with Blue Bell?

Eating Blue Bell ice cream has been a past-time for most Texans and more recently for all Americans. This delightful summer treat comes in many shapes, sizes and flavors making it keen to all taste buds; unfortunately, that taste became sour. Blue Bell's recall and shut down of all their manufacturing plants is debatably the most widespread food borne disease outbreak of the decade. How did this small town creamery go from a pleasant house-hold name to the dupe of the food industry? This article addresses the public health and medicine aspect of the now-famed Blue Bell Creameries Listeria outbreak.

Pospisil, Brenna

Corporate Influence on Health Standards and Public Opinion

Major food and beverage corporations play a significant role in public opinion and health standards through the use of monetary influence on the individuals who create and publish research and scientific data. This presentation takes a look at one global company, Coca-Cola, and its attempts to sway scientific research regarding the link between sugar and disease. This also includes a preview of Coca-Cola's monetary contributions to a variety of health and medical organizations and how it directly impacts consumer perception of products.

Ramos, Mallory, Jordan Vega, Allison Quiroga, Isaac Burton, Erik Lawson

Using Magnetic Susceptibility and Stable Isotopes to Correlate Outcrops of the Engadine Group within the Hiawatha National Forest of the Upper Peninsula, MI

A total of 48 samples were collected from various locations throughout the in the Hiawatha National Forest in an effort to correlate stratigraphic framework of the Engadine Group of the middle Silurian. Samples were analyzed for magnetic susceptibility and stable isotopes to determine if a correlation between sites exists using these parameters. Overall, there is a lack of research in this area, especially dealing with the formation of karst features on these dolostones. Changes in magnetic susceptibility can correlate with changes in sedimentary provenance and geochemical changes. Stable carbon and oxygen isotopes were also used in conjunction with magnetic susceptibility to correlate and differentiate stratigraphy. This information can be used to correlate stratigraphy of similarly aged rocks in the Hiawatha National Forest. Finally, the trends derived will be used to determine the stratigraphic identity of unknown outcroppings and boulder fields within the Hiawatha Nation Forest.

Rangel, Gabriela

Industrialization and Immigration, Chicago, IL (1870-1920)

In the time period between 1870 and 1920, there was a surge of people speaking of the abundance of labor in the U.S. due to industrialization. Industrialization in America came from several different factors some of which include the manufacturing of textiles, the invention of the light bulb, and the expansion of rail roads. Immigrants found much labor, specifically in Chicago, Illinois. Immigrants' hard work ethics and ability to endure harsh labor conditions that led to regulations in the U.S. workforce led to the increase of wealth in Chicago and as a whole, in the United States of America.

Resch, Elizabeth, Erin Wiggins

Building a Dream World: Symbols of Instability in Chaucer's Book of the Duchess and The House of Fame

Geoffrey Chaucer's *Book of the Duchess* and *House of Fame* are dream visions that describe buildings constructed with insubstantial materials. *Book of the Duchess* includes a bright dream chamber studded with windows, while *House of Fame* has a temple made of stained glass and a palace on a mountain of ice on which is etched the names of famous authors. Curiously, these structures all depict the classical tale of the fall of Troy. In this presentation, we will argue that Chaucer tells the story of Troy by employing the *translatio studii et imperii* topos, a literary device that connects one culture with its own so as to gain more authority as a major power. We argue that the instability of these structures to tell this famous story allows the audience to recognize Chaucer's process behind *translatio*.

Robinson, Jaclyn, L. A. Wolfskill, Shyam S. Nair

The Effects of Team Instruction on Scores in a Team-Based Learning Course

One of the characteristics of Team Based Learning (TBL) is the Readiness Assurance Process, which consists of readiness assessment tests (RAT), both individual (iRAT) and team (tRAT). Several studies have shown that scores on the tRAT are consistently higher than iRAT scores. There is, however, limited information regarding the effect of post-RAT instruction on concepts that students failed to comprehend, and the impact on hourly exams taken both individually and as a team. Data from Principles of Agricultural Economics, a lower-division undergraduate course taught using TBL, was collected and analyzed using t-tests. Results showed that average individual and team scores on hourly exams post-RAT and post-instruction were significantly higher than those earned on iRATs and tRATs, respectively ($p < 0.0001$). Additionally, standard deviation between individual and team scores narrowed. Apparently, TBL improved student learning based on improved exam scores.

