Schedule of Events

8:00-8:30 am — **Registration and Breakfast** — **Ballroom**

8:30-8:55 am — **Welcome** — **Ballroom**
Dr. Randall J. Webb—President, Northwestern State University
Dr. Randy Moffett—President, University of Louisiana System

9:00-10:00 am — **Student Presentations**
Session 1A — Cane River Room
Session 1B — President's Room
Session 1C — Room 321

10:10-11:10 am — **Student Presentations**
Session 2A — Cane River Room
Session 2B — President's Room
Session 2C — Room 321

For FACULTY Attendees:

11:15am-noon — Faculty Workshop — President's Room
Dr. Bill Campbell—President-elect, Council on Undergraduate Research

For STUDENT Attendees:

11:15-11:40 am — Student Art Exhibit — Orville Hanchey Gallery

11:40 am-noon — Invited performance — Magale Recital Hall
MinJeong Kim, piano
Dr. Francis Yang, piano
Piano Concerto #1 in Bb minor, Op. 23 — Tchaikovsky
2nd and 3rd movements

noon — **Lunch** — **Ballroom**
Remarks
Dr. Bill Campbell—President-elect,
Council on Undergraduate Research

Presentation of Certificates
Mr. Winfred Sibille—Chair, Board of Supervisors of the University of Louisiana System
Mr. Jimmy Long—Member, Board of Supervisors of the University of Louisiana System

1:10-2:10 pm — **Student Presentations**
Session 3A — Cane River Room
Session 3B — President's Room
Session 3C — Room 321

2:20-3:40 pm — **Student Presentations**
Session 4A — Cane River Room
Session 4B — President's Room
Session 4C — Room 321

3:45 pm — **Closing Remarks** — **Orville Hanchey Gallery**

4:00 pm — **Closing Reception, Student Art Exhibit** — **Orville Hanchey Gallery**
Juror's Gallery Talk
Christopher L. King, MFA, CALarts—Director, Art Department,
Louisiana School for Math, Science and the Arts

Concurrent Paper Sessions

Friedman Student Union

Session 1A—Cane River Room

9:00 am	Naja Simeon	Glory of God
9:20 am	Katherine Daniel	The Life of a Ten Minute Play
9:40 am	Margaret Rodriguez	Zeus to Lincoln: Use of the Enthronement Pose in Western Art

Session 1B—President's Room

9:00 am	Laramie Lemon	Characterization of Chromosome Fragile Sites in Yeast
9:20 am	Catlin Morris Bacon	*Staphylococcus Aureus* and *Staphylococcus Intermedius* Colonization Rates in Humans in Southeastern Louisiana
9:40 am	Moustafa El Sayeed and Dustin Lovas	Isolation and Genomic Characterization of Mycobacteriophage SP. Yoshi From a Soil Sample in Northeast Louisiana.

Session 1C—Room 321

9:00 am	Steuart Turner	The Effects of Stochastic Resonance on Bipolar Stimulation Orientation in Hippocampal Slices
9:20 am	Lindsey Lizak	Establishment of Development Rates for the Hairy Rove Beetle, *Creophilus maxillosus* (L.) (Coleopera: Staphylinidae)
9:40 am	Ariane Martin	Measuring growth of Green Tree Frogs: which is better body length, leg length or weight?

Session 2A—Cane River Room

10:10 am	Whitney Gochinas	Poster Girls: Impact of Text on Interpretation Strategies
10:30 am	Casey Mizell	Digital Applications in the Humanities
10:50 am	Alvy Carragher	Whether or not Facebook Advertising Reinforces Gender and Racial Stereotypes?

Session 2B—President's Room

10:10 am	Lennie Andrew	Role of Housing On The U.S. Economy - Private Residential Investment & GDP
10:30 am	Destiny Parker	Louisiana Redistricting
10:50 am	Dane Harris	The Effectiveness of the Community Reinvestment Act

Session 2C—Room 321

10:10 am	Chelsea Dressel	Using Linear Discriminate Analysis for the Classification of Intended Hand Movements
10:30 am	Natalia Zamora Ruiz	When Are Student Athletes at Nicholls State University More Likely to Use Nutritional Supplements?
10:50 am	Manik Rajora	A Parallel Simulated Annealing Approach to Solving Phase Equilibrium Problems

Session 3A—Cane River Room

1:10 pm	Lydia Andreu	More than Misogyny: A Look at Improper Perspectives and Affectations in Jonathan Swift's "The Lady's Dressing Room"
1:30 pm	Jonathan Mathieu	Funes the Insomniac
1:50 pm	Aaron Moreau	Nationalist Spain & the United States: A Peculiar Relationship

Session 3B—President's Room

1:10 pm	Tiffany Williams	Revamping Contemporary Sexual Harassment Law
1:30 pm	Charly Genco	The measure of Imagined Interactions of young French citizens in France
1:50 pm	Orlando Lewellen	A Tribute to MLK-My Soul Speaks

Session 3C—Room 321

1:10 pm	Benjamin Clark	Design, Construction, and Testing of a Lab Soil Resistivity Meter
1:30 pm	Ronald Weekes	A PID Temperature Control System Design
1:50 pm	Matt Bordelon	The Art and Science of Charcuterie

Session 4A—Cane River Room

2:20 pm	Abbie Burt	Parents Using Incremental Rehearsal to Teach Sight Words to Kindergarten Students at Home
2:40 pm	Tonia Breaux	A Descriptive Study of Fruit and Vegetable Consumption in University Students Who Participate in a University-Sponsored Meal Plan
3:00 pm	Nola Eugene	Sex Education and our Youth: Who and How Should our Youth be Taught?
3:20 pm	Chase Savoy	CAPE-2: A Student-Built Picosatellite for Enhancing STEM Education

