A Celebration of Excellence

Abstracts from the 3rd Annual Celebration of Excellence
Student Presentations and Poster Sessions
Friday, April 26th, 2013

ILLINOIS COLLEGE
FOUNDED 1829
PRESENTATIONS

Samir Adrissi, Josh Williams, Koert Brown, Miriam Quezada, Hayley Hughes and Rudy Porter
Faculty Sponsor: Chris Oldenburg
Modified Team/Parliamentary Debate: Resolution: "Strict gun control laws are the mark of a civilized society."

Parliamentary debate is an extemporaneous debate formant balancing substantive argument with audience-centered delivery. These debaters will work collaboratively in three-person teams. Teams will draw upon their knowledge of philosophy, history, rhetoric, argumentation, and current events to develop well-reasoned arguments for or against the resolution. The debate will consist of six speeches, four constructives, and two rebuttals. The standard for judging will be the preponderance of the evidence presented. The audience will weigh the preponderance of the evidence and determine by vote which team has one the debate.

Art Department
Faculty Sponsor: Jeff Garland
Student Exhibition

The Art Department will be highlighting five of its majors and two of its minors in the Woodcock Gallery. This exhibit from multiple classes will include an interactive, dramatized viewing describing the difficulties of walking into a gallery and understanding what to look at. The audience will be able to interact with the artists after they have presented the process, content, and context of their work. This will break down the barriers typically created between viewers and creators.

Students: Andrew Comstock, Courtney Finley, Clare Frachey, DeCarlo Logan, Kayla Lowman, Ana Medina, and Timothy Teslicka.

Toluwalope Babington
Faculty Sponsors: Caryn Riswold and Heather Yates
Femiphobia, Violence, and Masculinity in American Culture

Femiphobia is defined by Stephen J. Ducat as the fear of the feminine. It is a phenomenon that can be traced as far back as ancient Greece and Rome, but has never received significant scholarly or cultural attention. This favors the existence of the male-dominated society we currently and have always lived in. The existence of femiphobia dictates how men are socialized and reinforces negative traits associated with masculinity. This study will employ qualitative research by utilizing scholarly articles, historical texts, and the analysis of pop-culture to provide a vast range of evidence to buttress its point. It will demonstrate how femiphobia reinforces violence as an expression of masculinity and how this violence dictates the way men interact with each other and others in society. Violence as an expression of masculinity is counteracting worldwide efforts to stop subordination of women and hindering progress made on the issue of women's empowerment. It also aids in empowering hypermasculinity, which has negative consequences for men and the society as a whole.

Haley Baker, Carly Holmes and Kelsey McFarren
Faculty Sponsor: Nancy Taylor Porter
Theatre Department Senior Showcase

Throughout their four years at Illinois College, theatre majors train for various professional roles through both coursework and productions, learning fundamental as well as advanced concepts for enacting these roles. These three graduating seniors will present a selection of scenes and monologues they are acting or
directing, which will be accompanied by an analysis explaining how they have applied various concepts they have learned to their preparation, rehearsal, and final performances.

**Owen Barbknecht**  
**Faculty Sponsor: Lisa Udel**  
The Colonization of Africa in the United States of America

The standard model of colonialism and colonization is often glorified through images of exploration and banners highlighted with the phrase “Carpe Diem”, or Manifest Destiny. This standard model is generally accepted as one country establishing a settlement in another country; controlling this new settlement economically, politically, socially, and psychologically. According to this model and definition of colonization, black Africans were not colonized in the United States. The purpose of this paper is to argue a change in this definition, that black Africans were, in fact, colonized in the United States. Through an examination of history, especially Howard Zinn’s study of marginalized people in *A People’s History of the United States*, the colonial philosophy of Albert Memmi’s *The Colonizer and the Colonized*, and the definitions and theories in the *Post-colonial Studies: The Key Concepts* text book by Ashcroft, Tiffins, and Griffiths, these definitions can indeed be changed from the standard model and definition to a definition that does not rely on a country establishing a settlement on foreign lands, but on the treatment of the people under control by the country.

**Communication 240: Introduction to Mass Communication**  
**Faculty Sponsor: Adrienne Hacker Daniels**  
“The Medium is the Message”: Reading *The New York Times* from a Liberal Arts Perspective

*The New York Times* Portfolio Project is the major project in Introduction to Mass Communication (CO 240). It includes an actual portfolio, a rewrite of one of the chapters in a textbook, as well as an essay exploring the ways that *The New York Times* contributes to understanding the liberal arts. Seven students will give a 5-7 minute presentation in which they discuss the ways that the newspaper – both in print and electronic modalities of communication – engages the liberal arts in the most quintessentially interdisciplinary ways. Portfolios will also be available for audience review.

Students: Kayla Perkins, Kris Poore, Brianna Klein, Miriam Quezada, Nathan Zimmerman

**Communication 415: Senior Seminar in Communication**  
**Faculty Sponsor: Kallia Wright**  
Tattoos, Siblings, Athletic Recruiting, and Service: Exploring Communication’s Role in Context

Communication is an integral process in all social interactions and its impact needs to be investigated. Through this panel, communication majors present four research papers that emerged from the Senior Seminar in Communication (CO 415) course. Students conduct research guided by qualitative research methodology in the first eight weeks of the semester as part of the requirements of the course. Their research explores various social interactions and underscore communication’s role in constructing the social realities in which we participate.

Brett Lurkins, Kathleen Love & Nicholas Shawgo: *College Students’ Perceptions of Tattoos: A Qualitative Study*  
Travis James & Lakyn Richard: *The Rhetoric of Recruiting Future Intercollegiate Athletes to a Division III Midwest Institution*  
David Dalfonso & Kristopher Poore: *Siblings at the same College: Framing Social, Academic, & Personal Identities among Siblings*
Ryan Blesse & Cory Washington: *Identity and Emotional Management of Members in Campus Greek Organizations*

**Shanna David**
**Faculty Sponsor: Lawrence Zettler**
A new species of *Cryptoapseudes Băcecsu, 1976* (Crustacea: Tanaidacea: Apseudomorpha) from the Hawaiian Archipelag

1David, Shanna E. and 2Richard W. Heard.

1Department of Biology, Illinois College, Jacksonville, IL and 2Department of Coastal Sciences, Gulf Coast Research Laboratory, Ocean Springs, MS.

A new species of *Cryptoapseudes Băcecsu, 1976* (Crustacea: Tanaidacea: Apseudomorpha) from the Hawaiian Archipelag

Thousands of species are described each year, however, hundreds of thousands still remain unknown. By exploring the diversity of life, we are able to better understand our evolutionary history and other aspects of our environment. *Cryptoapseudes leroyi*, n. sp. occurred in collections made in the western Hawaiian Islands. The new species, which represents the fourth species attributed to the genus *Cryptoapseudes*, is distinguished from the other three members of the genus by the antennule usually with outer flagellum having three articles, mandibular palp article 3 with six or more setae, maxilliped with palp article 1 lacking stout spiniform seta on lateral margin, and uropodal endopod usually with five-articles. The discovery of *C. leroyi* extends the range for the genus from the western Indian Ocean over 14,200 km northeast to the northern Pacific Ocean.