Rodriguez, Veronica, Wanji, Banda, Berra Koskulu, Hannah Johnson

Effect of UV Exposure on recA Mutant of Rhodobacter sphaeroides

RecA regulates the SOS response, a UV induced DNA damage-repair system in bacteria. *Rhodobacter sphaeroides* is a model organism for studying the SOS response, since it is found in diverse environment including a niche with high UV radiation. This current study examines the effect of UV exposure to both wild type and recA mutant strains. Results exhibit the severe effect of an increasing dosage of UV radiation on the cell survival and the extent of DNA damage. However, both strains do not show any difference in colony morphology when grown under different growth conditions.

Rudie, Lauren, Sarai Mesa, Juan D. Daza

The First Record of Wormian Bones in Lizards

Wormian bones, sometimes referred to as supernumerary bones, are accessory bones found between the elements that create the cranial sutures. Their formation has been suggested as being driven by both genetic and environmental factors. Wormian bones haoved viv

much as 33% cement). Two types of paleosols have been identified on Eleuthera. Type 1 are paleosols with higher to equal amounts of insoluble material, such as iron oxides, and allochems. Type 2 are paleosols with significantly more allochems than there are iron oxide. These two types of paleosols represent a similar diagenetic process in a slightly different stratigraphic location.

Stallard, Catherine

Transient Depersonalization-Derealization: a Neuroscientific Review

Transient depersonalization-derealization episodes are a fascinating topic as a clinical phenomenon. Past studies have discussed the neurobiology of chronic depersonalization-derealization disorder but have yet to focus on more common transient episodes of the disorder. This poster includes a review of the neurobiological function of transient depersonalization-derealization episodes and provides a model of cognitive control. This model describes levels of cognitive control and illustrates the function of transient depersonalization-derealization episodes that flow through a fully-conscious base level, through an unconscious level, a partial conscious level, and ending in a fully-conscious level again. This model aims to suggest potential therapeutic applications as a result of the current study.

Stephens, Allison, Dr. Justin Williams, Dr. Donovan Haines

Characterization of the Apocynaceae Family for the Presence of Bioactive Compounds

Various plants in the *Apocynaceae* family are known to contain compounds that are effective chemotherapeutic agents. Many plants in this family are yet to be investigated for their potential bioactive compounds. In this

project, paleosols were identified from a stratigraphic location on Eleuthera, Bahamas. In this project, paleosols were identified from a stratigraphic location on Eleuthera, Bahamas.

Yates, Danica Brett

Vietnam POW/MIA Awareness

During the Vietnam War, many campaigns arose to bring prisoners of war and missing in action military personnel to the attention of the American people. These campaigns were started by college students and military family members as a way to inspire action to bring the men home, and to remember the men who would never see their beloved country or family again. The POW/MIA Bracelet Campaign and the POW/MIA flag were both avenues used to increase awareness that men were left in Southeast Asia after the end of the Vietnam War in 1973. In a time when many people wanted to forget about a war that was not heavily supported by the United States' population, these campaigns kept the men who were left behind by their country in the news and in eyesight. Media sources, like movies, were used to keep the POW/MIA awareness movement alive well into the 1980s.



The Honors College Ambassadors would like to thank our faculty moderators for taking the time to share their expertise with our student scholars.

John Alford

Kay Angrove

Kimberly Bell

Tracy Bilsing

Chelcy Brumlow

Dawn Burns

Zechariah Carroll

Ching-In Chen

Paul Child

Madhusudan Choudhary

Tami Cook

Carolyn Dachinger

Zachary Doleshal

Danielle Fails

Page Glave

Helena Halmari

Maria Holmes

Kelsey Jenkins

Hannah Johnson

William Kerr

Keli King

Lined writing area with horizontal lines.

