Symposium Schedule Summary

8:30 - 9:45 am Presentation Session #1
Kelly Center room 130A

10:00 - 11:15 am Concurrent Presentation Sessions #2
Session 2A in Kelly Center room 130A
Session 2B in Kelly Center room 130B

11:30 - 1:00 pm Poster Session
Alumni Hall, Kelly Center

12:00 - 12:15 Welcome Address by Chancellor Sciame-Giesecke
Alumni Hall in Kelly Center

1:00 - 2:15 pm Presentation Session #3
Kelly Center room 130A

2:30 - 3:45 pm Presentation Session #4
Kelly Center room 130A

Abstracts

Abstracts from students participating in the symposium are listed towards the back of this booklet. They are divided into sub-categories (presentation & poster) and then arranged alphabetically by the student’s last name.

Event Sponsors & Organizers

Indiana University Kokomo Honors Program
Indiana University Kokomo Office of Academic Affairs
Event Co-Chairs: Netty Provost & Candy Miller
### Schedule of Presentation Sessions

**Presentation Session #1  8:30-9:45 am**  
**Kelly Center Room 130A**

<table>
<thead>
<tr>
<th>Time</th>
<th>Presenter(s)</th>
<th>Title</th>
<th>Faculty Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30-8:50</td>
<td>Shelby Reidford</td>
<td><em>Activity Patterns and social interaction of Chukars (Alectoris Chukar) at the Dana Nature Reserve, Jordan</em></td>
<td>Lina Rifai</td>
</tr>
<tr>
<td>8:50-9:10</td>
<td>Elizabeth Kronewitter</td>
<td><em>Imaging Our Furry Friends: The Use of Ultrasound in Animal Husbandry</em></td>
<td>Diana Mishler</td>
</tr>
<tr>
<td>9:10-9:30</td>
<td>Danielle J. Guess</td>
<td><em>3D/4D Keepsake Ultrasound Imaging: Worth the Risk?</em></td>
<td>Diana Mishler</td>
</tr>
<tr>
<td>9:30-9:45</td>
<td>Questions and Discussion with all three presenters.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Presentation Session #2A 10:00-11:15 am
**Kelly Center Room 130 A**

<table>
<thead>
<tr>
<th>Time</th>
<th>Presenter(s)</th>
<th>Title</th>
<th>Faculty Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00-10:20</td>
<td>Ryan VanHaecke</td>
<td><em>An Argument for Moral Relativism</em></td>
<td>Netty Provost</td>
</tr>
<tr>
<td>10:20-10:40</td>
<td>Ashley Lowe</td>
<td><em>The Effects of Consumer Feedback on the Hotel and Lodging Industry</em></td>
<td>Donna McLean</td>
</tr>
<tr>
<td>10:40-11:00</td>
<td>Aubri Copp</td>
<td><em>Goodnight My Someone</em></td>
<td>Wendy Grice</td>
</tr>
<tr>
<td>11:00-11:15</td>
<td>Questions and Discussion with all three presenters.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

# Presentation Session #2B 10:00-11:15 am
**Kelly Center Room 130 B**

<table>
<thead>
<tr>
<th>Time</th>
<th>Presenter(s)</th>
<th>Title</th>
<th>Faculty Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00-10:20</td>
<td>Travis McGregor</td>
<td><em>A Novel Method for Assessing Caffeine Dependence</em></td>
<td>Jeff Batis</td>
</tr>
<tr>
<td>10:20-10:40</td>
<td>Austin Cornwell</td>
<td><em>Male Youth Hockey: Case Study of Relative Age Effects</em></td>
<td>David Hancock</td>
</tr>
<tr>
<td>10:40-11:00</td>
<td>Akeem Kassim, Jasmine McGhee, Courtney Shively, &amp; Kristianna Upchurch</td>
<td><em>Combating the Epidemic of Childhood Obesity</em></td>
<td>Karl Besel</td>
</tr>
<tr>
<td>11:00-11:15</td>
<td>Questions and Discussion with all three presenters.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Presentation Session #3  1:00-2:15 pm
Kelly Center Room 130A

<table>
<thead>
<tr>
<th>Time</th>
<th>Presenter(s)</th>
<th>Title</th>
<th>Faculty Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00-1:20</td>
<td>Reggie Henderson</td>
<td>Stereotype Threat Among Biracial Americans Facing Forced-Choice Dilemmas</td>
<td>Kathy Holcomb</td>
</tr>
<tr>
<td>1:20-1:40</td>
<td>Kierstin Bott</td>
<td>Destructive Female Behavior in Teen Movies: An Ideology of Aggressive Social Dominance</td>
<td>Chris Darr</td>
</tr>
<tr>
<td>1:40-2:00</td>
<td>Diane Fredrickson &amp; Jeffery Johnson</td>
<td>Chines Ethnic Diversity: Fifty-Sic Recognized Ethnicities, One Nation</td>
<td>Donna McLean</td>
</tr>
<tr>
<td>2:00-2:15</td>
<td></td>
<td>Questions and Discussion with all three presenters.</td>
<td></td>
</tr>
</tbody>
</table>