Session 4B—President's Room

2:20 pm	Molly Dugas	Conversion of Algal Cells into Biofuels: Extracting Green Gold
2:40 pm	Katie Davis	Parasites, host life history, and rostrum characteristics of Grass Shrimp *Palaemonetes kadiakensis*
3:00 pm	Bijeta Prasai	Bioremediation of Nitrogen Rich Wastewater From Shrimp Aquaculture Industry
3:20 pm	Lauren Wrubluski	The Influence of Dietary Elements on Carapace Color of Red Swamp Crayfish (*Procambarus clarkii*)

Session 4C—Room 321

2:20 pm	Alex Trochez	Physical Properties of Aliphatic and Aromatic Polyurea-nanoclay and Polyimde nanoclay Composites
2:40 pm	Hannah Ray	Sparged Ozone Remediation of Free-Phase Ethanol Gasoline
3:00 pm	Amber Bordelon	Synthesis of Single Geometric Isomers of Oxime Ethers through Palladium-Catalyzed Cross-Coupling Reactions
3:20 pm	Brody Bourque	Preliminary Analysis of the Mixed Layer Depth during the Carbonaceous Aerosols and Radiative Effects Study (CARES)

Juried Student Art Exhibit

Orville Hanchey Gallery

Artist	Title	Faculty Mentors	Institution
Landis Anderson	"INI"	Donna McGee, Rodrecas Davis,	Grambling State University
	"Star Gazing"	Tommie Slaughter	
Kandice Champagne	"Break Through"	Trisha Dubina, David Horton	Nicholls State University
Ryan Crochet	"Untitled 1"	Gaither Pope, Robert Carpenter	Nicholls State University
	"Untitled 2"		
Mary Donaldson	"Trinity"		McNeese State University
	"Revelation"		
	"Evil Root"		
Heather Dupre	"Untitled 1"	Jean Donegan, Jeff Brown	Nicholls State University
	"Untitled 2"		
Danielle Fabre	"Evolve"2010	Dale Newkirk	Southeastern State University
Erin Folse	"Untitled"	Debra Lillie	Nicholls State University
Greta Gerstner	Outer Self	Debra Lillie	Nicholls State University
Bethany Grabert	"Untitled Tryptic"	Jean Donegan, Jeff Brown	Nicholls State University
	"Mickey-D"		
Meagan Green	"Consumption 2"		McNeese State University
	"Untitled"		
Kayla Griffin	"Thrillometer"	Trisha Dubina, David Horton	Nicholls State University
Callie Harrison	"Untitled"	Debra Lillie	Nicholls State University
Seth Lapeyrouse	"Uprooted"	Trisha Dubina, David Horton	Nicholls State University
Reece McCance	"Senior Drawing"	Dale Newkirk	Southeastern State University
Gale Navarre	"Beach Front"	Jean Donegan, Jeff Brown	Nicholls State University
	"Suns Lift"		
	"Natures Edge"		
Amanda St. Pierre	"Magazine Table of Contents"	Trisha Dubina, David Horton	Nicholls State University
Robin Stodder	"scars"	Heather Kelley	McNeese State University
	"self portrait"		
Seth Thibodaux	"Emerging"	Michael Williams	Nicholls State University
	"Enveloped"		
Tessa Weatherall	"Harry and the Hendersons"	Ross Jahnke	Nicholls State University
Fagan Willoughby	"Untitled 2"	Debra Lillie	Nicholls State University
Amy Jo Wisehart	"Untitled"	Debra Lillie	Nicholls State University

Abstracts

Lydia Andreu — **Louisiana Tech University**

More than Misogyny: A Look at Improper Perspectives and Affectations in Jonathan Swift's "The Lady's Dressing Room"

The satirical target in Jonathan Swift's "The Lady's Dressing Room" has been in question ever since its publication in 1730. In "The Lady's Dressing Room," Swift seems to focus his satire on the idea that society has a misguided sense of perspective, or views things from an improper distance. However, readers and critics of "The Lady's Dressing Room" get hung up on the idea that Swift is a misogynist, because they focus too closely on the details Strephon conveys of women as false and dirty projectors of beauty. Upon closer analysis of the text, one finds there is a great deal more than "woman hating" in the poem, as one discovers the complexity of Swift's satire; past the misogyny, the filth, and the critiques on appearances and social conventions, one finds that Swift's true targets are affectations and the violation of perspective. A look at how eighteenth-century ideas about women might have affected Swift's satire, and a closer look at the poem past the initial impulse to label it as misogynistic, will allow the reader to observe Swift's critique of affectation and violation of perspective, and how the "The Lady's Dressing Room" is more than a poem that "impiously blasphemes" women.

Session 3A: 1:10 pm — **Mentor: Dr. Celia Lewis**

Lennie Andrew — **Grambling State University**

Role of Housing on The U.S. Economy - Private Residential Investment & GDP

The housing depression is major concern to economists and has been cited as a prime contributor to the recession currently facing the U.S. This study investigated the effect of the housing market on the national economy. A simple linear regression model was used to show the relationship between Private Residential Investment (PRI) which is used as a proxy for housing in this study and the Gross Domestic Product (GDP). Using time series data from 1979 to 2009, estimation results revealed a positive relationship between PRI and GDP for the period studied. The findings underscore the need to promulgate public policies that encourage PRI and discourage foreclosures. Some of the suggested policies include a moratorium on foreclosures during recession, incentives to first time home buyers, builders, bankers, and others in the real estate industry.

Session 2B: 10:10 am — **Mentor: Dr. Ogbonnaya John Nwoha**

Catlin Morris Bacon — **Nicholls State University**

***Staphylococcus Aureus* and *Staphylococcus Intermedius* Colonization Rates in Humans in Southeastern Louisiana**

Staphylococcus aureus and *Staphylococcus intermedius* are two clinical pathogens that can normally be isolated from the skin and mucous membranes of humans and other organisms. Unlike *Staphylococcus aureus*, which is a well-known human pathogen, *Staphylococcus intermedius* is typically a dog pathogen. *Staphylococcus aureus* and *Staphylococcus intermedius* can be differentiated using a varity of biochemical and molecular methods. The method used to differentiate the two species in this project was PCR.