**Taylor English**
**Faculty Sponsor: Robert Kunath**
Moral Complexity: The Analysis of Moral Competence and Motivations of Rescuers in the Holocaust

The motivations of non-Jewish people to rescue Jews during the Holocaust have interested many scholars. Since the 1970’s, scholars have debated why this group of people chose to act independently when the majority of people conformed to the Nazi policies. Nechama Tec, Sam and Pearl Oliner, Eva Fogelman, and Kristen Monroe agree that background situational factors played a huge role in determining who became a rescuer. Lawrence Langer criticized the tendency to find a hopeful message in stories of the Holocaust, and rescue narratives focusing on altruism may seem to confirm his reservations. However, the reality of rescue was far more complex than the focus on saintly rescuers leads us to believe. Good and evil are not easily distinguishable and rescuers stories prove to be no exception. Five rescuers’ stories from Poland and Holland were analyzed using Michael Gross’s Theory of Cognitive Moral Development, and the analysis revealed that the rescuers’ motivations were not all the same. Many factors contributed to the decision to rescue, and the varied motivations included distinctly selfish ones. Rescuers in fact came in many types, and even included anti-Semites. Psychological theories have identified qualities common to many rescuers, but no theory can account for all causes of rescue.

**Alex Gagnor**
**Faculty Sponsor: Reiko Itoh**
Technological Advancement of Language Learning

Mobile phones and mobile applications have affected the way in which we study a foreign language, as they have become an essential part of our daily lives. The main focus of this study is on Japanese studying English and Americans studying Japanese. The results of this study are based on journal articles in such
fields as instructional technology, foreign language education, computer science, and computer-assisted language learning. Japanese newspaper articles, and interviews carried out both in the United States and Japan. Over 10 different apps were examined. Data was also collected from 10 Japanese students studying English and 12 American students studying Japanese. This was done through interviews both in America on the Illinois College campus, as well as in Kanazawa, Japan. In this presentation, I discuss how technology has boomed and become a major language learning tool. I also address the current shortfalls and conclude with an insight into possible future technological development.

German 300: Business in Germany and the EU
Faculty Sponsor: Bernd Estabrook
Business in Germany

The German 300 class, Business in Germany and the EU, is developing student-created videos that showcase current German companies in order to attract potential investors. We have produced these mock video presentations for the following five European companies: Nestle, Beiersdorf AG, Carl Zeiss, Swatch Group, and Siemens. Each video presentation will present current financial data along with information about the company's goals and markets. The video will discuss the future of the company and the financial advantages it would offer to potential investors. Our immediate goal is to provide our audience with a thorough, persuasive, and substantive introduction to each German company. In the development of these video presentations we have applied insights gained from our prior research into German business culture and the European Union, reflecting on how those insights are manifested in the specific circumstances of actual German companies/corporations.

Ashley Bailey -- Beiersdorf AG: “Willkommen zu Investoren für Beiersdorf AG Hautpflege”
Jake Himmel -- Siemens: “Die Elektrizitätskraftwerk-Industrie”
Levi Haley -- Carl Zeiss: “Innovation für die Welt”
Cameron Ruyle -- Nestle: “Bedeutung für Europa”
Hillary Harrison -- Swatch Group: “Eine Gelegenheit in der Swatch Gruppe zu investieren”

Luke Gruender
Faculty Sponsor: Lawrence Zettler

Tulasnella irregularis (Basidiomycota: Tulasnellaceae) from roots of Encyclia tampensis (Orchidaceae) in South Florida, and confirmation of its mycorrhizal symbiosis through symbiotic seed germination

Biology Department, Illinois College, Jacksonville, IL.

Tulasnella irregularis (Basidiomycota: Tulasnellaceae) from roots of Encyclia tampensis (Orchidaceae) in South Florida, and confirmation of its mycorrhizal symbiosis through symbiotic seed germination

Epiphytic orchids remain understudied with respect to their obligate mycorrhizal relationships – a key component of the integrated conservation model. Existing studies have revealed that these plants, like their terrestrial counterparts, commonly associate with basidiomycetes (e.g., Tulasnellaceae); however, few studies have verified their physiological role(s). Two strains of mycorrhizal fungi (UAMH 11541, UAMH 11543) were isolated from roots of an epiphytic orchid in South Florida, Encyclia tampensis (Lindl.) Small - one acquired from a seedling, one from a mature specimen. Seeds of four epiphytic taxa were inoculated separately with both fungal isolates in vitro: Enc. tampensis, Epidendrum amphistomum, Epi. nocturnum, and Prosthechea cochleata var. triandra. More than one-third of inoculated E. tampensis and E. nocturnum seeds developed leaves in darkness after 100 days. No significant differences were detected between the two strains on germination, nor any interaction between fungus and
seed source (ANOVA, $\alpha = 0.05$). Using ITS amplification and sequencing, both strains were identified as the teleomorph, *Tulasnella irregularis* Warcup & Talbot (Basidiomycota: Tulasnellaceae), and both were genetically identical with a high (98%) degree of certainty. Thus, symbiotic germination and ITS sequencing results are in agreement that both strains are indeed the same fungus. This paper is meant to shed additional light into epiphytic orchid-fungal interactions, and highlights the need to identify, test, and safeguard mycorrhizal fungi necessary for conservation.

**Whitney Hedden**  
**Faculty Sponsor: Steve Gardner**  
Spain’s Great Recession: A Crisis Rooted in Tradition

While the U.S. is pulling out of one of its toughest recessions in recent years, Spain is still struggling to prevent an economic collapse and reduce an unemployment rate of above 20% that has left many people suffering with mortgages they can no longer afford. With pressures from the European Union and Spanish citizens to reform, Spain is at a critical time in its history to make the necessary changes that will bring the country back to economic and social stability. In this presentation, I briefly discuss the causes of the economic crisis and show that there still exists much inefficiency in the Spanish economy that must be properly addressed if the country is to recover. I then explore recent attempts to reform the economy by Spain’s federal government, which include austerity measures imposed by the European Union, and the consequences of those reforms. Major ideas proposed by leading economists are considered, which support structural reforms within the higher education system, trade unions, and the hierarchical system of governing within Spain in order to bring economic and social stability to the country and pull the Spanish economy out of recession.

**Ashley Hembrough**  
**Faculty Sponsor: Lawrence Zettler**  
*Ex vitro* growth and survival of *Encyclia tampensis* (Orchidaceae) seedlings harboring mycorrhizal fungi following transfer to different substrates

Hembrough, Ashley M. and Lawrence W. Zettler

Department of Biology, Illinois College, Jacksonville, IL

*Ex vitro* growth and survival of *Encyclia tampensis* (Orchidaceae) seedlings harboring mycorrhizal fungi following transfer to different substrates

The Florida Butterfly Orchid, *Encyclia tampensis* (Lindl.) Small is an epiphyte native to Florida, the Bahamas and Cuba. Though locally abundant, this species is exploited commercially for its appealing floral display and sweet-smelling fragrance. Recently, *E. tampensis* was propagated from seed in *vitro* using a mycorrhizal fungus (symbiotic seed germination) identified as *Tulasnella irregularis* (Basidiomycota: Tulasnellaceae). For horticultural purposes, the use of fungi to germinate orchid seeds in this manner has been largely ignored for the epiphytes because of the ease by which these plants can be grown on asymbiotic (carbon-based) media. Yet for *E. tampensis* and other epiphytic orchids throughout the world, symbiotic germination appears to have considerable merit. We present a summary of research aimed at assessing initial *ex vitro* survival and growth of *E. tampensis* seedlings harboring *T. irregularis*. Tiny (1-2 cm), leaf-bearing seedlings were deflasked (*ex vitro*) and placed onto one of seven substrates: peat, bark, charcoal, peat/bark/charcoal, peat/bark, bark/charcoal, peat/charcoal. No significant differences were detected in seedling growth (leaf number, fresh weight), but seedlings placed on charcoal-based substrates experienced significantly higher mortality. Our results, though preliminary, suggest that seedling acclimatization of *E. tampensis* can be achieved using substrates lacking charcoal.
Danielle Hillis  
**Faculty Sponsor: Devin Bryson**  
The Struggle for Identity in the Writings of Mary Condé