### Presentation Session #4  2:30-3:45 pm
Kelly Center Room 130A

<table>
<thead>
<tr>
<th>Time</th>
<th>Presenter(s)</th>
<th>Title</th>
<th>Faculty Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:30-2:50</td>
<td>Carolina Anaya-Pico</td>
<td>The Impact of Culture Shock and Reverse Culture Shock on Non-Permanent Immigrants</td>
<td>Kristen Snoddy</td>
</tr>
<tr>
<td>2:50-3:10</td>
<td>Lesley Connolly</td>
<td>Compare and Contrast the Clinical Learning Experiences of Preliscensure Baccalaureate Nursing Students in a Traditional Group Clinical and Preceptored Clinical and the Deu Clinical Model, Utilizing the CLES-T Evaluation Tool</td>
<td>Mary Bourke</td>
</tr>
<tr>
<td>3:10-3:30</td>
<td>Alexis Nash</td>
<td>An Examination of China Through Film and Photography</td>
<td>Donna McLean &amp; Chris Darr</td>
</tr>
<tr>
<td>3:30-3:45</td>
<td></td>
<td>Questions and Discussion with all three presenters.</td>
<td></td>
</tr>
</tbody>
</table>
## Poster Session Participants
(listed alphabetically by student last name)

<table>
<thead>
<tr>
<th>Presenter(s)</th>
<th>Title</th>
<th>Faculty Mentor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amber Ancil</td>
<td>Factors Influencing Perceptions of Domestic Violence Against Women: A Literature Review</td>
<td>Nancy Greenwood</td>
</tr>
<tr>
<td>Alison Ashbaugh</td>
<td>Healthcare Disparities Among Developing Countries</td>
<td>Karla Stouse</td>
</tr>
<tr>
<td>Barbara Brewer</td>
<td>Mental Health and Society</td>
<td>Nancy Greenwood</td>
</tr>
<tr>
<td>Courtney Cochran</td>
<td>Factors Contributing to Colony Morphology and Growth Patterns on Unknown Bacillus Bacterium</td>
<td>Hisako Masuda</td>
</tr>
<tr>
<td>Derek Fields &amp; Julia Williamson</td>
<td>Increased Amounts of CO2 in Plant Growth</td>
<td>TJ Sullivan</td>
</tr>
<tr>
<td>Jayesh Lalla, Charles Lemming, Chris Santucci, Ashleigh Skiles &amp; Tony Wilman</td>
<td>Synthesis of Conjugated Monomers for Electropolymerization</td>
<td>JC Olsen</td>
</tr>
<tr>
<td>Rebekah Martin</td>
<td>Improving Humanitarian Aid through Education</td>
<td>Karla Stouse</td>
</tr>
<tr>
<td>Brandon McIntosh &amp; Chris Messersmith</td>
<td>Semantic-Based Detection of Design Flaws in Java Libraries</td>
<td>Awny Alunsair</td>
</tr>
<tr>
<td>Name</td>
<td>Title</td>
<td>Presenter</td>
</tr>
<tr>
<td>---------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Sara Musselman &amp; Kelcy Tolliver</td>
<td>Comparison of Riparian Zone to a Wooded Area</td>
<td>TJ Sullivan</td>
</tr>
<tr>
<td>Matt Oberholtzer</td>
<td>First Friday – Lantern Festival Poster</td>
<td>Michael Koerner</td>
</tr>
<tr>
<td>Jessica Paul</td>
<td>Blessings in a Backpack</td>
<td>Shelly Myers</td>
</tr>
<tr>
<td>Heather Ramey</td>
<td>The Effects of Various Intensities of Light on Catalase Activities</td>
<td>Hisako Masuda</td>
</tr>
<tr>
<td>Heather Ramey &amp; Christopher Santucci</td>
<td>Studies on Photoelectrochemically -Active Inorganic/Organic Interface Consists of Zn-Doped WO3 /Poly 4-(Thiophen-3-yl) Aniline</td>
<td>Kasem Kasem</td>
</tr>
<tr>
<td>Haylee Robertson</td>
<td>Religiosity and Attitudes Toward Euthanasia</td>
<td>Niki Weller</td>
</tr>
<tr>
<td>Adilene Santos, Flor Valdes &amp; Arnulfo Zepeda</td>
<td>The Importance of the Spanish Language</td>
<td>JR Pico</td>
</tr>
<tr>
<td>Cody Summers</td>
<td>Investigation Strategies</td>
<td>Timothy Fulk</td>
</tr>
<tr>
<td>Mark Thompson</td>
<td>Traditional Printmaking in the 21st Century</td>
<td>Minda Douglas</td>
</tr>
</tbody>
</table>
THE IMPACT OF CULTURE SHOCK AND REVERSE CULTURE SHOCK ON NON-PERMANENT IMMIGRANTS

**Presenter:** Carolina Anaya-Pico  
**Faculty Mentor:** Kristen Snoddy

Every day, non-permanent immigrants arrive in different countries looking for a better education, life or cultural experience. Along with their arrival comes culture shock and as soon as they leave their sojourn country reverse culture shock sets in. This review of literature of limited scope was led by the following question: what are the impacts of culture shock among non-permanent immigrants? To conduct this research scholarly journals were used. The findings showed that each phase of culture shock and reverse culture shock have different positive, average, and negative impacts among the immigrants. The implications are to educate college students and professors about this subject matter, so they can be aware and conscious of the struggles these individuals have to go through.