Sixty-nine coagulase positive *Staphylococcus* samples were previously isolated during the collection of 294 nose swabs from the community. PCR was used to differentiate between *Staphylococcus aureus* and *Staphylococcus intermedius* in order to determine the colonization rates of these two pathogens in humans. Primers specific for the thermonuclease nuc gene were used. All of the coagulase positive isolates were *Staphylococcus aureus*. This indicates that *Staphylococcus aureus* but not *Staphylococcus intermedius* is more likely to colonize the nares of healthy individuals.

Session 1B: 9:20 am — **Mentors: Raj Nathaniel and Angie Corbin**

Amber Bordelon, Patrick Flowers, Arjun Pandey, Vijay Bhattarai, and Megan Lanier
Southeastern Louisiana University

Synthesis of Single Geometric Isomers of Oxime Ethers through Palladium-Catalyzed Cross-Coupling Reactions

The Suzuki-Miyaura reaction is commonly used to couple boronic acids with aryl and alkenyl halides using a palladium catalyst. The coupling of alkenyl halides by this method is known to result in retained geometric stereochemistry. In contrast, little work has been done using compounds containing carbon-nitrogen double bonds in metal-catalyzed coupling schemes. This work discusses the first Suzuki-Miyaura coupling reactions using N-alkoxybenzimidoyl halides [RArC(X)=NOR] as coupling partners. Reaction conditions, yields, and resulting stereochemistry are examined in this work.

Session 4C: 3:00 pm **Mentor: Dr. Debra D. Dolliver**

Matt Bordelon **Nicholls State University**

The Art and Science of Charcuterie

Charcuterie is the act of preparing meat products such as ham, bacon, sausage, pates, terrines, galantines and confit primarily from pork. The purpose of this study was to enhance our knowledge of charcuterie by preparing and curing pork products using one pig weighing one hundred and eighty two pounds. Objectives were to demonstrate, evaluate, analyze and synthesize recipes and procedures of charcuterie techniques and to explore and display cost controls and effectiveness. Initial qualitative data was gathered from many reputable books and on-line sources. Weekly, in-lab recipes, charcuterie techniques and tastings were conducted using the self fabricated pork. A curing chamber was constructed and used. Mold spores were scientifically monitored with the guidance of Nicholls Biology department. This project successfully revealed the scientific methods and the artistic factor needed to properly perform charcuterie techniques.

Session 3C: 1:50 pm **Mentor: Monica Larousse**

Brody Bourque, Larry Berg, and William Gustafson **University of Louisiana at Monroe**

Preliminary Analysis of the Mixed Layer Depth during the Carbonaceous Aerosols and Radiative Effects Study (CARES)

A first look at the observed heights of the mixed layer during the Carbonaceous Aerosols and Radiative Effects Study (CARES) field campaign along with comparisons to the Weather Research and Forecasting (WRF) model simulations run during the same time frame.

Session 4C: 3:20 pm

Tonia Breaux **McNeese State University**

A Descriptive Study of Fruit and Vegetable Consumption in University Students Who Participate in a University-Sponsored Meal Plan

The 2005 USDA Dietary Guidelines for Americans states that the recommendation for fruits and vegetable consumption is 4.5 cups or nine servings per day for a 2000-calorie diet. Research studies support the fact that increased consumption of fruits and vegetables helps to reduce the risk for chronic diseases such as cardiovascular disease, stroke, and certain types of cancer. In order to assess the awareness of the USDA recommendations and current intake of fruits and vegetables among university students, a descriptive research study was conducted at McNeese State University of students who currently participate in a University-Sponsored Meal Plan. This study suggested that creating awareness about the current recommendation of fruit and vegetable awareness would help in improving student daily intake.

Session 4A: 2:40 pm **Mentor: Kalpana Devi Vadivelu PhD, RD, LDN**

Abbie Burt — Nicholls State University

Parents Using Incremental Rehearsal to Teach Sight Words to Kindergarten Students at Home

This study examined the use of incremental rehearsal as a teaching strategy for parents to teach sight words to their kindergarten children at home. Six students identified by their teacher with difficulty learning sight words and their parents participated in this study. Three randomly selected participants received the intervention, while the remaining participants served as a control group. All students were tested on the number of correctly identified words before and after the intervention. Parents in the experimental group were trained on implementation processes and engaged their children in three practice sessions per week for three weeks. Pretest and postest scores for each group were compared using a two-way mixed analysis of variance. The results of this study revealed that children who participated in incremental rehearsal at home with parents had significantly higher increases in scores from pretest to postest than control group children.

Session 4A: 2:20 pm — **Mentor: Carmel Broussard**

Alvy Carragher — McNeese State University

Whether or not Facebook Advertising Reinforces Gender and Racial Stereotypes?

The purpose of this research paper was to examine Facebook advertising and determine whether or not it reinforces gender and racial stereotypes, by creating a controlled group of 14 Facebook accounts and monitoring the advertisements targeted at this audience, over the period of a week. The audience was divided equally into male and females and assigned an age and religion randomly. This study generated a controlled audience. This experiment highlighted the ineffectiveness of Facebook paid advertising. The results suggested that Facebook advertising reinforces gender stereotypes and fails to exhibit any ethnic or racial diversity in the advertisements displayed.

