2010 Celebration of Student Scholarship

Session I

Presenters: Alejandra Alvarado-Brizuela (Graduate Student of Curriculum, Instruction, and Media Technology/Language Education)
Faculty who assisted with the project: Dr. Leslie Barratt
Affiliated Department: *Department of Curriculum, Instruction, and Media Technology, Indiana State University, Bayh College of Education, 401 North 7th Street, Terre Haute, IN 47809*
Title of Submission: Enriching your Graduate Experience through Professional Development: Attending KFLC 2009 & TESOL 2010
Abstract: Graduate students usually spend too much time worrying about their classes, their research, and their present and future plans. More times than not they forget to take advantage of the resources that ISU has available for them in order to take a closer look at their professional world or the world they hope to enter sooner rather than later, such as attending and presenting in conferences.

In this poster session, I share my experience with this process: from writing a paper that deserves to be shared with others, to applying for funding in different departments, and actually presenting in a conference, or simply attending one.
Session I: 10:00am-12:00pm

Presenters: Lily Arias (Graduate Student of Biology)
Faculty who assisted with the project: Dr. John Whitaker
Affiliated Department: *Department of Biology, Indiana State University, 600 Chestnut Street, Room 283, Terre Haute, IN 47809*
Title of Submission: Stable isotope signatures as indicator of dietary habits in Myotis sodalis
Abstract: Dietary habits and habitat use are important factors for understanding the ecology and behavior of animals and for assessing their ecological and economic importance in both natural and anthropogenically impacted ecosystems. Stable isotope analysis can reveal the source of the food ingested by the bats by identifying their particular carbon and nitrogen ratios of isotopes. The goal of this study is to assess the ecological niche differentiation in forest sites relative to anthropogenically disturbed sites (agricultural lands) of the federally endangered Indiana bat Myotis sodalis by analyzing isotopes present in feces and hair. This study will give us accurate information on the importance of different habitats on the survival of the species, on how it is responding to development, as well as allowing us to propose successful conservation strategies not only for this species but also for the bat community. Here I present the preliminary results of

this study.
Session I

Presenters: Natalie Chambers (Graduate Student in English/American Literature)
Faculty who assisted with the project: Dr. Brendan Corcoran
Affiliated Department: *Department of English, Indiana State University, Root Hall, Room A-261, Terre Haute, IN 47809*
Title of Submission: Ted Hughes and Sylvia Plath: Layers of Literary Collaboration and the Perpetuation of the Poetic Voice.
Abstract: The partnership of Ted Hughes and Sylvia Plath was arguably one of the most mutually productive literary pairings of the twentieth century; however, the bulk of the discussion regarding their partnership focuses not on their prolific literary production but on the marriage itself and the events that led up to Plath's suicide in February of 1963. Even the most in-depth investigations of their marriage and works are individualistic interpretations of the details that constituted a collaborative life and the work it created. The most direct insight we have into the Hughes/Plath relationship is by way of the poetry itself, the offspring created by their literary coupling, and its poetic descendent, Hughes's Birthday Letters, which is a collection that only Hughes—and the posthumous poetic Plath—could accurately assemble, and it is a representation of a relationship rich in love and animosity; creation and destruction; tenderness and violence; life and death.
Session I 10:00am-12:00pm and reading 12:15pm-12:45pm

Presenter: Kyle Doan (Graduate Student of English-Writing Track)
Faculty who assisted with the project:
Affiliated Department- *Department of English, Indiana State University, Root Hall, Room A-261, Terre Haute, IN 47809*
Title of Submission: Poetry and Pong: Approaching Videogames from a Literary Perspective
Abstract: This presentation expands the definition of "text" into the exciting, and virtually untapped, field of videogame research, building the foundation of such studies and showing how they can be integrated into the field.
Session I : 10:30 am – 12:00pm

Finally, as the project is digital, I do not have a "poster" per se, and adapting my project into a poster would be very problematic, as the project is inherently multimedia-based. *A projector/DVD player setup would be ideal; otherwise, I will have to present without visual aids.*

Presenter: Melissa E. Hamil (3rd year PhD student in the School of Psychology)
Faculty who assisted with the project: Dr. Linda L. Sperry
Affiliated Department- *Department of Communication Disorders and Counseling, School, and Educational Psychology, Indiana State University, Bayh College of Education, Terre Haute, IN 47809*
Title of Submission: African American Parenting Values Viewed through the Cultural Practice of Saying "No" to Two Year Olds. By Douglas E. Sperry, Melissa E. Hamil, and Linda L. Sperry.
Abstract: "Cultural practices are actions that are repeated, shared with others in a social group, and invested with normative expectations and meanings or significances that go beyond the immediate goals of action" (Goodnow & Miller, 1995, p. 7). In the spirit of such a practice-oriented approach to the study of social development, we set out to observe real parent-child interaction and describe the verbal means by which parents from an impoverished rural African American community say "no" to their 2-year-old children. We defined this practice through the consideration of the pragmatic intention of the caregiver along with the syntactic-semantic structure of the caregiver's utterance in the context of the child's ongoing behavior. In this study, we assert that saying "no" to two year olds is a highly elaborated performance art by caregivers in this community that accomplishes many goals, not the least of which is drawing children's attention to a wide variety of realities about communication and the social world it indexes. Two very rich examples support the idea this is a central context of socialization.
Session I 10:30am-12:00pm

Presenters: Ryan L. Hancock (Senior Biology Major)
Faculty who assisted with the project: Dr. Diana K. Hews
Affiliated Department: *Department of Biology, Indiana State University, 600 Chestnut Street, Room 283, Terre Haute, IN 47809*
Title of Submission: Do Hippocampal Volumes Differ Between Male Morphs that Differ in Space Use in the Ornate Tree Lizard?
Abstract: The dorsal cortex (DCx) and medial cortex (MCx) of non-avian reptiles may be homologous to the mammalian hippocampus. In mammals, the hippocampus plays key roles in spatial use and memory. Work on non-avian reptiles suggests a similar role for the DCx and MCx, but more work is needed. Ornate tree lizards are a desirable species to study spatial use and its relation to hippocampal volume because of space-use differences within one species: two male color morphs that are behaviorally well-characterized differ in space use. Males of one morph are nonterritorial with large ranges, whereas males of the other are territorial, defending smaller areas. Females have the smallest home ranges. To test the hypothesis that difference in space correlate with differences in hippocampal volume we collected, processed, and stained lizard brain sections for standard cytoarchitectural structure. We then measured the volume of

the hippocampus in these serial sections using image-analysis.
Session I: 10:30am-12:00pm

Presenters: Andrea Cheyenne Jackson (Senior; Psychology and Liberal Studies)
Faculty who assisted with the project: Dr. Kevin Bolinkskey
Affiliated Department: *Department of Psychology, Indiana State University, Root Hall, Room B-202, Terre Haute, IN 47809*
Title of Submission: Anxiety Reduction: Is Anxiety Mitigated by Meditation, Yoga, and a Degree of Sprituality?
Abstract: The specific causes of anxiety are unknown, although evidence suggests that its onset may be mediated by situational events that may be unrelated or related to one another. Treatments for anxiety are varied. The current study examined how the experience of anxiety may be mitigated by the practice of yoga, meditation and/or an increase in spirituality incorporating a survey and the Beck Anxiety Inventory. It was hypothesized that lower levels of anxiety would be associated with the practice of yoga, meditation and spirituality.
Session I: 10:30am-12:00pm