DESTRUCTIVE FEMALE BEHAVIOR IN TEEN MOVIES: AN IDEOLOGY OF AGGRESSIVE SOCIAL DOMINANCE

**Presenter:** Kierstin Bott  
**Faculty Mentor:** Chris Darr

In this study, I examined three teen films in order to investigate how this genre portrays aggressive female adolescent behavior. The literature suggests that bullying behavior is accepted, gender norms are constructed, and relationship roles are taken within the social environment formed during adolescence. Using the method of ideological criticism, I examined how these films illustrate these three principles from the literature. Ideological criticism is a method of textual analysis that identifies value systems within cultural artifacts. I found three themes: aggressive behavior is appropriate for girls asserting social dominance, gender norms are created during power struggles, and relationship roles are constructed based on peer evaluation. These themes create an ideology of aggressive social dominance, which is harmful to adolescent girls because it encourages mean behavior as a requirement of obtaining social acceptance.

COMPARE AND CONTRAST THE CLINICAL LEARNING EXPERIENCES OF PRELICENSURE BACCALAUREATE NURSING STUDENTS, IN A TRADITIONAL GROUP CLINICAL AND PRECEPTORED CLINICAL AND THE DEU CLINICAL MODEL, UTILIZING THE CLES-T EVALUATION TOOL

**Presenter:** Lesley Connolly  
**Faculty Mentor:** Mary Bourke

Access of acute care sites for clinical education of nursing students is becoming a real problem for nursing schools around the world. Nursing schools provide clinical experiences in a variety of different ways. Some nursing schools offer group clinical experiential. An examination of literature supports the preceptored clinical experience and the formation of a DEU as the most common and preferred clinical setting for the student to gain the most confidence, improve communication skills and develop critical thinking skills while in the acute care setting. The proposed nursing research study will provide insight into the development of a DEU in one of our local hospitals and answer the question; what is the best way to educate nursing students in the acute care setting?
## MALE YOUTH HOCKEY: CASE STUDY OF RELATIVE AGE EFFECTS

**Presenter:** Austin Cornwell  
**Faculty Mentor:** David Hancock

Relative age effects (RAEs: relatively older children possess performance advantages over their younger aged peers) occur in youth sport. These effects typically occur in performance-based, male, team contact sports. To study RAEs, athlete’s birthdates are divided into quartiles based on annual cut-off dates (e.g., first quartile hockey players are born January-March, as January 1 is the cut-off date), and typically, over-representation of athletes born in the first two quartiles exists. RAEs have been extensively studied; however, few explanations of RAEs have been offered. Thus, the purpose of this study was to conduct an in-depth analysis of one youth hockey team (aged 14), thereby gaining a better understanding of RAEs. For Phase I, we collected height, weight, and strength measurements to understand how age and biometrics are related. Athletes and parents then ranked themselves or their child against their peers in each of the categories. The data showed that participants were most accurate when estimating height. When estimates were inaccurate, participants were more likely to overestimate biometric scores. Phase II of the study, which is ongoing, will consist of a 20-30 minute interviews with the athletes, parents, and coaches to discuss how performance, selection, and participation might be influenced by RAEs.

## GOODNIGHT MY SOMEONE

**Presenter:** Aubri Copp  
**Faculty Mentor:** Wendy Grice

My creative work is a computer composed piece from the Music Man. The song Goodnight My Someone has been recomposed through a computer system called noteflight.com. I used the website to substitute for instruments. I wrote out the notes from the original piece and recomposed it to add more instruments and to add an excerpt from other songs from the musical.