Session 2A: 10:50 am — **Mentor: Tracy Collins Standley**

Benjamin Clark — McNeese State University

Design, Construction, and Testing of a Lab Soil Resistivity Meter

It has been established that the conductivity of a soil (its ability to carry an electric current) is directly proportional to its corrosive nature. This principle is taken into account in civil engineering with regards to infrastructure and buried pipe management. Numerous methods have been developed to measure the corrosive properties of soil by passing an electric current through it and measuring its resistance with an Ohm-meter. However, these methods mainly consist of inserting probes into a sample of soil with a fixed volume and, therefore, fixed density. In this research of the presenter and faculty mentor, there is yet to be a device that can analyze the resistance of a soil while varying its density. A soil's resistivity and corrosive nature with respect to a change in its density is crucial to fill soil selection and the field of civil engineering. The presented instrument was designed and built in the McNeese State University Department of Engineering laboratories to aid in fill soil and density selection based on structural corrosion potential.

Session 3C: 1:10 pm — **Mentor: Dr. Jay Uppot**

Katherine Daniel — McNeese State University

The Life of a Ten Minute Play

There are many forms of short entertainment that have been popular in the last few decades and the ten-minute play is included in that genre. This research paper analyzes the structure, composition, impact and evolution of the ten-minute play. It seems at first glance that the ten-minute play is shallow and lacking in development. In researching the ten-minute play, it has become apparent that this form of theatre is an evolution of the longer full length play and is an exciting new development for playwrights, actors, directors and producers that is being well received in the world of theatre.

Session 1A: 9:20 am — **Mentor: Dr. Joy Pace**

Katie Davis and Riccardo Fiorillo **University of Louisiana at Monroe**

Parasites, host life history, and rostrum characteristics of Grass Shrimp *Palaemonetes kadiakensis*

We measured rostrum size and counted dorsal and ventral teeth of 111 grass shrimp, *Palaemonetes kadiakensis*, collected from two localities in Black Bayou National Wildlife Refuge between September 2008 and May 2009. The rostrum is a long anterior and dorsal extension of the carapace that may function as a deterrent to predation. Shrimp were weighted, and body length was measured with a digital caliper. Individuals were sexed then necropsied and examined for metacercariae of an undescribed species of the microphallid trematode (Trematoda: Microphallydae). These metacercariae are thought to become sexually mature when shrimp are eaten by a bird definitive host. Digital photographs of the rostrum were taken with a Moticam 1000 digital microscope camera at 10X magnification with a Leica Dissecting microscope. All rostrum measurements and counts were made with a Motic Image Plus Software. Here we report data on the relationship between parasites, shrimp life history traits (e.x.. body size and sex), as well as rostrum length and dentition pattern.

Session 4B: 2:40pm

Chelsea Dressel, Ching-Chang Kuo , and Alan W.L. Chiu **Louisiana Tech University**

Using Linear Discriminate Analysis for the Classification of Intended Hand Movements

The focus of the research is to predict intentional hand reaching motions for the application of neuroprosthetics. To develop this interface, four human subjects were recruited and chosen to perform a series of hand reaching tasks in different directions (left, right, and forward). The EEG data was collected using the Geodesics sensor net and raw signals were bandpass filtered between 0.1-30 Hz. Motion artifacts were removed through independent component analysis. From the preliminary results, hand directions can be predicted based on activated areas in the posterior parietal cortex (PPC). With the use of linear discriminate analysis, comparison of signal intensity on the left and right PPC leads to the classification of hand movements. Accuracy of classifying left and right movements across four subjects is 71 Â ± 11%. Current work involves the use of frequency based features using empirical mode decomposition and nonlinear classifiers.

Session 2C: 10:10 am **Mentor: Dr. Alan W. L. Chiu**

Molly Dugas **University of Louisiana at Lafayette**

Conversion of Algal Cells into Biofuels: Extracting Green Gold

Louisiana is considered by most experts as the ideal location to culture a commercial crop of algae. The ultimate product to be produced from this new crop (algae) is a bio-based diesel fuel that can be used to reduce our dependence of foreign-based petroleum fuels. The algae is cultured using large, open growth ponds in which the cells are harvested and dried followed by extraction of the oil (cellular lipids) for later conversion into fatty acid methylesters (biodiesel) or refined within a petroleum refinery as green diesel. Recent research at UL has focused on the effective extraction of the lipids from algal cells grown by Aquatic Energy (a Louisiana-based algae to fuels company) as an industrial outreach partnership between the university and Aquatic Energy. Results are very promising with lipid yields approaching 3,000 gallons per acre/year. Current efforts are focusing on optimizing growth and extraction costs coupled with evaluating potential co-products.

Session 4B: 2:20 pm

Nola Eugene **Grambling State University**

Sex Education and Our Youth: Who and How Should Our Youth Be Taught?

This study evaluates the importance of comprehensive sex education programs and how they provide youth with educational options that can guide them in making better sexual health decisions. Grambling State University

students were randomly selected to participate in this exploratory study. Of those participating, most believed that teachers instead of parents would make excellent sex educators because of their training and expertise. Respondents agreed that comprehensive sex education produced more successful outcomes when compared to abstinence only programs. This study implies that further research is needed on comprehensive sex education in schools as current models produce results that lead to 50% of youth acquiring sexually transmitted diseases.

Session 4A: 3:00 pm **Mentor: Clarence Williams**

Charly Genco — Southeastern Louisiana University

The measure of Imagined Interactions of young French citizens in France

Imagined Interactions are cognitive representations of conversations experienced as internal dialogues with significant others. Through communication, this concept reminds us that rehearsal with ourselves before and after we speak to someone plays a great role in our self-understanding. Because of our self-understanding, desirably, we are better able to communicate to others whether they are dating partners, employers, fellow employees, family/church or friends. Found by Dr. HoneyCutt, Imagined Interactions has been studied through Characteristics and Functions such as Frequency, Proactivity, Retroactivity, Variety, Discrepancy, Self-Dominance, Valence, and Specificity; Functions include: Relational maintenance, Conflict Linkage, Rehearsal, Self-Understanding, Catharsis, and Compensation.This study investigated Imagined Interactions of young French citizens. To conduct this study, the II instrument was translated twice into French, resulting in two French versions. The results of each version were compared with each other as well as compared to results garnered from over a decade of II research.