Presenters: Neha Jain (Graduate Student of Art)
Faculty who assisted with the project: Sister Alma Mary Anderson
Affiliated Department: *Department of Art, Indiana State University, FA 108, Terre Haute, IN 47809*
Title of Submission: Relife, recycle restore
Abstract: *Relife* is a self-invented word that personifies waste, and its sole intention is to stress upon the idea of extracting benefits from waste, hence the word *life. Relife* delivers the message of environmental awareness and responsibility and encourages action. Its main objective is to create awareness by highlighting the importance of recycling paper and using the recycled product in order to reduce paper footprints on Earth. Paper and paper products have a broad range of use that span from homes, offices and schools through eateries and groceries, around the world. It is also the central ingredient of graphic design, and when used responsibly can be an eco-friendly medium for our communication. Most of the paper that we use everyday can be avoided from going to landfill space and given life by being recycled instead. Recycling reduces the amount of energy needed in production, prevents air and water pollution and also helps to reduce the consumption of fresh raw materials like trees. *Relife* is unique for its clever concoction of visual style and grace combined with the seriousness of the issue at hand.
Session I: 10:00am-12:00pm

Presenters: Amanda Jamison (Graduate Student of Biology)
Faculty who assisted with the project: Dr. Elaina M. Tuttle
Affiliated Department: *Department of Biology, Indiana State University, 600 Chestnut Street, Room 283, Terre Haute, IN 47809*
Title of Submission: Identification of Avian Malarial Parasites, Use of RFLPs to Distinguish Three Parasitic Genera

Abstract: Selection as an evolutionary force may be more important than previously thought as avian population continue to decline through landscape & global climate change. Other factors influence health & consequently secual selection pressures-such as parasitism. As energy is a limiting factor, the relative investment in life-history attributes, i.e. survival & reproduction, physical appearance, & behavior can be altered by parasite infestation in addition to clinical symptoms. Molecular methods developed for the detection & identification of hematozoan parasites may be useful in addition to clinical diagnosis, as they detect disease at very low levels & can be performed quickly. Various attempts to characterize malarial parasites has included different techniques ranging from RFLPs, PCR, & sequencing to determine prevalence & parasite load in individuals & populations. While mammalian Plasmodium spp. Have been characterized, less is known about avian parasites. As the cytochrome b region is highly conserved, I tested a molecular technique that differentiates between the three malarial genera in this highly conserved region of mtDNA.
Session I: 10:00-12:00pm

Presenters: Marisa Korody (Graduate Student of Biology)
Faculty who assisted with the project: Elaina M. Tuttle
Affiliated Department: *Department of Biology, Indiana State University, 600 Chestnut Street, Room 283, Terre Haute, IN 47809*
Title of Submission: Evidence for Segregation Distortion in Sperm of the White-throated Sparrow
Abstract: Mendel's first law states that every allele has the same probability of being passed on to each offspring. However, evidence for segregation distortion (SD) is observed in various species, violating this law. SD or drive results in the unequal transfer of genes or chromosomes from one parent to offspring. Inversions appear to occur frequently in species that exhibit some form of SD. Currently, the only known example of autosomal drive occurs in the t-locus of the mouse, which contains multiple inversions. White-throated sparrows carry inversions on the second autosome, resulting in plumage and behavior differences. Due to plumage differences of this species between carriers and non-carriers of the inversions there is a marker for SD. Therefore, we are able to trace the mechanisms of distortion within this species through both sexes. We examine variation in sperm production by male white-throated sparrows to confirm SD in this species and determine whether distortion varies with spatial and/or temporal environmental variability.
Session I 10:00-12:00

Presenters: Christine Love (Doctoral Student in Counseling Psychology)
Faculty who assisted with the project: Dr. Christine MacDonald
Affiliated Department: *Department of Communication Disorders and Counseling, School, and Educational Psychology, Indiana State University, Bayh College of Education, Terre Haute, IN 47809*
Title of Submission: Bullying in College: A Comparison of Two Measurement Methods
Abstract: This study examines the prevalence of bullying behaviors perpetuated against college

students by peers, professors, and cyber bullies. Additionally, the present study compares the bullying rates obtained through use of two different methods to determine whether students' subjective perceptions match their experiences of specific negative behaviors. The sample of 439 students completed a questionnaire reporting how often they had been bullied, as well as how often they had experienced each specific behavior. Results show that 14.4% of students were bullied by another student, 4.3% by a professor, and 21.9% were cyber bullied. Correlations conducted between each of the three composite bully scales and items measuring students' subjective perceptions of having been bullied revealed significant positive relationships. The degree of overlap between the two bullying methods for each type of aggressor varied, with the bullying by another student demonstrating the smallest overlap. This may suggest an acceptance of bullying behaviors in college peer relationships.

Session I

Presenters: Jessica Markle and Katelynn Moats

Faculty who assisted with the project: Dr. Gregory Bierly and Dr. Elizabeth Brown

Affiliated Department: *Department of Mathematics and Computer Science, Indiana State University, Root Hall, Room A-146, Terre Haute, IN 47809*

Title of Submission: Sparking Interest in Mathematics in Vigo County: M^2 for Girls & go Figure

Abstract: Throughout the 2009-2010 school year, two mathematical pilot programs have been started with the help of the Center for Mathematics Education, faculty from the university, and students from the university. Both programs were geared towards preserving the interest in mathematics in the youth of the Terre Haute area. Also, the programs were created to encourage younger students to further their education in mathematics throughout middle and high school. The two programs were focused toward different age groups with M^2 for Girls containing seventh and eighth grade girls, and the Go Figure program containing a diverse group of participants grades 2-4. I was able to be involved in helping with both of the programs and saw great success and excitement with both programs. I wish to showcase the two programs to the Indiana State University community in hope of spreading interest in these two programs that will be continued starting Fall 2010.

Session I

Presenters: Chris McCormick (Senior Psychology Major)

Faculty who assisted with the project: Dr. Virgil Sheets

Affiliated Department: *Department of Psychology, Indiana State University, Root Hall, Room B-202, Terre Haute, IN 47809*

Title of Submission: Understanding Love-at-first-sight: The role of personality and L-sharing Experiences

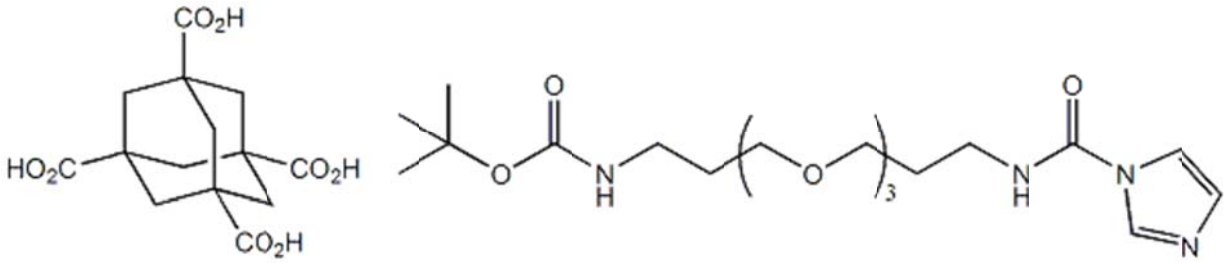
Abstract: Love-at-first-sight is a phenomenon that is frequently depicted in popular media, but which has received relatively little scientific study. It does not fit well within current theoretical frameworks of relationship development. I examined whether certain personality traits and experiences-specifically "l-sharing" experiences were associated with falling in love-at-first-sight. I found that people who believe love is a matter of destiny and those with traits of openness were more likely to report love-at-first-sight.
Session I: 10:00am-12:00pm

Presenters: Alexandra McNichols (Graduate Student of Art)
Faculty who assisted with the project: Dr. Fran Lattanzio
Affiliated Department: *Department of Art, Indiana State University, FA 108, Terre Haute, IN 47809*
Title of Submission: "Stone Faces/Photo-Sculpture" Diversity and Identity in America.
Abstract: For more than a year I photographed people living in Terre Haute, who were originally from Asia, Africa, Europa and the Americas. These portraits represent an ever increasing change in the cultural diversity of the city. This selection of images is inspiring because of the multi-ethnicity and the diverse socio-economical and cultural backgrounds. This compilation of images has helped me to show the changes produced by the phenomena of globalization. Even small communities like Terre Haute are now looking wonderful diverse. Recently more immigrants have moved into small cities looking for the "American Dream". Between 2008 and 2009, while I was experimenting with silver bromide emulsion in the dark room, I research how to produce photographs with the appearance of sculpture by combining photography and stone. Forty-five black and white images were printed on square, rectangular and broken rustic scabos, green and yellow onyxes, travertines and marble.
Session I and Reading