## 3D/4D KEEPSAKE ULTRASOUND IMAGING: WORTH THE RISK?

**Presenter:** Danielle J. Guess  
**Faculty Mentor:** Dana Mishler

Ultrasound is a highly important diagnostic tool used in obstetrics and gynecology care. Routine ultrasounds are performed on pregnant woman under a doctor’s care to screen for any health concerns for mother or baby. These are medically necessary exams which are performed by skilled and educated professionals to check for possible abnormalities. In a medical setting there is not much time spent on the 3D/4D imaging since 2D imaging provides the necessary information, and 3D imaging is simply not as diagnostic. Many medical facilities provide short sessions after a routine exam as a courtesy to the patient. In response, many private businesses have opened offering 3D/4D exams to provide a bonding experience for the family. However, professionals in the radiologic technology field of sonography have an obligation to inform the public of the potential risks. Current research clearly emphasizes the potential risks 3D/4D imaging poses to fetuses. An explanation of the background on the mechanics of ultrasound and the possible bioeffects on tissue reinforces this research. In addition, radiologic technology and other health organizations have compiled statements which support the claim that 3D/4D keepsake ultrasounds are medically unnecessary & come with risks that outweigh benefits.
<table>
<thead>
<tr>
<th>Title</th>
<th>Presenter/Authors</th>
<th>Faculty Mentor</th>
</tr>
</thead>
</table>
| **STEREOTYPE THREAT AMONG BIRACIAL AMERICANS FACING FORCED-CHOICE DILEMMAS** | **Presenter:** Reggie Henderson  
**Faculty Mentor:** Kathy Holcomb |  |
| This study expands on the groundbreaking research of Steele and Aronson (1995) that assessed the impact stereotype threat has on the intellectual test performance of African Americans. I will assess whether or not the aptitude test performance of young adult biracial Americans ages 18 to 24 is negatively impacted by forced-choice dilemmas (situations in which multiracial people are asked or pressured to choose between their multiple racial identities, rather than being allowed to identify with their multiple racial identities). Participants will be recruited online and asked to complete a mathematics test comprised of questions from the Scholastic Aptitude Test (SAT). When asked to indicate their race, participants will be randomly assigned to have either a non-monoracial option that allows them to identify as biracial (Two or more of the above races) or a non-monoracial option that does not allow them to identify as biracial (Other). The researcher hypothesizes that biracial participants who are presented with a non-monoracial option that allows them to identify as biracial will perform significantly better than participants who are presented with a non-monoracial option that does not allow them to identify as biracial. This study is a work in progress; data collection will commence Summer 2015. |  |
| **CHINESE ETHNIC DIVERSITY: FIFTY-SIX RECOGNIZED ETHNICITIES, ONE NATION** | **Presenters:** Jeffery Johnson and Diane Fredrickson  
**Faculty Mentor:** Donna McLean |  |
| For our presentation, we will discuss Chinese ethnic diversity. Of the nearly 1.4 billion Chinese citizens, around 92% are Han Chinese. This majority ethnic group stands as not only the largest ethnic group in China, but the largest ethnic group of the world, with one out of five humans being Han Chinese. In addition to the Han, the Chinese government officially recognizes fifty-five ethnic minority groups. These minority groups maintain distinct cultural differences from their Han neighbors, exhibiting variations regarding attire, language, music, religion, and architecture. The ethnic minorities, for the most part, coexist peaceful with one another and with the Han majority. However, some tension has arisen in recent years, especially concerning certain ethnic groups. Overall, we will discuss cultural variations between ethnic groups, how they coexist, their official recognition by the Chinese government, and the future of ethnic relations in China. |  |
| **COMBATING THE EPIDEMIC OF CHILDHOOD OBESITY** | **Presenters:** Akeem Kassim, Jasmine McGhee, Courtney Shively & Kristianna Upchurch  
**Faculty Mentor:** Karl Besel |  |
| We will present research data involving the quantitative analysis emphasizing the importance of battling childhood obesity. Our research will focus on the effect of household income, race, and contributing factors of childhood obesity. We will provide data collection methods, statistical analysis, detailed descriptions of why statistical tests are utilized, potential limitations impacting our study as well as how our research findings could be used to improve the effectiveness/quality of a particular program. The program we choose to aid is Operation Fit Kids housed in the Minority Health Alliance of Howard County (MHAHC). The MHAHC is committed to support programs and services that will reduce racial/ethnic health disparities in Howard County. Operation Fit Kids is an obesity program designed to teach youth about nutrition and exercise. We feel it is extremely important to reach out to our Kokomo Community and further the education of the youth. We hope to further inspire, encourage, and provide additional information that will assist in combating the epidemic of childhood obesity. |  |
**Imaging Our Furry Friends: The Use of Ultrasound in Animal Husbandry**

*Presenter:* Elizabeth Kronewitter  
*Faculty Mentor:* Diana Mishler

Throughout the years, advances in technology have provided patients with a high standard of care in the treatment and prevention of pathological processes. Ultrasound has proven critical in the diagnosis of diseases and health conditions that might not otherwise be visualized or diagnosed. The benefits of early detection and optimal anatomical visualization are not limited to human patients, but to our animal patients as well. Ultrasound has become an integral form of diagnostic medical imaging within the zoological society. With the aid of ultrasound, general healthcare can be provided to animals of both land and sea. “Awake” ultrasounds are performed on animals such as gorillas and orangutans to help detect cardiovascular disorders and provide early treatment. Utilizing ultrasound not only provides preventative care, but early pregnancies can be detected in pandas and other endangered animals in order to provide optimal prenatal care leading to a viable pregnancy. The use of ultrasound technology can improve the health of endangered species and lead to continued success in increasing population outcomes.