Session 3B: 1:30 pm **Mentor: Suzette Bryan**

Whitney Gochinas — Northwestern State University

Poster Girls: Impact of Text on Interpretation Strategies

"MURDER HAS ITS SEXUAL SIDE." This aphorism and more than 200 similarly curious and disturbing statements, comprised "Truisms", Jenny Holzer's first installation series, posted in public spaces in New York in 1978 and later on electric signboards. The essence of Holzer's work is the use of words as instruments of provocation. Barbara Kruger's collages subvert the fixed position of the observer by combining image with text, especially ambiguous pronouns, to explore sexism, identity, money, and power. The Guerrilla Girls, activists promoting the status of females in the art world, don gorilla masks and use posters, stickers, and books to creatively complain (i.e. "Do women have to be naked to get into U.S. museums?"). While art typically brings to mind images expressing cultural identity, text speaks directly from the artist to the viewer. The novelty of text as art challenges the viewer's interpretation strategies.

Session 2A: 10:10 am **Mentor: Leslie Gruesbeck**

Dane Harris — Louisiana Tech University

The Effectiveness of the Community Reinvestment Act

Many have blamed the CRA as being partially to blame in the lowering of lending standards that led to the housing collapse of 2008. The paper examines the intentions and effects of the Community Reinvestment Act on the housing market. There were many unintended consequences and several contradictions caused by the act. The act was meant to improve the equality of lending across the mortgage market, but through my research it appears that while it did help minority and low-income families gain mortgages slightly, the act did more harm than good. The current effects of the act passed long ago are examined and possible solutions to better the situation are discussed.

Session 2B: 10:50 am

Laramie Lemon, Mitch Pearce and Dr. Francene J. Lemoine **Northwestern State University**

Characterization of Chromosome Fragile Sites in Yeast

For proper growth and division, a cell must maintain intact, or unbroken, chromosomes. Fragile sites are special chromosomal regions that are prone to break in response to certain types of stress. Such breaks are associated with genomic alterations that are frequently observed in many human cancers. Therefore, a greater understanding of chromosome fragile sites has important implications in cancer biology. We have previously identified the first two chromosome fragile sites in the budding yeast *Saccharomyces cerevisiae*. This discovery demonstrates the potential use of budding yeast as a model system for studying the structure and regulation of chromosome fragile sites. However, additional studies are needed to validate the usefulness of this model system. Therefore, we are currently working to understand the molecular structure and function of these chromosome fragile sites. Results from these studies will provide insight into the molecular mechanisms controlling chromosome fragile site stability in yeast and mammals.

Session 1B: 9:00 am **Mentor: Dr. Francene J. Lemoine**

Orlando Lewellen **Grambling State University**

A Tribute to MLK-My Soul Speaks

Out of the depths of the soul have come words of inspiration and transfiguration. Orators, Poets, Playwrights, Politicians and even ministers of the gospel have used their rhetoric to change, motivated, persuade and convince America of what is important and valued. In a speech on the occasion of the groundbreaking ceremony for a monument to be erect that would commemorate the legacy of Dr. Martin Luther King, President Barack Obama, in 1996 while serving as a United States Senator, gave the keynote address. The short but eloquent speech reminds Americans of the impact of a man, who walked with kings yet was humble and compassionate. Its depths speak to his sacrifice, determination and tireless call to equality and fairness for all mankind. This speech turned monologue speaks of the vision of a man who transformed American society. He gave voice to the voiceless, courage to the faint of heart, faith to the faithless and love to the powerless.

Session 3B: 1:50 pm **Mentor: Dr. King D. Godwin**

Lindsey M. Lizak, Megan M. Harvin, Anna C. Clark-Aguilard and Erin J. Watson-Horzelski
Southeastern Louisiana University

Establishment of Development Rates for the Hairy Rove Beetle, *Creophilus maxillosus* (L.) (Coleopera: Staphylinidae)

The incorporation of entomological evidence has become extremely valuable in determining postmortem intervals of deceased humans and poached wildlife. Entomologists apply biological and ecological principles, along with the understanding of development rates and life cycles of necrophilous insects, to estimate the minimum time elapsed since death (or postmortem interval, PMI). Currently, there is limited published development rates generated in a controlled, laboratory setting for forensically important beetles. A total of 1,889 Creophilus maxillosus eggs were reared for three temperature regimes (16^{o} C, N= 323); 24^{o} C, N= 504, and 32^{o} C, N= 1062) at 50 % relative humidity and 12: 12 h L:D photoperiod. Data generated from this research provide baseline rates for future studies to determine lower and upper thresholds of development. Lastly, these data will contribute to postmortem estimations based on development rates and accumulated degree days.

Session 1C: 9:20 am **Mentor: Dr. Erin J. Watson**

Ariane Martin **University of Louisiana at Lafayette**

Measuring growth of Green Tree Frogs: which is better body length, leg length or weight?

Hyla cinerea (American Green Treefrog) is a common amphibian in the Southeast part of the United States. A relatively isolated population has been monitored since June 2004. The study sites are located at the NWRC (National Wetland Research Center) and LITE (Louisiana Immersive Technologies Enterprise) in Lafayette, Louisiana. The goal of this presentation is to analyze errors introduced when measuring the frog's body or leg length or its weight during capture-mark-recapture experiment. We are interested in understanding which of the three has less measurement errors and provides more reliable data for deriving a growth rate for green tree frog (essential for modeling the dynamics of this population). The results show that body and leg length have similar measurement errors and are linearly related with R2 of 0.97. The weight however seems to fluctuate during the season with an increasing trend during the breeding season. This can be justified by the fact that during hibernation frog tend to loose weight and increase in weight during the breeding season.