Presenters: Amanda Paden (Senior Biology Major) and James Tingley (Junior Chemistry Major)
Faculty who assisted with the project: Dr. Richard Fitch
Affiliated Department: *Department of Chemistry and Physics, Indiana State University, 600 Chestnut Street, Science Building Room S35E, Terre Haute, IN 47809*
Title of Submission: Synthetic Studies Toward Adamantane-Based Dendrimers for Biological Applications.
Abstract:

We are interested in adamantine based dendrimers with hydrophilic amine-terminated PEG-based backbones for use in biological systems. Such polymers may be useful for preparing biomolecule terminated dendrimers. Initial studies approached the synthesis of adamantane tetracarboxylic acid using the method of Newkome. Tether chemistry is focused on the preparation of bifunctional linkers based on

4,7,10-undecane-1,13-diamine containing Boc protection at one end and CDI activation at the other. Our results to date will be presented.



Session I

Presenters: Anupama B. Ramalinga (Graduate Student of Microbiology)
Faculty who assisted with the project: Dr. H. Kathleen Dannelly
Affiliated Department: *Department of Biology, Indiana State University, 600 Chestnut Street, Room 283, Terre Haute, IN 47809*
Title of Submission: Exploring a Novel Hydrolase Domain in Methicillin Sensitive *Staphylococcus aureus* Strain, MSSA476
Abstract: Community-associated methicillin resistant *Staphylococcus aureus* (CA-MRSA) causes skin infections such as impetigo and abscesses but can also invade deeper tissues to cause life threatening conditions like endocarditis, necrotizing fasciitis and osteomyelitis. CA-MRSA has evolved to acquire resistance to beta-lactam antibiotics, including methicillin, amoxicillin, and penicillin. This project involves a search for novel exported proteins that lend virulence to the organism.

Using bioinformatics analysis, SAS0760 gene, a hypothetical exported protein, was selected and analyzed. This protein has a COG 3863 domain, an uncharacterized relative of cell wall hydrolases. Bacterial hydrolases are known to play a significant role in cell growth, biofilm formation and contributes to pathogenicity and antibiotics susceptibility.

We have cloned and expressed SAS0760. Future plans include purification and characterization of its enzymatic properties, especially with relation to virulence. Understanding this novel hydrolytic domain will shed light on the mechanisms of increased invasiveness in *Staphylococcus aureus.*

Session I

Presenters: Peter Sabastian (Graduate Student of Biology, M.S.)
Faculty who assisted with the project: Elaina M. Tuttle
Affiliated Department: *Department of Biology, Indiana State University, 600 Chestnut Street, Room 283, Terre Haute, IN 47809*
Title of Submission: Variation of volatile compounds within preen oil white-throated sparrows.
Abstract: Historically, preen oil has been thought to be used in waterproofing and feather care. A couple recent hypotheses for preen oil use include masking nest odors (Reneerkens et al. 2005,

2007) and chemosensory mate choice (Hirao et al. 2009). To better understand these roles, we studied preen oil composition in a species (white-throated sparrow, Zonotrichia albicollis) that has two distinct morphs found in both sexes in which each morph-sex class differs in investment towards nest and mating behaviors. So far, we have collected preen oil samples from 32 birds of differing sex and morph, and determined each samples' volatile chemical composition through Gas Chromatography- Mass Spectrometry. We determined the major components of their preen oil are highly odorous linear alcohols, some of which are similar to plant odors, which support masking of nest odors. We found high individual variation of specific chemicals which show promise for further in depth examination.
Schedule I 10:00am-12:00pm

Presenters: Duk-Hae Sung
Faculty who assisted with the project: Dr. Hema Ganapathy-Coleman
Affiliated Department: *Department of Communication Disorders and Counseling, School, and Educational Psychology, Indiana State University, Bayh College of Education, Terre Haute, IN 47809*
Title of Submission: Emotional Experiences and Coping among Asian International Students in the U.S.: An Interview Study
Abstract: This qualitative study explored emotional experiences among Asian international students who were seen as foreigner as well as minority and examined how their identity as foreigner and cultural values emerged in their emotional reactions and regulation. This study employed a constructivist approach to understand the complexity and significance of everyday contacts in emotional experiences and process. The participants in this study were seven Asian international students (age 22-30) who were undergraduates or graduate students at a university located in a midsized Midwestern city. Three themes on emotional experiences emerged and discussed.
Session I

Presenters: Shu-Chun Tseng (Graduate Student of Curriculum and Instruction with Specialization in Language Educaiton)
Faculty who assisted with the project: Dr. Susan Kiger and Dr. Leslie Barratt
Affiliated Department: *Department of Curriculum, Instruction, and Media Technology, Indiana State University, Bayh College of Education, 401 North 7th Street, Terre Haute, IN 47809*
Title of Submission: NNESTs' Changing Identities during TESOL Preparation Program
Abstract: Identity, a dominant issue in the recent English language teaching (ELT) literature, can be identified as an individual's perceptions of the self in relation to diverse relationships with the surrounding subjects and contexts. It is an ongoing process that can be impacted when an individual is immersed in different contexts (e.g. Norton 2000). With the rapid changing of globalization, there are increasing numbers of non-native English-speaking teachers (NNESTs) pursuing higher education in English-speaking countries, including the United States, so the the question of their changing identities becomes even more important. In this study, subjects are NNESTs from East Asian countries (China, Taiwan, and South Korea) and are now studying in a TESOL Master's program participated in focus group interviews of First-Year subjects and

Second-Year subjects. This research explores how the two groups of NNESTs perceive their ELT professional identity differently at different stages of pursuing a Master's degree.
Session I and reading

Presenters: Robin Van De Veer (Graduate Student of Geography)
Faculty who assisted with the project: Dr. Jim Speer
Affiliated Department: *Department of Earth and Environmental Science, Indiana State University, 600 Chestnut Street, Room 159, Terre Haute, IN 47809*
Title of Submission: Climatic and Hydrologic Response from Bald Cypress at Hovey Lake in Southwestern Indiana
Abstract: Bald Cypress (Taxodium distichum) is important to forested wetlands in the Southwestern Coastal Plain and Mississippi River Valley (extending into the southern Midwest). This deciduous tree is important commercially and ecologically. Bald Cypress can live over 1000 years and are sensitive to climate and groundwater hydrology variability, indicated through ring width signals. Because of these factors, it is favored for dendrochronological study in the region. The International Tree-Ring Database does not have a well-defined chronology for southwest Indiana. The site is in southwest Posey County, at Hovey Lake, about 10 miles south of Mount Vernon, Indiana. This research will provide missing information and create the northern-most Midwestern Bald Cypress chronology. Cores were taken from near shore, both on land and in water. Hovey Lake's Bald Cypress have been documented at least since A.D. 1825. Historical aerial photo analysis will be used to discern change in land development, treeline, and waterline.
Session I

Presenters: Keya Wiggins (Doctoral Student of Counseling Psychology)
Faculty who assisted with the project: Dr. Michael Boyer
Affiliated Department: *Department of Communication Disorders and Counseling, School, and Educational Psychology, Indiana State University, Bayh College of Education, Terre Haute, IN 47809*
Title of Submission: African American's Perception of the "N-word" across Differing Racial Identity Attitudes.
Abstract: The word "nigger", alternatively referred to as the "n-word", became a racial slur when it was used in a derogatory manner to refer to people who were stolen from Africa and then enslaved. The "N-word) has since been used by some European Americans as an "instrument of White supremacy" to demoralize African Americans (Asim, 2007, p. 9). However, the word "nigga" has been used by some African Americans who have seemingly transformed the "N-word" by using "nigga" as a term of endearment to refer to other African Americans (Asim). Considering the history and nature of the word, the usage raises the question: how can any derivative of this word still be used within the African American community by African Americans to describe African Americans? The purpose of this research is to better understand this issue, and promote a more in depth understanding of the potential effects of racism on the African American psyche.
Session I