---

**The Effects of Consumer Feedback on the Hotel and Lodging Industry**

*Presenter:* Ashley Lowe  
*Faculty Mentor:* Donna McLean

I am exploring the effects of consumer feedback on the hotel and lodging sector of the hospitality and tourism industry. Data collection on consumer feedback included interviewing 10 nationally recognized franchise hotels located within Kokomo and Indianapolis, Indiana. Each hotel ranged from 3-5 stars, was located in a high traffic area, and was not locally owned or operated. The most common types of consumer feedback collected included face-to-face and online feedback, collected via oral communication and computer mediated communication (CMC), respectively. An average of 15 review categories are asked, with ‘Guest Room’ as the most frequently asked category. Feedback is most commonly reviewed daily by checking both the hotel’s internal website and external travel websites, especially TripAdvisor. Feedback is used most for internal purposes, such as rewarding hotel employees, but is also used externally. Interviewees agree that a positive review is characterized as a satisfied response, via a high score on hotel ratings/surveys, and a negative review is characterized as an unsatisfied response via a low score on hotel ratings/surveys. Despite positive or negative, interviewees agree that consumer feedback has the advantage of hotel improvement. Research questions include “What methods of consumer feedback are most commonly collected?”, “How often and via what channels is consumer feedback reviewed?”, “What feedback categories are most commonly used for evaluation?”, and “To what value is feedback, both positive and negative, to the hotel and lodging sector?” The above questions are compared to the hotel interviews and previous research to produce a literature review.

---

**A Novel Method for Assessing Caffeine Dependence**

*Presenter:* Travis McGregor  
*Faculty Mentor:* Jeffery Batis

The American Psychiatric Association proposed criteria for Caffeine Use Disorder (CaUD) in the DSM-5. The method for diagnosis has yes/no style questions; we propose utilizing a visual analog scale instead. The purposes of the study were to (1) evaluate the appropriateness of the proposed diagnostic criteria for CaUD, and (2) measure the occurrence and severity of CaUD by quantifying caffeine dependence using the proposed method. A 28-question survey assessing caffeine use and the DSM-5 criteria for CaUD was administered via Qualtrics. There were 592 participants in the study. For comparison purposes, we calculated 4 different ways of endorsing a symptom using the visual analog scale: scores ≥;1, ≥11, ≥26, and ≥51. The DSM-5 requires that a person can have a diagnosis of CaUD if at least the first three symptoms are endorsed. Using this method, the following participants would receive a diagnosis at each of the 4 thresholds: 339 (≥1), 274 (≥11), 239 (≥26), and 134 (≥51). Advantages of the proposed method are: it creates a standardized scale, gives clinicians the ability to find problem areas, limits subjective interpretation, and measures overall severity as well as severity for each symptom.
AN EXAMINATION OF CHINA THROUGH FILM AND PHOTOGRAPHY

*Presenter:* Alexis Nash  
*Faculty Mentor:* Donna McLean & Chris Darr

This project has a twofold purpose. Through film and photography, I hope to depict traditional and modern Chinese culture including nonverbal communication, the effects of globalization, societal values, beauty concepts, subcultures between different provinces, political structure, gender roles, cross cultural similarities and differences between China and the US and so on. My second objective is to promote IU Kokomo’s communication program by creating a video about the trip with Mike Glassburn and Chris Darr. I will be writing up questions for interviewees in the video, coming up with story angles and features of the communication program that I would like to highlight from a student perspective. While in China, I filmed a lot of B roll material for Mike and I to include in the promotional video. When the video is finished, it will be posted to YouTube, the IU Kokomo Communication Department’s page, and the International Programs page.

ACTIVITY PATTERNS AND SOCIAL INTERACTIONS OF CHUKARS (ALECTORIS CHUKAR) AT THE DANA NATURE RESERVE, JORDAN

*Presenter:* Shelby Reidford  
*Faculty Mentor:* Lina Rifai

Chukars are ground-nesting birds that are typically found in semi-arid habitats with limited water availability. Although they are fairly common worldwide, little is known about their social behavior. To better understand their activity patterns and social behaviors, we analyzed data from camera traps in four locations within the Dana Reserve in Jordan, from July to November 2010. We observed the largest group sizes of chukars in September and October. The largest aggregations of chukars were seen at site B (73) and C (40), which were rarely visited by humans and also contained a water hole. Both of our other sites had either no water (site D) or were frequently visited by people (site A), and both had significantly smaller group sizes than B or C. Our data also showed that chukars are mostly active during morning and early evening hours. Further, chukars were repeatedly seen with other bird species, occasionally ibex and twice were pictured with a caracal (a natural enemy). Our research shows seasonal and diurnal group trends, as well as a negative effect of human disturbance on presence and group size. We are still in the process of analyzing data to better understand these fluctuations in group sizes.