Session 1C: 9:40 am

Jonathan Mathieu **University of Louisiana at Monroe**

Funes the Insomniac

There is a common word in Argentine Spanish for 'awaken': *recordarse*, to remember oneself. When you're sleeping, you can't remember yourself – in fact, you're nobody…Then suddenly you wake up and 'remember yourself'…"(Dembo 319) These words mark Borges' attempt to articulate his thoughts on the blissful nature of sleep. The author is essentially claiming that to sleep is to actually forget oneself, to be no longer cognizant of one's own identity as it exists in reality. Therefore, it follows that insomnia, by definition the antithesis to sleep, would be characterized by an inability to forget, and would be intolerable because one's mind would be incapable of experiencing the rest of forgetfulness. Because Borges suffered from insomnia, it would then make sense that Borges would include the theme of insomnia and its effects on the mind in his works. He does, in fact, claim that the story about his character Funes resulted from an episode of insomnia. Interpreted in the light of the author's revelation regarding his proposed nature of sleep and his experiences with insomnia, the short story "Funes the Memorious" appears to function as a metaphor for sleeplessness.

Session 3A: 1:30 pm

Casey Mizell **Southeastern Louisiana University**

Digital Applications in the Humanities

How do digital applications affect traditional humanities research? As a student in Southeastern's new Publishing Studies minor, I have undertaken two levels of research involving real-world practical applications. At one level, I assisted in a range of traditional literary and historical research topics, which we translated into digital media (for example, annotations for a scholarly edition, historical image research for a scholarly website). But at a second level, I helped explored how digital applications can transform approaches to humanities research. For example, I researched the effect of e-readers on our traditional ways of thinking about the book in the humanities; and I considered how images have differing effects when converted from print into digital media (for example, in our creation of a digital newsletter). Most ambitiously at this level, I formed part of a student/faculty research team in the XML encoding of literary works, which will lead to experimenting with data visualization as a way of exploring literary questions.

Session 2A: 10:30 am **Mentor: Dr. David Hanson**

Aaron Moreau **McNeese State University**

Nationalist Spain & the United States: A Peculiar Relationship

American attitudes and official United States policy toward Nationalist Spain and Francisco Franco were ever-shifting as times and attitudes changed. During the anti-fascist fervor of the 1930s and WWII, America was strongly against the Nationalists and Franco, who had been aligned with Mussolini and Hitler. During the anti-Communist fervor of the Cold War, America became strong supporters of the fellow anti-Communist Franco. Whilst against Franco, many in the United States strove to either discredit the Spanish dictator or to outright fight against him in battle. While for Franco, many in the United States, especially the government, forged strong relations with the same man which bolstered Spain's economy and military. Some actions amongst Americans also contradicted these general trends, with sentiments against him during the Cold War and for him during the anti-fascist period. This complex relationship can be exemplified in today's relations between Americans and some other nations.

Session 3A: 1:50 pm **Mentors: Dr. Michael Crawford and Dr. Janet Allured**

Destiny Parker, Casey Kenne, Whitney Long and Lawanda Blanch
University of Louisiana at Monroe

Louisiana Redistricting

Louisiana is in the process of redistricting its political precincts. This is often a period marked by political uncertainty and instability. In this project, a student manages others students to conduct research for the ULM Social Science Research Lab on redistricting. Specific topics of interest include a review of the newspapers and blogs and a critique of existing redistricting plans.

Session 2B: 10:30 am

Bijeta Prasai **Nicholls State University**

Bioremediation of Nitrogen Rich Wastewater From Shrimp Aquaculture Industry

The United States Marine Shrimp Farming Program (USMSFP) introduced the reCirculating raceway system for shrimp farming. However, this system produces wastewater characterized by high levels of ammonia, nitrite, and nitrate due to the high density of shrimp and the 40% protein diet. Treatment of this wastewater is imperative to make shrimp farming viable. A sequence batch reactor (SBR) is a single reactor variation of the activated sludge process. Initial SBR operation successfully removed ammonia, but nitrate concentrations were too high because of carbon limitation in the shrimp production wastewater. An optimization study revealed the optimum carbon:nitrogen (C:N) ratio of 10:1 for successful removal of all nitrogen species from the wastewater. The SBR operated with the C:N ratio of 10:1 with the addition of molasses as carbon source successfully removed 99% of ammonia, nitrate, and nitrite from the shrimp aquaculture wastewater within nine days of operation.

Session 4B: 3:00 pm Mentors: Raj Boopathy and Sara Shields

Manik Rajora, Abhishek Bajpayee and Dr. Terrence Chambers
University of Louisiana at Lafayette

A Parallel Simulated Annealing Approach to Solving Phase Equilibrium Problems

Simulated Annealing is a random displacement based algorithm that can be used to solve (find the global minimum) functions with any number of variables. Starting at a random point in the domain of the function, the program moves in a random direction to a new random point. It then evaluates the function at that given point. If the

point is worse than the original, a random probability is used to see if the new point is accepted. This is important because, as we start off at a random point, the best point can be located in a completely different valley than the original point. So to get to the global minimum we must get out of the original valley i.e. accept worse values to get to a better value. Sometimes a worse value is not accepted and instead we move towards a local minimum. To overcome this problem, we start off at a number of random points and the function moves in random directions from these given points. Results are compared by plotting the function and the results to see which one is the best estimate. As the number of variables increases graphing the function gets harder. One computer could take days, even weeks to compute all the values. In order to make it more user and time friendly, we used parallel processing to make the computations go faster. The main strength of Simulated Annealing is that it can be used to optimize discontinuous multimodal functions with several variables.

Session 2C: 10:50 am

Hannah Ray, Frank Boone and Dr. Gary Zumwalt **Louisiana Tech University**

Sparged Ozone Remediation of Free-Phase Ethanol Gasoline

Gasoline contamination from leaking underground storage tanks and surface water spills presents a costly and environmentally hazardous challenge. We have tested the efficiency of ozone sparging to remediate free-phase gasoline in both of these environments. A low concentration of ozone (1.5 mg/L) was sparged through 200 mL of 5% ethanol gasoline in two models: gasoline floating on 800 mL of fresh water and gasoline floating on top of 800 mL of sand saturated with fresh water. In both cases, 70% of the contaminant layer was remediated by 120 minutes of exposure, after which asymptotic behavior occurred. The experiment was replicated using enriched oxygen and atmospheric air. Comparison of the results of all three trials showed ozone sparging effectively attacks free-phase gasoline and is 50-70% more effective than oxygen or air for the same time interval.