Presenters: Cyril O. Wilson (Graduate Student seeking PhD in Physical Geography)
Faculty who assisted with the project: Dr. Qihao Weng
Affiliated Department: *Department of Earth and Environmental Science, Indiana State University, 600 Chestnut Street, Room 159, Terre Haute, IN 47809*
Title of Submission: Modeling the contribution of snowmelt runoff to surface water quality under urban land cover change scenario: A case study of Des Plaines River watershed, Chicago Metropolitan Area, Illinois.
Abstract: Land use and land cover change significantly affect spatial and temporal patterns of surface runoff within urban watersheds as cities expand. Precipitation data from the northern regions of humid continental warm summer climate shows comparable amount of snowfall vis-à-vis rainfall. This research integrates snowmelt runoff and estimates its contribution to nonpoint source pollution loading in the Des Plaines River Watershed between 2000 and 2009. The study employs a loose coupling modeling framework by combining Soil and Water Assessment Tool (ArcSWAT) and Nonpoint-Source Pollution and Erosion Comparison Tool (N-SPECT) hydrologic models within ArcGIS 9.3 model builder in assessing the contribution of snowmelt runoff to surface water quality under an urban land use/land cover change scenario. Landsat Thematic Mapper images and Moderate Resolution Imaging Spectroradiometer (MODIS) snow depth data provided land cover and snow cover data. The modeling framework was able to predict surface water quality reasonably well over the time period.
Session I: 10:00am-12:00pm

Noon Reading

Presenters: Natalie Chambers (Graduate Student in English/American Literature)
Faculty who assisted with the project: Dr. Brendan Corcoran
Affiliated Department: *Department of English, Indiana State University, Root Hall, Room A-261, Terre Haute, IN 47809*
Title of Submission: Ted Hughes and Sylvia Plath: Layers of Literary Collaboration and the Perpetuation of the Poetic Voice.
Abstract: The partnership of Ted Hughes and Sylvia Plath was arguably one of the most mutually productive literary pairings of the twentieth century; however, the bulk of the discussion regarding their partnership focuses not on their prolific literary production but on the marriage itself and the events that led up to Plath's suicide in February of 1963. Even the most in-depth investigations of their marriage and works are individualistic interpretations of the details that constituted a collaborative life and the work it created. The most direct insight we have into the Hughes/Plath relationship is by way of the poetry itself, the offspring created by their literary coupling, and its poetic descendent, Hughes's Birthday Letters, which is a collection that only Hughes—and the posthumous poetic Plath—could accurately assemble, and

it is a representation of a relationship rich in love and animosity; creation and destruction; tenderness and violence; life and death.
Session I 10:00am-12:00pm and reading 12:15pm-12:45pm

Presenter: John F. Frana (Graduate Student in Criminology and Criminal Justice)
Faculty who assisted with the project: David Polizzi, Ph.D.
Affiliated Department- *Department of Criminology & Criminal Justice, Indiana State University, Holmstedt Hall 210, Terre Haute, IN 47809*
Title of Submission: Professors with Criminal Records: Criminology & Criminal Justice Students Views on Former Convicts as Professors.
Abstract: As America's incarceration binge begins its fourth decade, one unintended consequence of this social policy has been a growing number of criminologists/sociologists who have personal experience with incarceration as many former convicts have been pursuing education as an avenue for successful re-entry. Some of these ex-convicts have begun to secure PhD's and have been conduction research as well as teaching various university courses in sociology and/or Criminology and Criminal Justice.

Within this thesis the myths maintained by society surrounding crime and priosoners will be discussed. Using survey research students majoring in Criminology and Criminal Justice (*n* = 186) at ISU were asked (1) how they would feel to discover that their professor had a criminal record and (2) would they knowingly enroll in a course that an ex-con was teaching? Also, by using an attribution scale student perceptions on causes of crime will be examined. The findings from this research suggest that most Criminology and Criminal Justice students would welcome professors with a criminal history into the classroom.
Session II 12:45pm-2:15pm/12:15-12:45 slot for reading

Presenters: Alexandra McNichols (Graduate Student of Art)
Faculty who assisted with the project: Dr. Fran Lattanzio
Affiliated Department: *Department of Art, Indiana State University, FA 108, Terre Haute, IN 47809*
Title of Submission: "Stone Faces/Photo-Sculpture" Diversity and Identity in America.
Abstract: For more than a year I photographed people living in Terre Haute, who were originally from Asia, Africa, Europa and the Americas. These portraits represent an ever increasing change in the cultural diversity of the city. This selection of images is inspiring because of the multi-ethnicity and the diverse socio-economical and cultural backgrounds. This compilation of images has helped me to show the changes produced by the phenomena of globalization. Even small communities like Terre Haute are now looking wonderful diverse. Recently more immigrants have moved into small cities looking for the "American Dream".

Between 2008 and 2009, while I was experimenting with silver bromide emulsion in the dark room, I research how to produce photographs with the appearance of sculpture by combining photography and stone. Forty-five black and white images were printed on square, rectangular and broken rustic scabos, green and yellow onyxes, travertines and marble.

Session I and Reading

Presenters: Randal Kent Minas, Jr. (Graduate Student of Business Administration)
Faculty who assisted with the project: Dr. Jeffrey Harper
Affiliated Department: *Business Administration Program, Indiana State University, Scott College of Business, Room 610, Terre Haute, IN 47809*
Title of Submission: Adoption and Use of Information Technology by Healthcare Practitioners.
Abstract: Many different models exist to examine the adoption and diffusion of information technology. This study employs a modified Unified Theory of Acceptance and use of Technology (UTAUT) instrument that consists of seven constructs that determine behavioral intention, which in turn affects a user's adoption of an information system. The survey instrument will be administered to approximately 1,000 doctors, nurses, technicians, physical therapists, and counselors in smaller organizations and rural settings. The results will be analyzed to elucidate which factors contribute most to adoption and use of healthcare information systems in the segment of healthcare delivery where information systems are currently underutilized. The results of this research will allow for conclusions concerning the factors affecting adoption of information systems in this setting, recommendations for administrators considering the implementation of such systems, and implications for future research.

Session II and reading

Presenters: Shu-Chun Tseng (Graduate Student of Curriculum and Instruction with Specialization in Language Educaiton)
Faculty who assisted with the project: Dr. Susan Kiger and Dr. Leslie Barratt
Affiliated Department: *Department of Curriculum, Instruction, and Media Technology, Indiana State University, Bayh College of Education, 401 North 7th Street, Terre Haute, IN 47809*
Title of Submission: NNESTs' Changing Identities during TESOL Preparation Program
Abstract: Identity, a dominant issue in the recent English language teaching (ELT) literature, can be identified as an individual's perceptions of the self in relation to diverse relationships with the surrounding subjects and contexts. It is an ongoing process that can be impacted when an individual is immersed in different contexts (e.g. Norton 2000). With the rapid changing of globalization, there are increasing numbers of non-native English-speaking teachers (NNESTs) pursuing higher education in English-speaking countries, including the United States, so the the question of their changing identities becomes even more important. In this study, subjects are

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Session I and reading

Session II

Presenters: Alejandra Alvarado-Brizuela (Graduate Student of Curriculum, Instruction, and Media Technology/Language Education)
Faculty who assisted with the project: Dr. Carmen Montañez
Affiliated Department: *Department of Curriculum, Instruction, and Media Technology, Indiana State University, Bayh College of Education, 401 North 7th Street, Terre Haute, IN 47809*
Title of Submission: Esencia de mujer: evolución sutil del erotismo a la maternidad en la poesía de Ana Istarú
Abstract: Feminine sexuality and maternity as literary themes have a number of exponents in Hispanic American poetry; being Delmira Agustini and Gabriela Mistral, respectively, the best poets to explore these themes during their times. Nowadays, Costa Rican write Ana Istarú has become one of the women who best utilizes poetry to present and discuss these topics. Although the evolution of her female poetic voice is very subtle in Ana Istaru's poetry, her poems reflect the influence of Delmira Agustini and Gabriela Mistral for the expression of female sexuality of the first and the feelings and emotions towards maternity of the second.