The role of a postcolonial author is often ambiguous, though many postcolonial authors and theorists maintain that it is the duty of the author to ameliorate the situation of the people through their work. Throughout her works, both fiction and nonfiction, Mary Condé attempts to demonstrate the formation of identity in a postcolonial culture. The Guadeloupian author skillfully examines the national identity of Guadeloupe, how it is formed in relation to, and also in opposition to, that of France. Condé, is, however, more interested in the identity of the citizens of Guadeloupe; she asserts that their identity is constructed by gender, class, sexuality, and race, which are traditional constructions of identity. In critical analysis on Condé's body of work, the extent to which she fights these traditional constructions is often overlooked. Through examination of *Crossing the Mangrove*, it is clear that Condé is not only interested in demonstrating the construction of identity, but also in establishing that these rigid classifications no longer cultivate authentic individuals. This study is an investigation of the ways in which Condé reveals that the individual characters of her fictional works have been malformed due to the social atmosphere in which their identity was constructed.

Danielle Hillis  
**Faculty Sponsor: Lisa Udel**  
The Colonized Subject in Toni Morrison’s *The Bluest Eye*

African Americans have been marginalized in the United States historically and are still marginalized today due to racism. African Americans have thus suffered far-reaching effects of colonialism and imperialism, the source of American racism, yet they are denied the status of a colonized subject by the field of postcolonial studies. A broader definition of the term "colonized" would put the experiences of African Americans into the larger framework of colonization; this framework for understanding is necessary as it would provide the means of analyzing and studying the impact of imperialism in America on all of its marginalized subjects, and not only those native to North America. This study is a demonstration of the colonial nature of the African American's place in the United States through analysis of Toni Morrison's *The Bluest Eye*.

Nick Hommowun, Elizabeth Manary, and Aaron Schneider  
**Faculty Sponsor: Jeremy Alm**  
Covering the Square Lattice with Disjoint Unit Disks

Hommowun, Nick, Elizabeth Manary, and Aaron Schneider  
Department of Mathematics, Illinois College, Jacksonville, IL.

Covering the Square Lattice with Disjoint Unit Disks

In his "Puzzled" column in the *Communications of the Association for Computing Machinery*, Peter Winkler posed the following question, which is a puzzle that has generated some interesting mathematics: What is the largest integer $k$ such that any $k$ points in the plane, no matter how they are arranged, can always be covered with unit (radius 1) disks with pairwise-disjoint interiors? Since this problem is difficult, we instead consider the following modification, where points are constrained to lie on the square lattice in the plane: For which $d > 0$ is it possible to cover all of the points in the square lattice with inter-point distance $d$ with unit disks with pairwise-disjoint interiors? We show that for certain $d > 0$, such a disk covering is possible.
Emma Hudspath  
**Faculty Sponsor: Lisa Udel**  
Colonialism, American Indians, and Children’s Literature  

Colonization has been an integral and unfortunate part of the world’s history, one that appears in a multitude of sources, not excluding children’s literature. For instance, in the United States, there are several examples of the colonization of American Indians in popular children’s classics such as *Little House on the Prairie* by Laura Ingalls Wilder and *Caddie Woodlawn* by Carol Ryrie Brink, as well as more modern texts like *Walk Two Moons* by Sharon Creech and *The Absolutely True Diary of a Part-Time Indian* by Sherman Alexie, though these texts offer more commentary on the overall negativity of colonization. All four texts contain stereotypes stemming from the negative aspects of contact zones, defined by Mary Louise Pratt as the meeting of two cultures, between European and American settlers and the native people that were already living on the land. While these stories do contain negative stereotypes, there are also positive themes included. This makes it vitally important for there to be a discussion about these stereotypes and these stories, especially with the children who might not know what parts of the story to accept and which are negative ways of thinking.

Cassie Jarvis  
**Faculty Sponsor: Laura Corey**  
Improving the Pharmacokinetics and Efficacy of Mannoside FimH Inhibitors – an alternative anti-virulence therapeutic for Urinary Tract Infections  

Urinary tract infections affect 60% of women, and 80-85% of these infections are caused by uropathogenic *E.coli* that are rapidly gaining resistance to the current first line drug treatments. There are inadequate treatment options available to stop these recurrent infections and to avoid bacterial resistance. FimH is a mannose-binding bacterial lectin on the tip of type I pili of uropathogenic *E.coli*. It is responsible for the invasion of bladder epithelial cells and the establishment of UTIs. It also facilitates the formation of biofilm-like masses which serve as seeds for recurrent infections. If FimH binding could be inhibited, then bacterial adhesion, invasion, and biofilm formation could be stopped. In an effort to block FimH binding, the Janetka lab at Washington University School of Medicine is working on the synthesis and optimization of small molecule mannoside inhibitors that have high inhibition potency and good pharmacokinetic profiles as potential therapeutics for UTIs. Several potent inhibitors have been synthesized using a rational drug design, and the bioavailability of these compounds is being optimized to produce several leading compounds that will be taken forward into *in vivo* studies.

Taylor Joray  
**Faculty Sponsor: Lawrence Zettler**  
Nest-boxes as kestrel conservation tools: occupancy by kestrel and non-kestrel species in the Midwest  

1Joray, Taylor P., 2Eschenbauch, Janet, 3Mueller, William, 4Droske, Alice, 4Schwarzmeier, Judith, 4Palzkill, Joseph, 5Petznick, Steven, 6Standlee-Hanson, Carolyn D., and 7Giovanni, Matthew;

1Biology Department, Illinois College, Jacksonville, IL, 2Central Wisconsin Kestrel Research, Amherst Junction, WI, Western 3Great Lakes Bird and Bat Observatory, Belgium, WI, 4Beaver Creek Reserve, Fall Creek, WI, 5New London, WI, 6Spring Grove, MN, 7The Peregrine Fund, Boise, ID.

Nest-boxes as kestrel conservation tools: occupancy by kestrel and non-kestrel species in the Midwest  

American Kestrels (*Falco sparverius*), the smallest falcon species in North America, are experiencing declines across many regions of the United States. Still the most numerous falcon species present in North America, this little raptor has been enduring slow and steady declines for several decades. According to
data from Christmas bird counts, breeding bird surveys, and numerous nest-box programs, the North American kestrel population has decreased 47% in the last 45 years. Possible causes for the decline include land use and habitat loss, exposure to environmental contaminants, climate change, a loss of prey sources, and competition for nesting cavities. In particular, this study focuses on nest-box competition in the Midwestern United States. Occupancy rates for American Kestrels and other species were calculated in 169 nest-boxes in Illinois, Wisconsin, and Minnesota. An occupied box was defined as a box where a breeding pair laid at least one egg, regardless if the nest produced successful fledglings or not. Of the 169 nest-boxes considered, American Kestrels had an occupancy rate of 45.6%. European Starlings (*Sturnus vulgaris*) had an occupancy rate of 24.3%, while 20.7% of the boxes went unoccupied during the entire 2012 breeding season. These findings may indicate that European Starling, a non-native and highly aggressive species, may be a contributing factor in the decline of the American Kestrel.