Session 4C: 2:40 pm **Mentor: Dr. Gary Zumwalt**

Margaret Rodriguez **Northwestern State University**

Zeus to Lincoln: Use of the Enthronement Pose in Western Art

Evaluation of the use of the enthronement pose throughout Western art using examples from religious literature, architecture, and political art. An examination of the artist's motives, the political and cultural atmosphere in which the works was made.

Session 1A: 9:40 am **Mentor: Leslie Gruesbeck**

Natalia Zamora Ruiz **Nicholls State University**

When Are Student Athletes at Nicholls State University More Likely to Use Nutritional Supplements?

Supplement usage by college athletes is common. It may be important to characterize why and how often student athletes use popular supplements. The objective of this study is to determine the frequency and purpose of dietary supplement use among student-athletes at Nicholls State University. All Nicholls student-athletes (329) were surveyed regarding their consumption of dietary supplements via email. Reasons for use, types and when supplements are used were explored. Dietary supplements were used by 64.3% of respondents, 61% used them in pre-season and 58% in season. When asked directly, 23.2% said they take supplements to increase endurance; however, 58.1 % listed increased energy as their effect. Similarly, 34.3% indicated taking supplements to increase muscle mass, yet, 48.8% listed increased muscle mass as a result. Data indicate that 73.1 % use vitamin and mineral supplements while proteins powders, protein bars, and energy bars were used by 55.8%, 36.5%, and 34.6% respectively.

Session 2C: 10:30 am **Mentor: Simone Camel**

Chase Savoy **University of Louisiana at Lafayette**

CAPE-2: A Student-Built Picosatellite for Enhancing STEM Education

CAPE (Cajun Advanced Picosatellite Experiment) is a unique program for undergraduate engineering students (principally electrical engineers) to build, launch and operate very small 'pico' satellites no larger than a 10 cm cube and weighing no more than 1 kg. In April 2007, the University of Louisiana at Lafayette became one of the few schools across the nation, and the only one in the state, to have a picosatellite in orbit. The student-built CAPE-1 was launched on a Russian Dneper rocket and carried all key elements of a satellite including solar panels, control electronics, and a communications payload. CAPE-2 is now being readied for a possible 2012 launch by NASA, carrying two novel technical missions: a set of deployable solar panels with peak power tracking, and a software-defined radio payload, both new technologies for picosatellites. Further CAPE-2 aims at an ambitious educational outreach mission to local schools with a view to enhancing student engagement in STEM fields. Using inexpensive handheld units also being developed by the CAPE team, school students will be able to engage in imaginative science experiments using the satellite. This presentation will highlight the lessons learned from CAPE-1, and describe the technical and educational mission plans for CAPE-2.

Session 4A: 3:20 pm

Moustafa El Sayeed, Dustin Lovas, J.S. Harmson, C.R. Gissendanner, and A.M. Findley
University of Louisiana at Monroe

Isolation and Genomic Characterization of Mycobacteriophage SP. Yoshi From a Soil Sample in Northeast Louisiana

As part of an HHMI-funded phage genomics initiative, ULM freshman Biology students have isolated novel bacteriophages via direct plating or enrichment regimes. Isolates were subjected to spot test analysis, repetitive purification plating, and an empirical testing protocol that led to the harvesting of high-titer lysates (109 – 1010 pfu/ml). Lysates were processed for TEM and all were found to display the siphoviral morphotype. DNA was isolated from each phage and characterized with *Bam*HI, *Cla*I, *Eco*RI, *Hae*III, and *Hind*III restriction endonucleases. Mycobacteriophage sp. Yoshi was submitted for library construction and 454 genome sequencing and its genome was annotated following finishing of the draft sequence with gene calling and assignment of predicted gene functions using the Consed, Glimmer/GeneMark and Phamerator programs. The finished Yoshi genome places it within the F2 cluster of Mycobacteriophages, most closely related to Che9d. Yoshi has a genome size of 58,701 bp plus a 10bp 3' overhang, 119 open reading frames (ORFs), and a GC content of 61.0%. The left arm of the genome primarily encodes structural genes (i.e., tail, portal, scaffold, and tapemeasure proteins) and utilizes the + strand. The right arm is also primarily read from the + strand and contains ORFs similar to phage genes of known functions as well as ORFs encoding gene products of unknown function. The Yoshi genome also contains 20 'orphams' with no known sequence analogs. Putative non-structural ORFs include antirepressor, helicase, DNA methylase, and Y-integrase. Phamily diagrams were constructed to explicate Yoshi's functional relatedness to known Mycobacteriophages (e.g., Pham 1635 – Y-integrase).

Session 1B: 9:40 am

Naja Simeon **Grambling State University**

Glory of God

The concept behind this body of work is as spontaneous and varied as my thoughts and ideas in my head, and they grow and change as my moods change. I am Naja Simeon of St. Lucia W.I. an Engineering Technology Major and Art Minor at the Grambling State University. This body of work is in an effort to duplicate the beauty and tranquility that I see in the natural world. I use bold strokes and marks, because for me they express the energy and vitality of the subject. This current body of work is a collection of pastel paintings, including portraits, landscapes and sky-scapes.

I have chosen to work with pastels mainly because of the freedom of mixing and blending colors and the easy application of the medium. I have focused mainly on lines, shades and vivid colors. Inspired by the detailed sketches and paintings of Leonardo De Vinci and other Renaissance artists, I have synthesized the use of lines, shades and vivid colors to create work that evoke emotion and character in the viewer. I chose the title "Glory of the Gods" for this body of work in order to emphasize the true beauty and the wonders of the natural world. I believe that the eyes are the windows to the soul and it is only through them that we can truly understand the world around us.