In this article, not only I present evidence of the influence of Delmira Agustini and Gabriela Mistral in Ana Istarú's poetry, but also I explore the subtle evolution of Istarú's poetic voice to present two important phases of her growth as a woman and as a poet.
Session II: 12:45pm-2:15pm

Presenter: Jennie M. Carr (Graduate Student of Biology)
Faculty who assisted with the project: Steven L. Lima
Affiliated Department- *Department of Biology, Indiana State University, 600 Chestnut Street, Science Building Room 283, Terre Haute, IN 47809*
Title of Submission: Real-time body temperature monitoring during deprivation-induced nocturnal hypothermia in mourning doves, Zenaida macroura.
Abstract: Overwintering birds are faced with the challenge of maintaining energy reserves in energetically-demanding conditions. Birds using hypothermia can conserve energy by maintaining lower body temperature throughout the night. However, maintaining a lower nocturnal body temperature may reduce a bird's ability to monitor and respond quickly to

potential threats. The possible costs associated with lowered behavioral responsiveness are frequently overlooked in the study of avian torpor. Mourning doves (Zenaida macroura) face such a trade-off between energy conservation and safety during unpredictable winter months. Our preliminary results show that doves subjected to a typical winter-storm period of food deprivation use nocturnal hypothermia and lower their body temperature substantially and progressively with each day of deprivation (7 degrees C(12.5 degrees F) drop in some cases). Although the temporal details of hypothermia varied among individuals, all doves studied showed the same general tendencies. Future work will quantify changes in behavioral responsiveness associated with avian hypothermia.

Presenter: Jason Damm (Graduate Student of Biology)
Faculty who assisted with the project: John O. Whitaker, Jr.
Affiliated Department- *Department of Biology, Indiana State University, 600 Chestnut Street, Room 283, Terre Haute, IN 47809*
Title of Submission: Poetry and Pong: Approaching Videogames from a Literary Perspective
Title of Submission: Range Expansion of the Western Harvest Mouse, *Reithrodontomys megalotis*, in Indiana
Abstract: The western harvest mouse, *Reithrodontomys megalotis*, was first captured in Indiana in 1969 at the Willow Slough Fish and Wildlife Area, Newton County. The species has progressively expanded its range eastward. Statewide surveys for *R. megalotis* have been conducted approximately every 10 years, with the last survey being conducted in 1998. In 1998, it was concluded that this species' distribution had expanded eastward into Cass, Clay, Fountain, Fulton, Lake, Marshall, Parke, Pulaski, Starke, Vigo, and White counties. In 2009, a reproductive population of *R. megalotis* was captured at the Indianapolis International Airport Conservation Properties. This population represents a disjunct unit from the last statewide survey. I intend to sample via live-trapping in the counties adjacent to the previous record and extend these efforts eastward, the purpose of which is to establish new distribution boundaries for this species in Indiana.
Session II 12:45pm-2:15pm

Presenter: Cassidy Davidson (Sophomore Athletic Training) and Dr. Lindsey Eberman
Faculty who assisted with the project: Dr. Lindsey Eberman
Affiliated Department- *Athletic Training Department, Indiana State University, Arena, Room C-06, Terre Haute, IN 47809*
Title of Submission: EVALUATION, DIAGNOSIS, AND TREATMENT OF SPONDYLOLYSIS

Abstract: Spondylolysis is a degeneration or fracture of the pars interarticularis most commonly found in the lumbar spine. Athletes who repetitively extend and rotate their lumbar spine are at a greater risk for spondylolysis than the general population. Functional and special tests that force the spine into extension elicit pain at the affected pars interarticularis. Diagnostic tests can also be used to help confirm the presence of this back pathology, although the oblique nature of the pars interarticularis can make it difficult. Conservative treatment, consisting of rehabilitation, is commonly successful and should be initially attempted. In the case that conservative treatment fails, surgical procedures can be performed to repair the damaged pars interarticularis.

Presenter: Nathan J. Engbrecht (Graduate student of Biology in the School of Medicine)
Faculty who assisted with the project: David Polizzi, Ph.D.
Affiliated Department- *Department of Biology at the Indiana University School of Medicine at Terre Haute (IUSMTH), Indiana State University, 600 Chestnut Street, Room 283, Terre Haute, IN 47809*
Title of Submission: Status and Distribution of Crawfish Frogs in Indiana.
Abstract: The conservation status of Crawfish Frogs (*Lithobates areolatus*) in Indiana has changed over the past several decades. Once described as being locally plentiful, declines led to the listing of Crawfish Frogs as a State Endangered Species in 1988. Many of the records for this species in Indiana are > 50 yrs old and have gone unconfirmed for several decades. The status of most populations along the northern and eastern periphery of their range is undetermined and many are suspected to be extirpated. Recent surveys performed by the Indiana Department of Natural Resources identified the presence of Crawfish Frogs in parts of southwest Indiana. Call surveys performed in 2009 confirmed the ongoing presence of this species at several sites in five counties. The discovery of unknown populations in southeast (Big Oaks National Wildlife Refuge) and extreme south-central Indiana (Spencer County) has redefined the perceived range of this species in Indiana.
Session II

Presenter: John F. Frana (Graduate Student in Criminology and Criminal Justice)
Faculty who assisted with the project: David Polizzi, Ph.D.
Affiliated Department- *Department of Criminology & Criminal Justice, Indiana State University, Holmstedt Hall 210, Terre Haute, IN 47809*
Title of Submission: Professors with Criminal Records: Criminology & Criminal Justice Students Views on Former Convicts as Professors.
Abstract: As America's incarceration binge begins its fourth decade, one unintended consequence of this social policy has been a growing number of criminologists/sociologists who have personal experience with incarceration as many former convicts have been pursuing education as an avenue for successful re-entry. Some of these ex-convicts have begun to secure PhD's and have been conduction research as well as teaching various university courses in sociology and/or Criminology and Criminal Justice.

Within this thesis the myths maintained by society surrounding crime and priosoners will be discussed. Using survey research students majoring in Criminology and Criminal Justice (*n* = 186) at ISU were asked (1) how they would feel to discover that their professor had a criminal record and (2) would they knowingly enroll in a course that an ex-con was teaching? Also, by using an attribution scale student perceptions on causes of crime will be examined. The findings from this research suggest that most Criminology and Criminal Justice students would welcome professors with a criminal history into the classroom.
Session II 12:45pm-2:15pm/12:15-12:45 slot for reading

Presenters: Paul Grubb (Junior Political Science Major)
Faculty who assisted with the project: Dr. Carl Klarner
Affiliated Department: *Department of Political Science, Indiana State University, Holmsteadt Hall, Room 301, Terre Haute, IN 47809*
Title of Submission: The Determinants of State Legislative District Compactness
Abstract: Redistricting by state legislatures is a subject of both great controversy and interest. When the subject of bizarrely shaped non-compact districts is brought up, gerrymandering is often suspected, and legislators' ability to represent constituents is often questioned. This paper examines the determinants of state legislative district compactness for all states and chambers during the 2000 round of redistricting using a quantitative measure of compactness based on the ratio of the area of a district with a circle created from the perimeter of the district (the Polsby-Popper method). The impact of a variety of factors on compactness is assessed. These include legal requirements about compactness as well as whether political subdivisions should be respected when district lines are drawn. The existence of multimember districts, whether house and senate districts are identical or nested, district population size, the extent of malapportionment in a legislature, coverage by section V of the Voting Rights Act and the racial and ethnic composition of a state, and whether courts have drawn up districts are also examined. A cross-sectional research design is used to assess these patterns.
Session II: 12:45pm-2:15pm