Sarah Klebe and Amanda Henton
Faculty Sponsor: Naomi Hahn

Don Carlos

Due to a growing change in the social customs in the 18th century in which Friedrich Schiller wrote his historical play *Don Carlos*, Schiller was able to shed a new perspective on the real 16th century Queen of Spain. By altering her true situation in life, Schiller allows his character, Elizabeth of Valois, a significant amount of power; however, because she is a woman during the 1600s and is married to the King of Spain (in order to achieve harmony between Spain and France), she does not have any immediate power of her own. Analysis of I.V.728-740, performed by Amanda Henton, will demonstrate that even though Elizabeth does not have immediate power and does not get acknowledged for her work, Elizabeth is a true leader despite not being a man. The purpose of this presentation is to demonstrate how women were at a disadvantage during that era, and how they had to use what little power they have cleverly. As a prime example, although Elizabeth is at a disadvantage of being held back by the social constraints of the 16th century, Schiller presents her in a more modern light of the 18th century, as a powerful leader due to her wit and self-sacrificial attitude toward the concept of power. Not only does Elizabeth ward off an inappropriate lover in her recent, immature step-son, she encourages him to support the cause against the Spanish Inquisition and to act like a future king, not to impress her but for the well-being of the country. Like many women in literature, Elizabeth is a master of making men believe they are in charge, while, in all actuality, she is gently manipulating them. This gentle manipulation is her true outlet of power, and unlike some other women in history plays, Elizabeth uses this power for the greater good instead of for her own benefit. Elizabeth’s speech and characteristics clearly exemplify how women had to work through men in order to create a change, but more importantly, shows that, because of this drawback, Elizabeth would be a better leader than the male characters within *Don Carlos*.

Brett Lurkins
Faculty Sponsor: Jeremy Turner

Effects of a Concussion on Tackling Performance in College Football Players

The effects of wearing a concussion sensor on tackling form and aggression levels were examined among Illinois College football players. Players took part in a videotaped routine tackling drill during a regular practice. Some of the players’ helmets (n=29) were fitted with a concussion sensor housing unit on the back of their helmets and told they were taking part in a study on concussion sensors. Tackling form and aggression levels were compared to control players taking part in the same drills on the same days but not fitted with a concussion sensor housing unit. Using videotaped footage of the drills, two observers blinded to the experimental condition scored tackling form and aggression using likert-scale rating systems. Our hypothesis was that aggression levels would be lower but that form would improve in participants wearing the concussion housing units. While the presence of the concussion sensor housing had no
significant effect on aggression levels in tacklers, a non-significant trend towards better tackling form was found. These results suggest wearing a concussion sensor might not significantly change the behavior of the athlete, which would help alleviate the fears of some coaches and players that concussion sensors would cause players to be less aggressive or somehow negatively alter players’ form.

**Angela Martin**  
**Faculty Sponsor: Lawrence Zettler**  
A winter survey of insects inhabiting the Florida Panther National Wildlife Refuge

Martin, Angela and Lawrence Zettler.

Department of Biology, Illinois College, Jacksonville, IL

A winter survey of insects inhabiting the Florida Panther National Wildlife Refuge

In 1989, the 10,600+ hectare Florida Panther National Wildlife Refuge (FPNWR) was established to protect the endangered Florida panther, *Puma concolor coryi*, and its habitat. Among the natural communities present include tropical hardwood hammocks, wet prairies, cypress strands, pinelands, and swamps that collectively support a diverse flora and fauna. To facilitate long-term conservation in a region vulnerable to invasive (exotic) pests, biological surveys are needed to document and monitor changes to the native flora and fauna. During a three-year period (2009-2011), the insects of the FPNWR were collected, identified, and preserved primarily during summer months (June, July). We present the first insect survey carried out during the winter season (January 2013). A hand net and black light were utilized to collect diurnal and nocturnal insects, respectively. Following identification, insects were preserved using standard entomological protocols, and permanently deposited in the Illinois College arthropod collection for safekeeping and future reference. A total of 58 insect families within 10 orders were identified including Alaus oculatus (Coleoptera: Elateridae) Acrosternum hilare (Hemiptera: Pentatomidae), and Lethocerus americanus (Hemiptera: Belastomatidae). Among the Saturniidae (Lepidoptera) collected include Automeris io and Antheraea polyphemus. Though relatively common, these insects provide a baseline for future surveys and suggest that insects remain active year-round in this important eco-region.

**Grant Morton**  
**Faculty Sponsor: Lawrence Zettler**  
Reintroduction of asymbiotically-grown epiphytic orchid seedlings in South Florida (*Epidendrum amphistomum, Polystachya concreta*), and subsequent assessment for mycorrhizal colonization

1Morton, William G., 1Conley, Sara B., 1Andrew L. Stice, 1Lawrence W. Zettler, and 2Larry W. Richardson.

1Department of Biology, Illinois College, Jacksonville, IL and 2Florida Panther National Wildlife Refuge, Naples, FL.

Reintroduction of asymbiotically-grown epiphytic orchid seedlings in South Florida (*Epidendrum amphistomum, Polystachya concreta*), and subsequent assessment for mycorrhizal colonization

Although orchid seeds contain small traces of food reserves, the long-held assumption is that mycorrhizal fungi are required as a carbon source (mycotrophy) to propel orchid seedlings to a photosynthetic stage. For epiphytic orchids, this concept has received more scrutiny given that these plants have more access to sunlight in the host tree’s canopy compared to terrestrials. Recent studies have revealed that epiphytic orchids do indeed associate with ubiquitous basidiomycetes (*e.g.*, Ceratobasidiaceae, Tulasnellaceae), but
it remains unclear if these orchids “recruit” fungi once photosynthesis is established. We describe the outcome of an experiment aimed at assessing asymbiotically-grown, epiphytic orchid seedlings for the presence of mycorrhizal fungi following reintroduction. Seedlings of two epiphytic orchid species, *Epidendrum amphistomum*, *Polystachya concreta*, were grown in the laboratory on a carbon-based medium without fungi. Seedlings were then reintroduced to natural host tree substrates within the Florida Panther National Wildlife Refuge and monitored for 2-3 years. Roots on selected seedlings were subsequently detached and assessed for mycorrhizal fungus colonization in the laboratory using agar, staining, and molecular techniques. To date, one fungus, tentatively identified as a strain of *Tulasnella*, has been recovered from *P. concreta*. If confirmed, the presence of this fungus lends support for the hypothesis that epiphytic orchids utilize mycorrhizal fungi even after attaining a photosynthetic capability.

**Zachary Pruitt**  
**Faculty Sponsor: Adam Porter**  
*The Hitchcock Monomyth: The Perfect Recipe for a Hitchcockian Thriller*

In today's film industry, film genres are often oversimplified into broad categories that only loosely describe the movies they contain. In 2002, John Lawrence and Robert Jewitt wrote about a plot pattern used in some American western and action films called the American Monomyth; this monomyth, or pattern, could be used to analyze and categorize certain films more accurately than the broader genres widely used. I propose that there is also another monomyth called the Hitchcock monomyth, which can be used to accurately categorize and analyze a type of movie called the Hitchcockian thriller. The Hitchcock Monomyth was gradually formed over Alfred Hitchcock's long career. The Hitchcock Monomyth and the origins of some of its key elements can be shown by a brief analysis of some of Hitchcock's films and an overview of his career and collaborations, documented in scholarly articles. With further research, other "monomyths" could be formed, leading to a more accurate analysis and categorization of films.