Session 1A: 9:00 am **Mentor: Ms Donna McGee**

Alex Trochez, Naidu V. Seetala, Gabriel Burks, Danny Hubbard, Alex Trochez, and Valery Khabashesku* **Grambling State University**

Physical Properties of Aliphatic and Aromatic Polyurea-nanoclay and Polyimde nanoclay Composites

Thermo-mechanical analysis was performed on aliphatic polyurea with 1-5% nanoclay using a penetration probe at a constant pressure of 0.2 N and the surface displacement was obtained over a temperature range of 20oC to 200oC. Thermo-mechanical analysis showed a systematic decrease in the thermal event response temperature around 63 Â°C with increasing wt% nanoclay in the aliphatic polyurea-nanoclay composites. Also, positron lifetime, magnetometry, tensile strength, and thermo mechanical measurements were made to study the 1-5% nanoclay incorporated aromatic and aliphatic polyurea films. Results obtained during the study showed there were decreased glass transition temperatures noted for each nanoclay/ polyurea sample in comparison to samples of polyurea, only. The magnetic curves showed mostly diamagnetic with a small ferromagnetic component for all polyurea samples. The ferromagnetic component is higher for aliphatic and nanoclay showed a drastic change in aliphatic compared to aromatic polyurea. The ferromagnetic component saturation magnetization (Ms) showed 61% decrease in aliphatic polyurea due to nanoclay while aromatic polyurea showed only 49% decrease; and the magnetic coercivity (Hc) showed 300% increase in aliphatic compared to 40% increase in aromatic films. This suggests a strong interaction of nanoclay with aliphatic chains compared to aromatic chains. This may explain the corresponding changes in the tensile strength observed for these aliphatic and aromatic polyurea films with and without nanoclay. The strength at break point is increased by 57% in aliphatic polyurea by introducing nanoclay, while aromatic polyurea showed only 14% increase.

* University of Houston

Session 4C: 2:20 pm **Mentor: Dr. Danny Hubbard**

Steuart Turner, Daniel D. Sorrells and Alan W.L. Chiu **Louisiana Tech University**

The Effects of Stochastic Resonance on Bipolar Stimulation Orientation in Hippocampal Slices

Stochastic resonance refers to the phenomenon where subthreshold feeble inputs into systems are enhanced by the presence of noise. This research is needed because noise is present in many communication pathways in the brain and the frequencies of neuronal activities are related to brain functions and disorders. In our study we looked into the effects of bipolar electrical stimulation orientation with respect to the neural pathways in the brain. Hippocampal slices were used because of their well known structure. They were stimulated with harmonic signals at different frequencies superimposed by Gaussian white noise using multielectrode array. The electrical field potential response was analyzed using power spectrum. It was found that 5Hz activity was enhanced when stimulus was applied parallel to the Subiculum-CA3. Enhanced 40Hz activity was observed when the stimulation was applied perpendicular to the CA3-CA1. This study may lead a better design of stimulation protocol for treating neurological disorders.

Session 1C: 9:00 am **Mentor: Dr. Alan Chiu**

Ronald Weekes and Dane McLean **Grambling State University**

A PID Temperature Control System Design

A PID (Proportional-Integral-Derivative) controller is a device commonly used in the automatic control field to control temperature, motor speed, liquid level, etc. In this project, a negative feedback temperature control system with a PID controller was designed and constructed by use of operational amplifiers and other electric/electronic components/devices. The National Instruments Circuit Design Suite 11 (a computer-aided circuit analysis/design software for electronics) was used to simulate, analyze and troubleshoot the designed circuit. After completion of the design, a prototype of the designed circuit was constructed on the NI Elvis II (a computer integrated platform) to demonstrate its performance experimentally. The characteristics of the PID temperature control system were displayed by interfacing NI Elvis II platform with NI LabVIEW 8.6 (a graphical programming software) through USB connection to a PC. A satisfactory performance of the control system was observed. This control system can be easily extended to include other control elements/devices for other control applications.

Session 3C: 1:30 pm **Mentors: Dr. Shueh-Ji Lee and Mr. Shin-Shiu Chen**

Tiffany Williams Northwestern State University

Revamping Contemporary Sexual Harassment Law

Sexual harassment remains a problem in our nation that is sometimes illegal and sometimes legal, sometimes clearly wrong and sometimes an overreaction, sometimes prosecutable but oftentimes not prosecutable. Clearly, change is in order. This study seeks to highlight key problems in current sexual harassment law. Upon explication of these problems, proposed solutions will be presented.

Session 3B: 1:10 pm **Mentor: Charlie Penrod, JD**

Lauren Wrubluski, Julie Delabbio and Wendy Sealey* **Northwestern State University**

The Influence Of Dietary Elements On Carapace Color Of Red Swamp Crayfish (*Procambarus clarkii*)

Earlier studies in our laboratory on growth of wild native crawfish unexpectedly produced crawfish that were blue in color. To investigate further the source of this unusual result, seven custom-made diets were fed to wild-captured *Procambarus clarkii* juveniles for four months to determine if crawfish diet influenced the color of the carapace. Elements of beta-carotene, astaxanthin, marigold, purple corn, copper sulfate and potassium permanganate were added to a base diet (the control) and crawfish in individual holding chambers were fed equal rations of a specific diet. There were 9 replicates for each diet except for the diet with astaxanthin (n=7). Measurements of the carapace color were taken at 0, 2 and 4 months using a fiber optic colorimeter. A change in the color of the carapace in some crawfish was evident after four months.

*US Fish and Wildlife Services, Bozeman,Montana

Session 4B: 3:20 pm **Mentor: Julie Delabbio**