Presenters: Jennifer Heemeyer (Graduate Student of Biology)
Faculty who assisted with the project: Michael J. Lannoo
Affiliated Department: *Department of Biology, Indiana State University, 600 Chestnut Street, Room 283, Terre Haute, IN 47809*
Title of Submission: POST-BREEDING MIGRATION AND HABITAT SELECTION OF THE CRAWFISH FROG (*LITHOBATES AREOLATUS*).
Abstract: Crawfish Frogs (*Lithobates areolatus*) are a state endangered species in Indiana and considered near threatened on the IUCN Red List, with declines documented in nearly every state in which they occur. Grassland habitat loss is a major factor driving population declines.

Our goal was to determine the relationships between the frogs and their grassland habitat. We implanted transmitters in 20 frogs and documented their movements from breeding wetlands to burrows. From 3/21/2009 to 11/11/2009, Crawfish Frogs moved between 76 and 1,022 m (386 m average). Vegetation characteristics surrounding burrows did not significantly differ from randomly chosen prairie plots. Of the 20 post-breeding adults tracked, one animal never selected a burrow, 13 stayed in their primary burrow, and six moved to secondary burrows before subsequently returning to their primary burrow. Time-lapse photography revealed that animals were active at all hours of the day. The Kaplan-Meier method was used to calculate a 78% overall survival rate.

Session II

Presenters: Sara Hochgesang (Sophomore Athletic Training) and Dr. Lindsey Eberman
Faculty who assisted with the project: Dr. Lindsey Eberman
Affiliated Department: *Athletic Training Department, Indiana State University, Arena, Room C-06, Terre Haute, IN 47809*

Title of Submission: EVALUATION, DIAGNOSIS, AND TREATMENT OF QUADRICEPS HETEROTOPIC OSSIFICANS

Abstract: Heterotopic ossificans, also known as myositis ossificans, is a dominant injury in contact sports, particularly males. The injury is caused by severe or repeated contusions to the quadriceps muscles resulting in ectopic bone growth. It presents with edema, discoloration, limited range of motion, heat over injury, and extreme point tenderness over the bony growth. Most often, heterotopic ossificans is diagnosed through Magnetic Resonance Imaging, Computerized Tomography, and Serial Roentgenograms. Treatment always errs on the conservative side usually requiring the athlete to use crutches and rest for several days to several weeks. The rest and immobilization is combined with ice, compression, and elevation of the injury. Surgery is often avoided due to its invasiveness and the tendency for the body to reabsorb the bony growth with time.

Presenters: Brittany Hrgich (Senior Biology Major)
Faculty who assisted with the project: Rusty A. Gonser
Affiliated Department: *Department of Biology, Indiana State University, 600 Chestnut Street, Room 283, Terre Haute, IN 47809*

Title of Submission: A Molecular Analysis of genetic Variation on White-tailed Deer (Odocileus virginanus) from Southern Maryland.

Abstract: In many areas of the country conservation efforts are needed to relocate and begin new populations. I am investigating one such extirpated population of white-tailed deer (Odocoileus virginanus). The deer population I am studying is located at the Naval Air Station Patuxent River (PAX), Maryland is quite unusual. It was started in 1964 from 7-9 deer and is

isolated from the surrounding locations; St. Mary's and Northern Charles County. The genetic variations between the populations are investigated by means of sequencing genomic 2nd exon of MHC-DRB. The genetic variation at MHC loci impacts life history traits along with behavior of the individuals within the natural populations. The purpose of this project is to assess the genetic variation between the different populations of white-tailed deer in PAX, St. Mary's, Charles County and Michigan. I predict that deer harvested from St. Mary's and PAX will be more genetically similar than deer from PAX and Michigan.

Session II: 12:45pm-2:15pm

Presenter: Hanindar Kaur (Graduate Student of Biology)
Faculty who assisted with the project: Dr. H. K. Dannelly
Affiliated Department- *Department of Biology, Indiana State University, 600 Chestnut Street, Room 283, Terre Haute, IN 47809*

Title of Submission: Cloning and Characterization of SAS1678, a Hypothetical Exported Protein from Community-Associated *Staphylococcus aureus*

Abstract: Methicillin resistant *Staphylococcus aureus* (MRSA), a major cause of nosocomial infections, has acquired resistance to beta-lactam and other antibiotics. Recently community-associated MRSA (CA-MRSA) infections have evolved independent of the hospital environment, related only because most carry methicillin resistance genes. CA-MRSA infections are more severe, causing invasion of deep tissue. The invasiveness of CA-MRSA strains is responsible for life threatening infections even in immunocompetent individuals.
The aim is to identify and characterize proteins involved in the infection pathway of CA-MRSA. The selection criteria included that the protein was unique to CA-MRSA and was an exported protein. These criteria were used to improve the chance of finding proteins involved in the extreme invasiveness.

A unique gene encoding an exported protein, SAS1678, located on the chromosome of the CA strain, MSSA476 has been successfully cloned and expressed. Future plans include characterization of SAS1678 and determination of its role in the infection pathway.

Presenter: Vanessa Cecille Kinney (Graduate Student of Biology)
Faculty who assisted with the project: Michael J. Lannoo Ph.D
Affiliated Department- *Department of Biology, Indiana State University, 600 Chestnut Street, Room 283, Terre Haute, IN 47809*

Title of Submission: Breeding Biology of Crawfish Frogs (Lithobates areolatus) on a mine spoil praire

Abstract: Crawfish Frogs (*Lithobates areolatus*) are a state endangered species in Indiana and Iowa. Their fossorial habits and brief breeding season have lead to knowledge gaps in their ecology; therefore, additional research is needed to understand the natural history of this species. To observe the breeding biology of Crawfish Frogs four wetlands were enclosed with drift fencing and pitfall traps were placed every 10 meters along the inside and outside of the fence.

Two breeding wetlands (Nate's Pond and Cattail Pond) were monitored in 2009. Nate's Pond supported 69 adult frogs; 38 males, 31 females. Cattail Pond supported 28 adult frogs; 13 males, 15 females. Males averaged 104 g; females averaged 126 g gravid and 91 g spent. Nate's Pond produced 286 juveniles (average 4.56 g and 34 mm SVL); Cattail Pond produced 11 (average 3.01 g and 29 mm SVL). Estimated survivorship from egg to juvenile stage was approximately seven times less than published values for other North American ranid species.

Session II 12:45pm-2:15pm and reading 12:15pm-12:45pm

Presenters: Jessica Kirby (Sophomore Athletic Training) and Dr. Lindsey Eberman
Faculty who assisted with the project: Dr. Lindsey Eberman
Affiliated Department: *Athletic Training Department, Indiana State University, Arena, Room C-06, Terre Haute, IN 47809*

Title of Submission: BALANCE ASSESSMENT TESTING FOR FUNCTIONAL ANKLE INSTABILITY

Abstract: Though varied by type and degree, injuries to the ligaments surrounding the ankle are the singularly most common injury in sport. Ankle sprains have an extremely high rate of recurrence, and repetitive structural damage frequently leads to chronic instability and/or a functional deficit. Clinical use of balance assessment testing can determine the presence and degree of such an instability or postural control deficit. Balance assessment testing should include valid and reliable tests which may include Balance Error Scoring System, Star Excursion Test, Biodex® Stability System, and Single-Leg Jump Landing. Clinicians should be aware of the consequences of repeated ankle injury and should employ a battery of functional balance assessment tests to reveal chronic symptoms and/or deficits caused by tissue damage.