AN ARGUMENT FOR MORAL RELATIVISM

*Presenter:* Ryan VanHaecke  
*Faculty Mentor:* Netty Provost

Perhaps one of the most difficult questions we as humans attempt to understand is the nature of morality. Many great thinkers throughout history and today, such as, Aristotle, Immanuel Kant, and William Lane Craig have posited claims to the nature of morality. In order to establish everyday moral practices, the metaethical question of objectivism, relativism, and nihilism must be addressed. In this project I will attempt to defend the claim that relativism is a superior meta-ethical system of morality. To accomplish this I will begin by defining and critiquing moral objectivism, followed by establishing an understanding of relativism, and I will finish by addressing the common criticisms of relativism.
FACTORS INFLUENCING PERCEPTIONS OF DOMESTIC VIOLENCE AGAINST WOMEN: A LITERATURE REVIEW

Presenter: Amber Ancil  
Faculty Mentor: Nancy Greenwood

The issue of inadequate healthcare systems in developing countries is a troubling, complex issue that affects many people. There are specific disparities in these countries when compared to developed countries, such as lack of healthcare professionals and medical centers, and the higher incidence of disease and death. These disparities are caused by a number of factors that seem to occur in a cyclical pattern. The causation factors include lack of education, lack of healthcare professionals, low quality of life, focus on basic needs, widespread poverty, free public healthcare, and low funding for healthcare. Many policies have been implemented to alleviate these problems, and there has been significant improvements in the quality and availability of healthcare. However, it is apparent these current policies are not completely effective and would benefit from improvement. This presentation discusses possible changes that can greatly improve the lives of the many people who live in these developing countries and potential obstacles to achieving these improvements.

HEALTHCARE DISPARITIES AMONG DEVELOPING COUNTRIES

Presenter: Alison Ashbaugh  
Faculty Mentor: Karla Stouse

The issue of inadequate healthcare systems in developing countries is a troubling, complex issue that affects many people. There are specific disparities in these countries when compared to developed countries, such as lack of healthcare professionals and medical centers, and the higher incidence of disease and death. These disparities are caused by a number of factors that seem to occur in a cyclical pattern. The causation factors include lack of education, lack of healthcare professionals, low quality of life, focus on basic needs, widespread poverty, free public healthcare, and low funding for healthcare. Many policies have been implemented to alleviate these problems, and there has been significant improvements in the quality and availability of healthcare. However, it is apparent these current policies are not completely effective and would benefit from improvement. This presentation discusses possible changes that can greatly improve the lives of the many people who live in these developing countries and potential obstacles to achieving these improvements.

MENTAL HEALTH AND SOCIETY

Presenter: Barbara Brewer  
Faculty Mentor: Nancy Greenwood

If the stigma associated with a mental illness would not exist, then a person who has a mental illness would seek treatment and could live a healthy and productive life. There are many stereotypes about people who have a mental illness. Many are perceived as dangerous, crazy, or unpredictable. The stigma in society is defined as stereotypes, prejudice, and discrimination. There are many issues that people who have a mental illness face because of the stigma in society. Some of the issues are obtaining employment, safe housing, insurance, and healthcare. Mental illness does not discriminate and can affect all people regardless of race, age, religion, or income. We need more people to speak out against the stigma that society has put on mental illness. People who have a mental illness deserve to live a healthy and productive lives. Education about mental illness is a must in society.
### FACTORS CONTRIBUTING TO COLONY MORPHOLOGY AND GROWTH PATTERNS ON UNKNOWN BACILLUS BACTERIUM

**Presenter:** Courtney Cochran  
**Faculty Mentor:** Hisako Masuda

The factors that change the colony morphology of an unknown Bacillus Bacterium were studied using TSA agar medium. The contents of the medium, specifically the amount of nutrient broth or agar concentration, was changed to find that the appearance of the colonies varied. When observing the colony size and chirality, it is found that these colony morphologies are determined by combination of different factors, such as nutrient and agar concentration, yet the roles of each components differs. Specifically, when the nutrient concentration was changed, the thickness of the colonies varied. When changing the agar content, it was found that the chirality of the colonies was varied as well as the diameter of the colonies.

### INCREASED AMOUNTS OF CO2 IN PLANT GROWTH

**Presenter:** Derek Fields & Julia Williamson  
**Faculty Mentor:** TJ Sullivan

Carbon dioxide is the primary gas utilized in photosynthesis that plants use to create carbohydrates and energy that can be allocated for growth, reproduction, or self-defense mechanisms. By amplifying carbon dioxide concentrations in a closed environment, the effects of said increased concentrations on Brassica rapa (Wisconsin fast plants) were observed in differences in height and biomass. An analysis of variance test was performed at the conclusion of the experiment and the difference in mean biomass is borderline significant.

### SYNTHESIS OF CONJUGATED MONOMERS FOR ELECTROPOLYMERIZATION

**Presenters:** Jayesh Lalla, Carles Lemming, Chris Santucci, Asheligh Skiles, & Tony Wilman  
**Faculty Mentor:** JC Olsen

We have designed and are in the process of synthesizing a set of monomers, 1a-e, that are based on the organic dye isoindigo, 2. We are characterizing synthetic intermediates by IR, NMR, and UV/Vis spectrosopies and by mass spectrometry. The monomer structures are conjugated and should produce conjugated films upon electropolymerization. We are currently testing polymer films for conductivity and using them to study electron transfer processes across organic/inorganic interfaces. Stable, conductive polymers might eventually be incorporated into devices such as solar cells, organic light emitting diodes (OLEDs), or dye-sensitized photocatalysts.

### IMPROVING HUMANITARIAN AID THROUGH EDUCATION

**Presenter:** Rebekah Martin  
**Faculty Mentor:** Karla Stouse

Humanitarian aid is designed to alleviate suffering in times of disaster all around the world. There are positive and negative aspects that influence the delivery of aid, but how do these aspects affect the delivery of aid? After a review of literature, it has been decided that the negative aspects greatly hamper the delivery of aid. Although there are multiple issues that can affect aid delivery, the five most important are addressed. These issues can be addressed by providing education to the aid recipients and o the workers and volunteers. Education is the best option for improving humanitarian aid because education can be applied to all the presented issues: safety, coordination, untrained volunteers, funding, and sexual abuse. Education empowers those who receive it to become independent, knowledgeable, and beneficial to their community.
SEMANTIC-BASED DETECTION OF DESIGN FLAWS IN JAVA LIBRARIES

**Presenters:** Brandon McIntosh & Chris Messersmith  
**Faculty Mentor:** Awny Alunsair

Anti-patterns are known to be common problems and design flaws in object-oriented programs, often leading to unsuccessful software design projects. Patterns within software libraries. We use Semantic Web techniques and ontology formalism to represent the conceptual knowledge of the library code, capturing every aspect of object-oriented design, such as inheritance, composition, types, and other object-oriented features. Furthermore, we built a parser that scans Java programs and populates the ontology with semantic instances representing the structure and behavior of the inspected libraries. We then use semantic rules to identify Anti-patterns, such as the God Class, Data Class, Alien Spider, and Call Super, within the libraries. To do this we compare the ontology instances generated by the parser to ontologies we have created representing the structure and behavior for each Anti-pattern. We are currently implementing this approach as a plugin for the Eclipse IDE. Once the implementation is complete, we will examine several software libraries to determine if the use of ontology modeling and semantic-based techniques is an effective means of identifying Anti-patterns within software code libraries.

COMPARISON OF RIPARIAN ZONE TO A WOODED AREA

**Presenters:** Sara Musselman & Kelcy Tolliver  
**Faculty Mentor:** TJ Sullivan

We examined how plant life in a riparian zone along the Wildcat Creek at Indiana University of Kokomo differed from a wooded area located away from the water source. Riparian zones are the areas directly adjacent to a body of water, such as rivers, creeks, etc., that include unique flora and fauna characteristics. We hypothesized the riparian zone compared to the wooded area away from the water would have more diverse tree and plant life and would be more dense. An area more dense may assist with improving water quality, providing habitat, controlling floods, and preventing excessive sedimentation. We also hypothesized invertebrates inhabiting the riparian zone would be more diverse and greater in number than in the wooded area due to the presence of more moisture. To test our hypothesis, we gathered data for the plants and trees by doing line transects in each area. For the insects, we gathered leaf litter and filtered them out with a Berlese funnel. Our hypothesis was not fully supported by our results. The riparian zone had a higher abundance and diversity of plants, but not insects. There was not a significant difference between abundance and diversity in trees.

FIRST FRIDAY – LANTERN FESTIVAL POSTER

**Presenter:** Matt Oberholtzer  
**Faculty Mentor:** Michael Koerner

This poster was to advertise the First Friday organization’s downtown festival that happens every month. The theme for March was a Chinese Lantern Festival and cultural showcase. My poster used bright colors and strong imagery to catch the attention of the viewer. The poster was chosen to be used throughout Downtown Kokomo to drive people to the event and was featured in the art gallery downtown as well as various businesses.
### BLESSINGS IN A BACKPACK

**Presenter:** Jessica Paul  
**Faculty Mentor:** Shelly Myers

A requirement of my high school graduation was that I complete a service-learning project. The purpose of my project was to raise awareness of children in need and to raise money for the Blessings in a Backpack Foundation. This organization raises money to help schools pack food into backpacks that are provided to students to take home over the weekend. This ensures that students that might have to go without food while not at school will have something to eat. As stated by the Blessings in a Backpack Foundation, “now serves over 72,000 students in 700 schools spread throughout 44 states and the District of Columbia” (“Blessings in a Backpack About Our Programs”). I myself had the pleasure of helping this incredible foundation raise money by setting up a fundraiser at the YMCA in Wabash, Indiana. The fundraiser included a free-will donation pulled pork dinner, a cakewalk give away, carnival games including bouncy houses and face painting, and a free-will donation. This was a huge hit and raised over $2000 for kids in that community. Sending home food to nearly 200 kids in the community was a great accomplishment.

### THE EFFECTS OF VARIOUS INTENSITIES OF LIGHT ON CATALASE ACTIVITIES

**Presenter:** Heather Ramey  
**Faculty Mentor:** Hisako Masuda

Catalase is an enzyme that catalyzes the decomposition of hydrogen peroxide ($H_2O_2$) into water and oxygen ($O_2$). The effects of different intensities of light on catalase activity were studied both in vitro and in vivo. Consistent results were obtained from both studies. Ambient light significantly increase the rate of reaction in a dose dependent manner, while intense light, however, reversibly inhibited the enzyme.

### STUDIES ON PHOTOELECTROCHEMICALLY ACTIVE INORGANIC/ORGANIC INTERFACE CONSISTS OF ZN-DOPED WO3 /POLY 4-(THIOPHEN-3-YL) ANILINE

**Presenters:** Heather Ramey & Christopher Santucci  
**Faculty Mentor:** Kasem Kasem

Photo-activities at Inorganic/Organic/Interfaces (IOI) consisting of Zn-Doped WO3 (Zn-WO3) /Poly 4-(Thiophen-3-yl) aniline (PThA) assemblies were investigated in nanoparticle suspension and in thin solid film forms. The effects PThA modifier cause on the photoelectrochemical behavior of the IOI were investigated using $\text{[Fe(CN)6]4-}$ as photoactive hydrated electron donor agent. Results show that the adsorption process of $\text{[Fe(CN)6]3-}$ (photolysis product) control the photoactivity outcome of IOI assemblies. PThA shows greater heterogeneous photochemical response than native Zn-WO3. The band alignment between Zn-WO3 and PThA is of p-p junction straddling gap type. The interface activities were explained by analyzing the IOI junction characteristics such as electron affinity, work function and hole/electron barrier heights. The creation of hybrid sub-band states in the vicinity to the Fermi energy at interface was suggested.. Both $\text{[Fe(CN)6]4-}$ and PThA contributed to the stability of the native Zn-WO3 surfaces.
### RELIGIOSITY AND ATTITUDES TOWARD EUTHANASIA

**Presenter:** Haylee Robertson  
**Faculty Mentor:** Niki Weller

Many studies have explored the relationship between religious affiliation and the impact on decision making with regards to personal health and well-being. Lacking in this particular area of research however are studies on the relationship between religiosity and euthanasia. Specifically, how do personal religious beliefs and practices influence someone’s decision-making process regarding euthanasia in the presence of a terminal illness? Using data from the General Social Survey, this study examines this specific social phenomenon by comparing religious groups and the strength of one’s religiosity. Initial findings indicate that someone’s particular religious affiliation does have an impact on their opinion regarding euthanasia. Moreover, the findings suggest that there is a considerable difference in decisions regarding euthanasia between fundamental and non-fundamental denominations. For example, individuals identifying as Protestant and Catholic demonstrate a negative correlation in their overall opinion of euthanasia, such that the more someone personally identifies with either of these denominations, the less favorable they appear to be in terms of supporting euthanasia. Religion was a large influence in regards to decision making in the community in past history, however, in today’s evolving society, there are more factors that contribute to a decision than only religion.

### THE IMPORTANCE OF SPANISH LANGUAGE

**Presenters:** Adilene Santos, Flor Valdes & Arnulfo Zepeda  
**Faculty Mentor:** JR Pico

With the growing number of Spanish speaking people in the United States; with little to no ability to speak English, it is important for the language of Spanish to be grasped to better accommodate those people and expand a person’s mind. By being able to speak Spanish, all types of businesses will be able to better communicate with people who only speak Spanish as well as the language barrier between English and Spanish speaking people will be reduced. This research thoroughly expresses the main reason as to why the language of Spanish is so important in today’s society, and what benefits the Spanish language has in the United States and to a person as well.

### INVESTIGATION STRATEGIES

**Presenter:** Cody Summers  
**Faculty Mentor:** Timothy Fulk

My research has been on various aspects of the criminal investigation. One of my projects consisted of me going to the Peru State Police Post and interviewing some of the detectives on their interrogation techniques. This gave insight into what techniques I learned in class and what actual detectives use in their cases. Another project had me writing on the OJ Simpson trial and the criminal investigation aspect of it. My third assignment was on the techniques used when investigating serial offenders. For this presentation I will combine all three of these assignments and use them to describe a more comprehensive view on the investigation process in criminal cases.

### TRADITIONAL PRINTMAKING IN THE 21ST CENTURY

**Presenter:** Mark Thompson  
**Faculty Mentor:** Minda Douglas

Though the combination of traditional printmaking and digital illustration, I have developed a series of screen prints that combines the processes of reduction printmaking and brings them into the digital world. This process creates complex pieces of work that show the characteristics of traditional reduction printmaking at a high rate of speed needed for the 21st century.