**Megan Rabe**  
**Faculty Sponsor: Caryn Riswold**  
*Just Good Trade: An Avenue for Women’s Empowerment*

Due to the present trend of globalization, there is an effort by big companies to outsource to areas where they can best increase their bottom line. This can create jobs that offer poor working conditions and low wages to people across the globe. Because of their already existent inequality, women are especially affected by these negative consequences of globalization. Fair Trade, an economic system based on the principles of fairness and empowerment, tries to counter this social problem. To better understand how Fair Trade affects women in particular, a content analysis of 25 distributors’ websites was done in relation to an extended literature review on the Fair Trade movement as well as a study of Marxist and socialist feminist theory. The findings showed that in addition to a large number of women producing Fair Trade, many Fair Trade cooperatives work to fight women’s issues specifically. With an enhanced understanding of the effects of Fair Trade, people can better participate in socially responsible consumerism that empowers producers, especially women, all over the world. In Jacksonville, the locally owned store Just Good Trade provides one avenue for this social responsibility and action, as well as the impetus for this research.

**Andrew Salyer**  
**Faculty Sponsor: Timothy Kramer**  
*The English Voluntary in Colonial America*
This presentation will consist of a study of the English Organ Voluntary in Colonial America, and it will show the substantial influence of the English organ tradition in pre-Revolution America, including the types of organs used and what music was played, whether by an American or English composer. It will begin with a discussion on English organs of the 18th century, instruments which had traditionally been relatively small, lacking pedals, and based on delicate principal stops, with a penchant for reeds and trumpets. This will be followed a brief history of the voluntary genre itself, the evolution of the form, tracing its major developments from Matthew Locke through John Blow, William Croft, John Stanley and Samuel Wesley, and the use of the organ in the English church. Finally, some discussion on the organ in 18th-century America. Since America was culturally influenced most by Britain at the time (pre-Revolution), it stands to reason that the type of pipe organs found in both colonial churches and drawing-rooms were ones based on English models, or even better, built in England and shipped across the Atlantic to an appreciative public. Included in the lecture will be short musical examples of several voluntaries, which will serve to highlight various aspects of the genre.

Matthew Schneider  
Faculty Sponsor: Robert Kunath
Calling for Civil Liberty or Accepting Oppression?: A Comparative Study of Race Relations in Post-WWII Jacksonville, IL

While there has been relatively little written about the history of Jacksonville, Illinois, especially in regards to race relations, the general feeling is that the community is was one of acceptance and affirmation. Perhaps this is a product of the exaggerated truths that Jacksonville was something of a black haven and an active stop on the Underground Railroad. Regardless, the willingness to accept a very socially progressive image of Jacksonville is misguided, as the asking questions results in the appearance of a contradictory racial history. Through a series of oral history interviews, a number of primary documents, and a body of secondary literature for purposes of comparison, a more accurate image of the town emerges. Thus, post-WWII Jacksonville can be located on national and regional spectrums of racial progression, ranging from heavy segregation to complete acceptance. Ultimately, Jacksonville can be viewed as a fairly liberal community in comparison to other towns in the rural Midwest and America, but historical study shows a community that was a far cry from a racial utopia that persists in the minds of many.

Rachel Schuchman  
Faculty Sponsor: Steve Gardner
The Yasuni ITT Initiative and the Protection of the Rain Forest and Indigenous Communities in Ecuador

The Yasuni ITT Initiative, in which Rafael Correa, the president of Ecuador, promises not to drill for oil in the Yasuni National Park in exchange for financial contributions from the international community, has both problems and potential benefits. The Yasuni is one of the most biodiverse places on earth and contains several indigenous communities. Some environmentalists and Indigenous activists view the Initiative as a tool that can help preserve the culture of indigenous communities of Ecuador and its biodiversity. The indigenous communities are constantly struggling to protect their lands from the invasion of oil companies. Ecotourism carried out within a framework of the Yasuni ITT Initiative can be a way for these indigenous comminutes to gain a certain political power and help bring awareness to outsiders. However, the Initiative will have to be executed alongside programs of sustainable development and a focus on finding other renewable energy sources, if the temptation to drill for oil in the Yasuni is to be adverted. The Yasuni ITT initiative offers the best hope for Ecuador to reach an equilibrium between development, protecting indigenous cultures, and preserving the biodiversity.
Theatre 352: Theatre on the Edge  
**Faculty Sponsor:** Nancy Taylor Porter  
**The Culture of Violence**

Theatre on the Edge (TH 352) has been exploring non-traditional means of theatre making, such as using the actor's instrument – body and voice – as objects, as elements in other art forms (i.e., color, line, tempo, qualities of sound, etc.), and as abstract expressions of nature and humanity based largely on the work of actor and teacher Jacques Lecoq and director Anne Bogart. They have also explored the political impetus behind much of the groundbreaking theatre practitioners' work of the 1960s and 70s, how those artists wanted to raise consciousness. Students have created a piece that examines several arenas of violence in American culture: sex trafficking, rape, hate crimes, and gun control. They will present this 15-20-minute montage that represents their research, emotional/visceral responses, and provocative, theatrical exploration of these topics.


Trevor Warner  
**Faculty Sponsor:** Robert Kunath  
**Sandburg’s Lincoln as an American Epic**

Carl Sandburg published a two-volume set titled Abraham Lincoln: The Prairie Years in 1926, after several years of research on his subject. To follow this, in 1939, Sandburg published four more volumes titled Abraham Lincoln: The War Years which won a Pulitzer Prize in history. These six volumes have had a lasting impact on the idea of the “Lincoln Legend” and come into play as we remember Lincoln’s time, Sandburg’s time, and our present day perception of Lincoln. Taken together, these volumes present us with an American Epic and cover the life of an American Icon. Due to the fact that these works were written between the two world wars, they urge readers to believe in the American system, to build on American Tradition, and to bring back the peoples power in a democratic system. Throughout his work, Sandburg shows all of these traits through his portrayal of Lincoln. Following their publishing, both praise and criticism of Sandburg’s work on Lincoln came from fellow scholars, with somewhat critical reviews coming from many historians. However, Sandburg’s work has still lasted for decades as one of the most famous works about Abraham Lincoln ever written and its impact has been felt by many.

Josh Williams  
**Faculty Sponsor:** Jose Arce  
**Dimensions of Rebellion**

Uprisings in many countries across Latin America have been influenced or triggered by the lack of real concern by their respective governments for the people. Each of these uprisings that have occurred within these countries was triggered by the government not acknowledging a group of individuals who represented a significant portion of the population. The lack of concern creates divisions between people due to their social and economic status, religious beliefs, etc. Important comparisons can be made between the rebellions that have taken place in such Latin American countries as Mexico and Brazil and the conflicts that have occurred in Syria. Despite the fact that these uprisings are taking place in different regions of the world, the basic sentiment and intentions are very similar and can be compared to each other in subtle ways, even though the basis of the suppression—whether it is religious or economic—might be different in each case.
Megan Baxter  
**Faculty Sponsor: Elizabeth Rellinger Zettler**  
Effects of Exercise in Preventing Memory Loss among Residents in Retirement Community

According to the Health and Human Service’s Administration on Aging, there were over 39.6 million people aged 65 or older in 2009 (the latest year for which data is available). This represents about one in every eight Americans. Furthermore, it is predicted that by 2030, there will be about 72.1 million older persons in the U.S. Already it is estimated that 4.5 million elderly Americans have Alzheimer’s disease or other dementias. Thus, finding low cost methods of preventing memory loss among the elderly is important. Several recent studies have found that exercise programs can be helpful for preventing memory loss among the elderly living in both community settings (Kamegaya, Maki, Yamagami, Murai, & Yamaguchi, 2012) and in nursing home facilities (e.g., Segal, Cotman, & Cahill, 2012). Whether a short-term exercise program would have similarly positive effects on preventing memory loss among residents in a retirement community was examined in this study. Volunteers in this study were assessed using the Self-Administered Georcognitive Examination (SAGE), a 6 week exercise program was implemented, and the SAGE was re-administered. Pretest versus posttest scores were evaluated and correlations between the number of exercise sessions attended and memory change scores were assessed using SPSS.

Demetrious Baylis  
**Faculty Sponsor: Kevin Klein**  
The Socioeconomic Effects of the Abolishment of Slavery

The “Socioeconomic Effects of the Abolishment of Slavery” is important because when talking about slavery, history has only focused on the social effects. History has forgotten the economic effects that resulted from the abolishment of slavery. Abraham Lincoln abolished slavery with only moral intentions in mind. The economics effects were drastically detrimental to our economy and caused unpredictable decreases in GDP, labor, and employment while increasing poverty and the amount of homeless. Research from economists such as H. Fleisig indicates that slavery was a source of supply of labor and a key factor in the industrialization of the south. Economic theory states that as you decrease both supply and demand, quantity decreases. The research presented requires one to view slavery from a different perspective to decide if the country was ready economically for slavery to end.

Jacob Dander, Anne Aiello and Cassie Jarvis  
**Faculty Sponsor: Brent Chandler**  
Synthesis of xenitorin A

We are working on the preparation of xenitorin A, a compound produced in very limited supply by nature that selectively kills lung cancer cells. Xenitorin A was isolated in 2002 from the Formosan soft coral Xenia Puerto-galerae and demonstrated potent cytotoxicity against A549 (lung) cancer cells. Despite its potency as an anticancer agent and relative scarcity, a successful synthesis of this valuable compound has not been reported. We hope to provide access to this molecule and its relatives in order to understand and improve its potency. We believe through the utilization of cysteine based catalysts that we can develop a catalytic tandem asymmetric Rauhut-Currier/Aldol condensation reaction which would provide the
necessary bicyclic framework for the eventual synthesis of xenitorin A and would provide the chemical community with a new procedure for the synthesis of enantioenriched bicyclic products. Through use of procedures developed by the Miller group at Yale University we have successfully synthesized the necessary cysteine catalyst and have also began synthesizing possible acyclic precursors. Cancer research has been the focus of many in the scientific community, and the synthesis of xenitorin A and the discovery of its biochemical mechanism may provide an alternative to traditional anticancer drug agents.

**Emily Donnan**  
*Faculty Sponsor: Kevin Klein*  
*Organs For Sale: An Economic Analysis*

In October, 1984, The National Organ Transplant Act (NOTA) became law in the United States. Section 301 of this act included “the criminal prohibition against the exchange of organs for transplantation for valuable consideration.” This law still exists today. However, a black market exists for organs, and there are individuals who die every year because there were not enough organ donors available. One possible solution to this problem is to denounce Section 301 in NOTA and introduce a legal market for the purchase and sale of organs in the U.S. This solution would provide some major benefits, such as the increase in the availability of much needed organs such as kidneys, liver transplants, etc. However, the law could also create unintended negative incentive structures, such as an incentive to sell an individuals’ organ(s) without their consent. Additionally ethical issues quickly step to the forefront of the issue. By compiling a variety of data and scholarly articles on the organ market sale, I use a positive economic analysis method to make conclusions on the effects legalization of the organ transplant market would have in the United States.

**Crystal Elliot**  
*Faculty Sponsor: Lawrence Zettler*  
*Boisduval scale (Diaspis boisduvalii, Hemiptera: Diaspididae) on native epiphytic orchids in South Florida’s Fakahatchee Strand State Preserve – an update*

1Elliott, Crystal A., 1Adam J. Zindel, 1Lawrence W. Zettler, and 2Jennifer A. Zettler.

1Department of Biology, Illinois College, Jacksonville, IL and 2Department of Biology, Armstrong Atlantic State University, Savannah, GA.

Boisduval scale (Diaspis boisduvalii, Hemiptera: Diaspididae) on native epiphytic orchids in South Florida’s Fakahatchee Strand State Preserve – an update

About half (106) of North America’s orchid species are found in Florida, and half of these species are largely restricted to the Big Cypress Basin eco-region in the southern tip of the state. In the Fakahatchee Strand State Preserve, widely regarded as the “orchid capital of North America”, at least 44 native orchid species have been documented, many of which are state-listed epiphytes. In 2011, Boisduval scale (Diaspis boisduvalii, Hemiptera: Diaspididae), was discovered at two sites within the Fakahatchee Strand for the first time. This phytophagous exotic species is considered the most important pest of cultivated orchids in Florida due to its ability to weaken or kill the host plant. Consequently, the presence of *D. boisduvalii* in this orchid-rich eco-region is of considerable concern. We present an update on the prevalence of Boisduval scale in the Fakahatchee Strand during a survey carried out in last summer (2012). Seven epiphytic orchid species were surveyed for *D. boisduvalii* and other phytophagous insect pests spanning 10 different sites. Boisduval scale was present at seven of the 10 sites, and primarily on two orchids: *Epidendrum amphistomum* and *Prosthechea cochleata* var. triandra. In addition, a new pest
was also collected during the survey, *Pseudococcus microcirculus* (Hemiptera: Pseudococcidae), representing a state-record. Taken together, these exotic insects add an additional burden to state-endangered orchid populations.

**Dwanee Harrison**  
**Faculty Sponsor:** Reiko Itoh  
**Japanese Education**

The United States can learn a great deal by comparing its education system to that of Japan, and the implementation of certain Japanese teaching ideas could benefit the American Education System. Due to its emphasis on education, Japan has become one of the world leaders in technology and successfully prepares students for the workforce, while the United States has fallen behind. America needs to look at other education systems and why they are successful. In this study, I examine the Japanese education system through academic articles, Japanese newspapers, interviews with American and Japanese High school students, and a three week observation period in Japan. The research findings suggest that there are many tools and strategies used in Japan that could be implemented within American education that would benefit all students. As the world becomes more globalized, America must look for new ways to remain competitive and innovative. The way to accomplish this is through education.

**Whitney Hedden**  
**Faculty Sponsor:** Kevin Klein  
**A Study of Unemployment in Spain**

In this project I give a brief overview of the study of labor economics, focusing on the contributing factors of unemployment. Once these major factors have been identified and explained, labor economics theory is applied to the current situation faced by Spain, a country with a 24% unemployment rate, in order to explain the reasons for this high rate. Spain provides an interesting case study as it is a developed country as well as a member of the European Union, yet it has an unemployment rate more than twice that of the EU average. The contributing factors of unemployment are discussed, explaining what makes this situation unique to the European Union.

**History 462 – Archival Methods**  
**Faculty Sponsor:** Jenny Barker-Devine  
**“From Blue Boys to GIs: Illinois College in the Second World War”**

The students enrolled in HI 462 - Archival Methods - created an exhibit in Schewe Library titled "From Blue Boys to GIs: Illinois College in the Second World War" featuring the perspectives of IC students, at home and abroad, of World War II. Artifacts include Illinois College yearbooks, articles from *The Rambler*, and items from the Paul Findley collection related to his time in the Navy.

**International Studies 171**  
**Faculty Sponsor:** Reiko Itoh  
**Sports in Japanese Society**

Each of the students enrolled in IN171 - Sports in Japanese Society - has worked on a research project analyzing contemporary Japanese society through a sport played in Japan or sport-related issues in Japan. Research topics include baseball, basketball, golf, tennis, volleyball, badminton, ping pong, handball, ski, softball, and martial arts, as well as physical education and gender issues.
Marlee Jo Bradshaw  Women's Sports in Japan
Dominick Dalfonso:  Ping-Pong in Japan
John Fisher  Coaching and Basketball in Japan
Justin Gray  Martial Arts in Japanese Society
Dwanee Harrison  Jodo: The Way of the Stick
Brady Huber  Professional Baseball: Comparing U.S. and Japanese Pro Baseball
Dawson Loschen  Baseball in Japanese Society
Parker Murray  Golf in Japanese Society
Austin Naumann  Globalization of Baseball
Tamar Norville  The Study of Tennis in Japan
Austin Peck  Japanese Baseball Fans
Justine Pfaff  Women’s Softball
Zac Schopp  Physical Education in Japan
Jacob Schultz  Badminton
Kyle Waldeck  Snow Skiing in Japan

International Studies 239
Faculty Sponsor: Reiko Itoh
Gender Issues in Contemporary Japanese Society

Each of the students enrolled in IN239 - Gender Issues in Contemporary Japanese Society - has worked on a research project that analyzes the dynamics of gender in Japanese society. Research topics include women's language, child rearing, gender issues in workplace, gender stereotypes in cartoons, women's political participation, housewives' movement, and human trafficking.

Matt Gass  The Societal Implications of Japanese Gendered Speech
Courtney Howard  Japanese Parents’ Role in the Development of Their Children
Jordan Lewis  Japanese Women in the Workforce
Megumi Mitsumoto  Gender Difference in American and Japanese Cartoons
Miriam Quezada  The Shifting Tide: The Politics of a Nation
Rachel Schuchman  The Positive and Negative Externalities of Japanese Food Safety
Casi Strode  Hidden Under the Surface

Audrey Knight, Kyle Mason, Ashley Riley, and Mariah Sisson
Faculty Sponsor: Brent Chandler
Saving the Musk Deer: Work toward the Streamlined Synthesis of Muscone

Chandler, Brent, Knight, Audrey, Kyle Mason, Ashley Riley, and Mariah Sisson

Muscone is a large cyclic ketone that is a territorial releaser pheromone in musk deer, *Moschus moschiferus*. Commercially, muscone has been used in Asian medicine and is also used in the perfume industry. Musk deer have become endangered as a result of over hunting and have been declared a protected species both by the Chinese Wild Animal Protection Law and the International Trade in Endangered Species of Wild Fauna and Flora. The demand for muscone remains high, and the compound is very expensive as a result. The nonlethal extraction of muscone from living musk deer has been achieved, but the production is still not sufficient to meet global demand. As such, it is important to continue to develop synthetic means to produce the material. We describe our pursuit of the synthesis of muscone using ring closing metathesis (RCM) as the key synthetic step.
Emma Moore  
**Faculty Sponsor: Laura Corey**  
Obsessive Compulsive Spectrum Disorder Behavioral Research in People with Intellectual Disability with or without a Diagnosis of Autistic Spectrum Disorder (ASD) at an Intermediate Care Facility for Developmental Disability (ICF/DD)

1Moore, Emma, 2Jeffrey Bennett, and 3Kristina Dzara

1Illinois College, 2Southern Illinois University School of Medicine, and 3Jacksonville Developmental Center, Jacksonville IL.

Adults with developmental and intellectual disabilities often reside in a state operated intermediate care facility due to specific behavioral issues which cannot be readily addressed in community residential settings. We seek to understand if the profile of disruptive OCD behavior in adults with intellectual disability with a diagnosis of Autistic Disorder living in a state operated Intermediate Care Facility for Developmentally Disabled (ICF/DD) is similar to or different from such a diagnosis in people without a diagnosis of Autistic Disorder in the same environment. The findings will help to determine if there are therapeutic approaches that might more specifically target OCSD associated behavior in people with Intellectual Disability and Autistic Disorder. For example, patients with hoarding behavior may respond better to behavior intervention rather than pharmaceutical intervention, whereas a patient with a fear of contamination may respond better to a combination of pharmaceuticals and behavioral interventions. The frequency of disruptive behavior exhibited by adults with developmental disabilities associated with and without a diagnosis of Autistic Spectrum Disorder (ASD) is an important area to examine since such behavior can interfere with the optimization of habilitation planning and placement in a least restrictive environment such as a community placement. The diagnosis of ASD exists in about a quarter of the population found within some developmental centers. The profiles of behavior considered disruptive can often be associated with Obsessive Compulsive Spectrum Disorders (OCSD) in adults with intellectual disability with ASD. Indeed, the rate of OCSD is nearly twice as high in clients with a diagnosis of ASD than in those without ASD in a state operated Intermediate Care Facility for Developmentally Disabled (ICF/DD) suggesting that this can represent a particularly challenging population to treat and successfully transition to less intensive, less restrictive therapeutic environments.

Ahunaa Nwaogwugwu  
**Faculty Sponsor: Kevin Klein**  
Sustainable Development and Economic Growth in Countries of the First World

This poster presentation serves to explain the effects that sustainable development and economic growth have had in first world countries. Sustainable development is a global phenomenon in which the economy is improved in methods that also conserve the environment. This points to cleaner methods of energy production and better ways to industrialize. The aim of the poster presentation is to show that economic growth is highly feasible and can be done along with plans of sustainable development. Research is done with a focus on the industries in developed countries and ways in which other countries (especially underdeveloped countries) can alter economic activities to accommodate the overall aim of sustainable development. In this discovery, solutions were unearthed that might take decades to implement but would have long term effects on the growth of the economy. The future of this kind of development is important because the current methods of production of goods could harm the environment in such a way that further economic growth beyond a certain point would be hampered.
Jafar Qutob  
**Faculty Sponsor:** Kevin Klein  
**How Much Does the Rate on Capital Gains Tax Actually Matter?**

The debate over the ‘appropriate’ level of taxation on income gained from investments, known as the capital gains tax, has been one of the most controversial economic policy debates in the United States. How much does the rate on capital gains tax actually matter? On one hand, the capital gains tax is a major factor that comes into play when individual investors make buying, selling, and portfolio rebalancing decisions. Many investors will choose to hold on to securities for longer in order to avoid paying the short-term – higher – tax rate. On the other hand, major studies have shown little or no correlation between the rate of the capital gains tax and the level of economic growth. In other words, the vast majority of investors are still going to buy and sell financial securities without much regards to how high or low the capital gains tax rate is. The purpose of this paper is to explain the concept of capital gains taxation, the arguments surrounding its controversy and the major effects this tax has on the U.S. financial markets and economy.

Stacey Schwartz and Katelyn Telling  
**Faculty Sponsor:** Elizabeth Rellinger Zettler  
**The Autism Respite Program: Qualitative Effects of a Community-Based Program**

The Autism Respite Program is a new joint venture between Illinois College and the Jacksonville Area Center for Independent Living (JACIL). Through this program, interns provide respite care for families of autistic children aged 2-18. Respite care is a way to provide caregivers with some time to complete tasks other than caring for their family member. During 2 hour weekly sessions, interns engage in developmentally appropriate activities with individuals on the autism spectrum. In this presentation, 2 interns will discuss recent research in the field of autism and explain the overall program. Qualitative data on the effects of this program on the student interns, the individuals served, and the family members will also be discussed. Useful tips for working with individuals with autism, including how to avoid stereotyping and over-generalizations, will also be shared.

Justin Sweatman  
**Faculty Sponsor:** Kevin Klein  
**The Positive Effects PPACA (ObamaCare) Will Have on the United States Economy**

Despite the negative attitude many have towards PPACA, research proves the positive effects the Patient Protection and Affordable Care Act (PPACA), also known as “Obama Care,” will have on the United States economy. Health care is a very important part of the United States government, society, and economy, and it impacts the citizens tremendously. This research is based on articles, data, and predicted outcomes. These research methods found the following results. Health care reform in the United States is necessary because the government will not be able to afford it in the coming years. PPACA is the solution to the country’s health care problem. This study is an examination of how the PPACA will create jobs and affordable health care for the people and government of the United States. I will also examine how the government will be able to afford “Obama Care.” Predictions and data have been gathered to reveal the PPACA will have positive economic effects on the United States economy.

Hana Thixton  
**Faculty Sponsor:** Lawrence Zettler  
**Endophytic fungi and seed germination of critically endangered epiphytic orchids from Madagascar – preliminary results**
In 2012, a collaborative, 5-year research project was initiated between Illinois College and the Royal Botanic Gardens, Kew, aimed at studying selected critically endangered orchids in Madagascar. A few of the aspects investigated include: 1) isolation and use of mycorrhizal fungi to augment orchid population size, 2) using seeds as fungus “baits” to acquire fungi that facilitate seed germination in situ, and 3) developing seed germination protocols leading to seedling reintroduction. In June 2012, seeds of *Angraecum longicalcar* and *A. protensum* were placed within nylon packets and sown in situ as baits for eventual retrieval. Root segments from 19 taxa spanning 6 genera were collected for mycorrhizal fungus isolation: *Angraecum* (8 spp.), *Bulbophyllum* (2), *Cynorkis* (1), *Eulophia* (1), *Jumellea* (4), *Polystachya* (3). Intact pelotons were observed in *Eulophia* sp., *A. longicalcar*, *A. magdalenae*, *Bulbophyllum* sp., *J. intricata*, *Cynorkis* sp., and *P. cultriformis*, but were most prevalent in *A. calceolus*. Pelotons were most frequent in the distal region of the root, just beyond the tip. Hyphal tips from pelotons yielded mostly conidial endophytic fungi (e.g., *Fusarium*) and none (so far) were assignable to ubiquitous orchid mycorrhizal-forming Ceratobasidiaceae or Tulasnellaceae. Seeds from 2 genera (*Jumellea*, *Polystachya*) were sown on an asymbiotic medium (P723, PhytoTechnology Labs). Germination was observed in *Polystachya* 53 days after sowing.

**Melissa Trone and Lynette Bauer**  
**Faculty Sponsor: Elizabeth Rellinger Zettler**  
**Effect of Announcements of Facility Closure on Maladaptive Behavior and Injuries among Individuals with Intellectual Disabilities in a State Facility**

Trone, Melissa, Bauer, Lynette, Bryan, Jeffrey*  
*S Southern Illinois University, School of Medicine

In 2012, announcements were made that a state institution for people with intellectual disabilities was going to be closed. To assess the effects of this announcement on the lives of the individuals residing in this facility, changes in injury rates and maladaptive behaviors were studied. It was hypothesized that the stress of the closure would produce increased rates of maladaptive behavior and injuries. Data were collected through a retrospective chart review of existing data and informed consent exemption was obtained from SCHRIS, the Institutional Review Board at Southern Illinois University, School of Medicine. 52 residents’ records were studied. Overall, when comparing year three (the year following the closure announcement) with years one and two (the years preceding the announcement), no significant changes were found. However, two subgroups of the residents showed a trend towards an increase in negative behaviors: older individuals (between the ages of 50-59 years) who had resided in the facility for between 15-20 years and had Axis I diagnoses of Autism and/or Obsessive Compulsive Disorder, and individuals with profound levels of intellectual disability. Thus, while stress effects were not demonstrated for all residents on these measures, those with the highest need for routine did show negative behaviors.
Nyangochir Tserenlkhangva  
Faculty Sponsor: Kevin Klein  
Wealth Distribution: How the Rich Make Money, and Are We Taxing Them Enough?  

Conventional wisdom says that, in many societies and countries including the United States, the richest one percent controls more than half of the total wealth although they do not pay as much tax as the rest. In addition, how most of the rich accumulate wealth still seems to remain a “mystery.” However, science says that anything related to numbers may be examined and studied, and therefore, how the rich make money can also be studied. So the purpose of this paper is to give a clear understanding of the distribution of net wealth in the United States, how this wealth is generated, and why. The United States Tax Code and Regulations related to tax and tariff may hold the key to the “mystery.” Thus, for this study, some Federal tax laws and books by Robert Kiyosaki, a New York Times best-selling author, were collected and used. As economics is the study of production, distribution, and consumption, this paper will help answer two important questions: how does a country run, and who pays for it?

Cory Washington  
Faculty Sponsor: Elizabeth Rellinger Zettler  
Computer-Mediated Communication: The Effects of Hometown and Campus Friendships on Adjustment to College  

While many studies have examined the role of computer-mediated communication (CMC) on psychological adjustment to college, the findings of these studies are mixed. For instance, Weisar (2000) found that high levels CMC with friends was associated with an increased risk of maladjustment, but Shaw and Gant (2002) found positive outcomes for students who engaged in a high level of CMC. One reason for these disparate findings may be that these studies don’t consistently identify types of friendships. The primary goal of the study is to examine if the relationship between CMC and adjustment to college is mediated by whether the primary communications are between hometown friends or new college friends. It was hypothesized that a high degree of CMC with hometown friends would be correlated with negative college adjustment and that a high degree of CMC with college peers would be correlated with positive college adjustment. To test these hypotheses, students were asked to complete a survey about their frequency and types of communication with both hometown and college friends. Students also completed a series of questionnaires related to college adjustment.

Allye Wuest  
Faculty Sponsor: Kevin Klein  
The Effects of Minimum Wage  

Minimum wage has been around since 1938, when President Roosevelt signed the Fair Labor Standards Act. Ever since minimum wage was put into action, it has had its negative and positive remarks concerning if minimum wage should be higher, lower, or even exist at all. In recent discussion in Washington D.C., minimum wage has been a popular topic. Minimum wage is a topic that could affect not only a number of people, but also the economy as a whole. The minimum wage rate determines some people’s future; many rely on minimum wage to survive. Minimum wage gives people stability that they could live with the payments at the rate the minimum wage is set. The methods used to retrieve the results are extensive research through different articles found, listening to the news and what government is saying about the situation, and interviewing others about what they think about the minimum wage rate staying the same or going up. The results for these projects have yet to be found, but will be found soon as they are in the process of gathering the information. The importance of the results of this project is to help others understand the minimum wage rate, and to show the advantages and disadvantages of raising the minimum wage.