Presenters: Carina A. lati (Graduate Student of Clinical Psychology)
Faculty who assisted with the project: Dr. P. Kevin Bolinskey
Affiliated Department: *Department of Psychology, Psy.D. Program in Clinical Psychology, Indiana State University, Root Hall, Room B-202, Terre Haute, IN 47809*

Title of Submission: MMPI-2 Indicators of Schizophrenia Liability in Hypothetically Psychosis Prone College Students

Abstract: Research in psychosis proneness has implicated the Chapman Psychosis Proneness Scales (CPPS) and several Minnesota Multiphasic Personality Inventory-2 (MMPI-2) scale as markers of future psychotic symptomology. The current study is a continuation of Bolinskey and Gottesman (2010), and endeavors to extend understanding of endophenotypes of schizophrenia by examining the response patterns on selected MMPI-2 and schizophrenia-related personality disorder scales of individuals identified as being hypothetically psychosis prone (HPP) by the CPPS. The results demonstrate significant differences in the schizophrenia direction between HPP individuals and normal participants on the Psychotic Symptomology (BIZ-1) , Schizophrenia Proneness (SzP), and Schizoid Personality (SZD)

scales. These findings further contribute to the understanding of premorbid indicators of psychosis by providing additional support for these scales' ability to evaluate liability.

Session II

Presenters: Randal Kent Minas, Jr. (Graduate Student of Business Administration)
Faculty who assisted with the project: Dr. Jeffrey Harper
Affiliated Department: *Business Administration Program, Indiana State University, Scott College of Business, Room 610, Terre Haute, IN 47809*

Title of Submission: Adoption and Use of Information Technology by Healthcare Practitioners.

Abstract: Many different models exist to examine the adoption and diffusion of information technology. This study employs a modified Unified Theory of Acceptance and use of Technology (UTAUT) instrument that consists of seven constructs that determine behavioral intention, which in turn affects a user's adoption of an information system. The survey instrument will be administered to approximately 1,000 doctors, nurses, technicians, physical therapists, and counselors in smaller organizations and rural settings. The results will be analyzed to elucidate which factors contribute most to adoption and use of healthcare information systems in the segment of healthcare delivery where information systems are currently underutilized. The results of this research will allow for conclusions concerning the factors affecting adoption of information systems in this setting, recommendations for administrators considering the implementation of such systems, and implications for future research.

Session II and reading

Presenters: Michael F. Rowe (Graduate Student of Physiology)
Faculty who assisted with the project: George S. Bakken
Affiliated Department: *Department of Biology, Indiana State University, 600 Chestnut Street, Science Building Room 283, Terre Haute, IN 47809*

Title of Submission: Transporting a Bull African Elephant in Cold Conditions: A Thermal Energetics Case Study.

Abstract: Management of elephants require translocation. Radiant and convective heat loss makes up 80 – 90% of the total heat loss in elephants and heat storage is an important component of their thermal energy budget. In December 2008, "Jackson", Pittsburgh Zoo's bull African elephant (Loxodanta Africana) was transported a short distance (153 km) to the International Conservation Center. The goals of this study were to quantify (1.) the change in radiant and convective heat loss and (2.) heat storage associated with transport an elephant in cold conditions. We performed pre and post-transport thermal imaging. Transport in cold conditions (Ta, 1.9 to 4.9 degrees C) cause a significant ($P<0.0001$) increase in net-radiant as well as convective ($P<0.05$) heat loss. Transport in the cold resulted in a 0.6 degrees C drop in body

temperature. Long distance elephant translocation (>12 hours) in these conditions could potentially cause hypothermia Tb <33.5 degrees C.

Session II

Presenters: James Stephens II (Graduate Student of Geography)
Faculty who assisted with the project: Dr. Jim Speer
Affiliated Department: *Department of Geography, Geology, and Anthropology, Indiana State University, 600 Chestnut Street, Room 159, Terre Haute, IN 47809*
Title of Submission: Fossils of Clay County Indiana: Century Old Surface Coal Mine Spoil Yields Interesting Fossils
Abstract: The goal of this inquiry was to collect rock samples from an abandoned strip-mine near Staunton, IN to characterize the types of fossils found at the location. The topography of the study area is cone shaped piles of sediment overburden and bedrock which is densely forested. The location was selected because it offers a large selection of available sedimentary rocks to recover and analyze. Several notable specimens were recovered from the spoil and identification of them is underway. Numerous problems arise when trying to ascertain the identity of these fossils: 1) The ages of the rocks are undetermined 2) The exact depth and identity the of coal mined at the location is unavailable to the researcher 3) Field collections have yielded no plant fossils thus far. The paleoecological environment of deposition was determined to be as follows; marine, below storm wave base level, low energy, anoxic, and chemically reducing most of the time. Sulifide replacement fossils visible in a few specimens indicate a muddy, anoxic, reducing environment that would be found today in stagnant ocean basins/bottom waters, tidal flats, and organic rich lakes (Boggs, 232).
Session II: 12:45pm-2:15pm

Presenter: Sarah K. Thomas (Senior Psychology Major) and Dr. Liz O'Laughlin
Faculty who assisted with the project: Dr. Liz O'Laughlin
Affiliated Department- *Department of Psychology, Indiana State University, Root Hall, Room B-202, Terre Haute, IN 47809*
Title of Submission: Usefulness of the BASC2 Developmental Social Disorders Scale in Screening for Autistic Spectrum Disorder.
Abstract: The purpose of the present study was to assess the usefulness of the BASC-2 Developmental Social Disorders (DSD) content scale in screening for autistic spectrum disorders (ASD) among a sample of children referred for Attention Deficit/Hyperactivity Disorder (ADHD) assessment. Parent and teacher ratings on the BASC-2 were evaluated for 112 clinic-referred children diagnosed with ADHD, both ADHD and Oppositional Defiant Disorder (ODD), and children who scored in the clinical range on a autism spectrum screening measure (ASD group). Both parents and teachers rated children in the ASD group higher on the DSD

subscale as compared to the ADHD and ADHD+ ODD groups. However, results of stepwise discriminant analysis did not provide support for the incremental validity of the DSD scale. Although information from the DSD content scale may prove useful in treatment planning, teacher ratings on the Withdrawal scale and parent ratings on the Atypical scale appear most useful in screening for ASD in a clinical referred population.

Session II 12:45pm - 2:15pm.

Presenters: Mary Ann Donham Titus (Graduate Student of Environmental Science)
Faculty who assisted with the project: Dr. Jim Speer
Affiliated Department- *Department of Geology, 600 Chestnut Street, Science Building Room 159, Terre Haute, IN 47809*

Title of Submission: Examining the Impact of Outdoor Classrooms on ISTEP Scores in Indiana Schools.

Abstract: This research consists of examined ISTEP data for reading and math from Indiana school pertaining to whether or not the presence of an outdoor classroom would have an effect on the scores. The hypothesis is: Students exposed to outdoor learning will show higher ISTEP scores than students without that type of learning.

The data analysis uses 2 sets of scores for 4th, 7th, and 10th grades. 40 scores are randomly picked from the two sets. These scores show the percent of students passing both math and language arts in that grade level. Results will be displayed using a box and whisker type chart. Several different types of analysis have been completed showing no real significance, according to a Ttest. The final data is still in progress. The random picking is more valid than the previous test.

Also included in the project is a look at what some schools are doing in the Indianapolis area as well as California. Pictures will be included. The most beneficial effects come to students who participate in a long term outdoor experience. These types of programs will be summarized. The concept of teaching student where their food comes from and how to grow a garden will be highlighted in a short article on edible schoolyards such as one in Indianapolis.

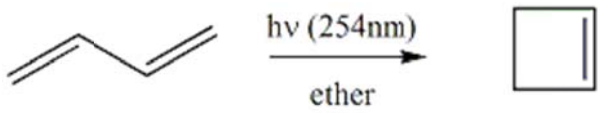
Session II

Presenters: Patrick Titzer (Senior Chemistry Major)
Faculty who assisted with the project: Richard W. Fitch
Affiliated Department- *Department of Chemistry and Physics, Indiana State University, 600 Chestnut Street, Science Building Room S35E, Terre Haute, IN 47809*

Title of Submission: Synthetic studies on the photochemical electrocyclic ring closure of 1,3-butadiene

Abstract: The photochemical cyclization of 1,3-butadine to cyclobutene was described by Srinivasan in the 1960's and is the most direct route to this highly useful synthon. Limitations

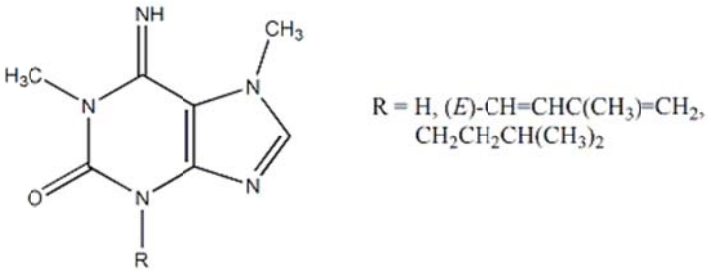
are the slowness of the reaction and the accumulation of polymeric byproducts in the reaction process. These properties have limited the yield of this reaction in our hands to around 50%. We have studied the reaction parameters for improvement and the results of our studies will be presented.



Session II

Presenters: Tory Torma (Sophomore Biology Major), Breanna Wyman (Junior Chemistry Major) and James Hubbs (Sophomore Chemistry Major)
Faculty who assisted with the project: Richard W. Fitch
Affiliated Department- *Department of Chemistry and Physics, Indiana State University, 600 Chestnut Street, Science Building Room S35E, Terre Haute, IN 47809*
Title of Submission: Dioicine: Chemical Ecology, Synthetic, and Biological Studies
Abstract:

We recently reported dioicine, a prenylated purine alkaloid from the Kentucky coffeetree, *Gymnocladus dioicus*. Dioicine possesses a structure similar to caffeine and exhibits neurotoxic and developmental effects in mouse and zebrafish models. We are now pursuing the synthesis of dioicine and derivatives for biological evaluation, as well as examining the abundance and distribution of dioicine as a function of season, light level, altitude and tree gender. Our results to date will be presented.



Session II

Presenters: Jason Wenning (Senior Biology Major)
Faculty who assisted with the project: Dr. Peter Scott
Affiliated Department: *Department of Biology, Indiana State University, 600 Chestnut Street, Room 283, Terre Haute, IN 47809*
Title of Submission: A test using long distance pollinations.
Abstract: Two species of *Dicentra*, dutchman's breeches (*D. cucullaria*) and squirrel corn (*D. canadensis*), flower in Indiana forests in spring. Being self-incompatible, they depend on bumble

bees to move pollen between genetically distinct individuals. However, *D. cucullaria* has higher success in setting seed near Terre Haute. Many *D. canadensis* flowers fail to set seed. One hypothesis for the species difference is that local populations of *D. canadensis*, but not *D. cucullaria*, have low genetic variation at the mating gene which governs self-incompatibility. I tested this hypothesis by performing long-distance crosses on both *Dicentra* species, using pollen from eastern Indiana, 200 km distant. Long-distance crosses improved fruit set for poor-performing *D. canadensis* and also for *D. cucullaria*. The effect of long distance pollen was greater for *D. canadensis*. This supports our hypothesis that lack of genetically suitable mates (among locally available pollen grains) is partly to blame for the low fruit set.

Session II: 12:45pm – 2:15pm

No Preference

Presenter: Todd Sink (Ph.D. Candidate (ABD) Economic Geography)
Faculty who assisted with the project:
Affiliated Department- *Department of Earth and Environmental Science, Indiana State University, 600 Chestnut Street, Room 159, Terre Haute, IN 47809*

Title of Submission: "Exclusionary Housing Sub-Markets: Changing Housing Affordability Conditions in Gentrifying Public Housing Neighborhoods in Chicago"

Abstract: Social-mix housing policies play a unique role in shaping the geography of gentrification in cities throughout the U.S. and Europe. The HOPE VI program in the U.S. is one popular example. Since its inception in 1992, HOPE VI has simultaneously displaced thousands of urban poor from their homes and neighborhoods, reduced their housing opportunities, and created and encouraged housing development for a more affluent population. Yet over the years, very few empirical studies have emerged that examine the place-based outcomes of HOPE VI within the context of gentrification. As such, important empirical questions remain unanswered. Based on a case study of Chicago, Illinois, we adopt a strategy to examine housing affordability in HOPE VI neighborhoods using formulas from the Housing Affordability Index (HAI) and home value data from the U.S. Census and Geolytics during the period 1990-2007. This paper shows that residential exclusion is one consequence of gentrification in the targeted areas. Escalating home sales have positioned home-ownership opportunities in these neighborhoods beyond the reach of 61 percent of Chicago's households. Between 1990 and 2007, the qualifying

income for a median valued home in HOPE VI neighborhoods grew at a rate 3 times higher than in non-targeted low-income neighborhoods and 12 times higher than the city average. Intra-urban comparisons confirm that the pattern of affordability is geographically explicit, yet case studies reveal that striking similarities do exist across neighborhoods.

Session:

Presenters: Fadzai Masiyazi

Faculty who assisted with the project:

Affiliated Department-

Title of Submission:

Abstract: This professional project is going to be a study of African American women working for professional organizations that are dominated by white men. The study is going to focus on both race and gender as cultural identities because research in communication has been heavily focused on one variable or the other, but very seldom do researchers combine both identity variables in one study (Cox & Nkomo, 1990). Several studies have been done on gender differences in the workplace, comparing women to men and identifying the communication differences and ways to counter some of those challenges.

I will be continuously researching what is considered professional in terms of communication, and this includes both verbal and non-verbal communication. With a history of what was considered professional, to the latest information about the work place, I hope to create a guide for Black women seeking professional jobs in corporate America. Most of the literature has focused heavily on White Americans, and neglected the different identities and work perceptions that alter the work experience for African American women.

This guide will be made based on my proposed research through an array of qualitative and quantitative research methods that will show the differences in the hiring process for Black women and what they should do in order to overcome the glass ceiling effect at the entry stage of their careers. It will also give useful information about the work environment and some of the noted difference that other research has already shown. With the knowledge of the differences, the guide will then give suggestions about how Black women can overcome their second glass ceiling to become successful leaders.

Session:

Presenters: Natoya Williams

Faculty who assisted with the project:

Affiliated Department-

Title of Submission: The food habits of *Molossus molossus* in Florida

Abstract: There are over a thousand species of bats in the world and the majority of them feed on flying insects, mostly in the air using echolocation. Also, some glean insects from surfaces. *M. molossus* were recently classified as gleaners. Rather than taking their prey while in flight, they pluck their prey from the surface of leaves, branches, and the ground. They forage over forests and occasionally over ponds. *M. molossus* ranges through Central America, the Caribbean, and much of South America, and it has recently been found in the United States for

the first time specifically the Florida Keys (Frank, 1997). Colonies were found on Boca Chica Key and fecal samples of the species were collected by Philip A. Frank on 14 February 1996. Little information is known of the food habits of this species, but it has been suggested that they feed on moths, beetles, and flying ants. The purpose of the present study is to determine the food of this species on Boca Chica Key. Since this species lives in Florida where there is a great variety of insects, it was hypothesized that it would read on a variety of insects. An alternate hypothesis might be that it would read on a restricted diet as a result of competition with other bat species that live there.

Session: