Honors Research Symposium Program [2010]

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evening schedule

reception .............................................................. 6:00

introduction ........................................... (Dr. Steven Engel) ...................... 6:15
  Director, University Honors Program

welcome ............................................. (Dr. Gary Means) .......................... 6:15
  Provost and Vice President of Academic Affairs

student presentations ........................................... 6:30 - 9:00
  session 1 .......................................................... 6:30
  break ................................................................. 7:45
  session 2 .......................................................... 7:55
MEGAN EKSTROM (International Studies)  ………Dr. Darin Van Tassell
Who Are We? The European Union Experience

With the exception of the past 60 years, the European continent has been a violent place. The creation of the European Union not only ended the violence, but also integrated Europe to a level no one could have imagined. In fact, this paper suggests that the level of integration has now progressed to the point that a common identity has formed among the members. Using survey research and historical evidence, the formation of such an identity has implications not only for the increase of European power on the world stage, but it also speaks to the potential that regional integration might have for other conflict ridden areas.

AMANDA PENNINGTON (Political Science)  …………Dr. Saba Jallow
The Impact of the United Nations Millennium Development Goals on Chad and Gabon: A Comparative Analysis

Though Gabon and Chad share a tradition of French colonialism, they have realized very different levels of development since gaining independence. A case study comparing and contrasting these two states was conducted to find indicators of developmental success within the states, focusing on the United Nations Millennium Development Goals. The research examines the four structures of political economy within the states to find predictions of the states’ development.

DAVID ROBECK (International Studies, Spanish) …………Dr. Darin Van Tassell
Coping with Crisis: The Use of Music and Art in Uganda, Darfur and Beyond

The most personally empowering mediums that can be used by individuals and groups to respond to international crises are music and art. I will provide evidence for my argument through two case studies: the conflict in Northern Uganda, where the LRA has abducted children to fight as soldiers, and Darfur, which has been faced with the worst humanitarian crisis of the 21st Century. The conclusions I draw will be recommended for future implementation in crises.

TYLER THOMPSON (Political Science)  …………………Dr. Krista Wiegand
Democratization in China - Leave it to the Industries

The issue of democratization in China is largely debated. In one way, democracy in China seems a definite inevitability as progress made in the economic realm transcends into politics. In another, the soils of a nominally communist, realistically authoritarian government structure appear barren to the ideals of western-style democracy. An attempt is made to reveal under what conditions democracy in China will develop, pointing to Foreign Direct Investment (FDI) as the main determinant.
Pet therapy is used in hospitals around the world, but little research has been done using this technique with children. Two CHFD faculty created a survey to gather information about the uses of pet therapy in children’s hospitals. It was sent to members of the Child Life Council via the online list serve. Fifty programs have responded. I assisted in data analysis, presented at professional conferences, and participated in pet therapy in several settings.

In many chelonian species, egg size correlates with morphological traits; however, in the gopher tortoise, egg size does not strongly associate with these measurements. Similar to previous studies on various freshwater turtles, it was predicted that clutch size and pelvic aperture would correlate with egg size. No significant statistical relationship was found and it is believed that this species of turtle has reached an optimum egg size that is not constrained by any physiological characteristics.

Female loggerhead sea turtles have temperature dependent sex determination, meaning that depending on temperature during the middle third of incubation only males, females, or a mixture will be produced. To assess variation in temperature between top, middle, and bottom of nests at Blackbeard Island, dataloggers were utilized. ANOVA tests show significant differences within and among nests but not across the season. This suggests the edges of the nest are around pivotal temperatures for sex determination.

In my study, I involve monitoring the effects of training load changes on stress and recovery of collegiate female swimmers. The purpose of the study is to examine if signs of overtraining can be detected using the RESTQ-76 questionnaire.

The presentation will consist of background information about the Loggerhead Shrike along with the hypothesis about its decline in North America. Methodology about the research done and the habitat surveys will be communicated. Visual results will be presented. The findings will be presented along with an analysis of the results.
BRADLEY WILBUR (Biology)  Dr. James Claiborne
Rhesus Ammonia Transporter Proteins in Freshwater Carp Species

Rhesus (Rh) proteins are membrane-spanning passive transport macromolecules thought to be responsible for facilitating the movement of ammonia and ammonium ions across cell membranes. In order to find the genes for these proteins in Carassius auratus and Carassius carassius, RNA extraction, reverse transcription, and PCR with primers designed against Danio rerio Rh proteins were used to create amplified cDNA. Further methods included RACE and rolling-circle amplification to collect full sequences. Three distinct genes have been located in gill tissue.

ELIZABETH DEBBAN (Art)  Dr. Bruce Little
Artistic Exploration of Alzheimer’s Disease

The artist will present a body of her artistic works and a supporting paper relating the artist’s thoughts and understandings on Alzheimer’s disease gleaned from research in the fields of medicine and psychology. The presentation will include a visual display of works in encaustic, printmaking, and interactive sculpture.

JEANNE HENRY (Art)  Jane Pleak
Explorations in Fire

For the past two years, I was on the design and construction team of ceramic students that built and fired two wood kilns; a fast downdraft and Anagama. Through experimentation and manipulation of several firings ranging from 20 hours to 4 days, we have learned to reach predetermined temperatures with desirable results.

JESSIE THIEMANN (Writing & Linguistics)  Sonya Huber
Manifestations

Manifestations is an excerpt from a novel in progress. Set in a fantastical realm where deities known as the Fates send three avatars to walk among people, Manifestations is a story of brother and sister relationships under pressure and the process of discerning one’s calling. This project underwent several drafts and revisions from 2007 to 2010, including several major plot revisions in the fall of 2009 during WRIT 5540: Advanced Fiction Writing.

AMY RUIZ (Music Education)  Sarah Hancock
Beyond Bar Lines: Music’s Integral Function in Schools

This presentation will systematically cover main points in the argument of music’s important role in public school curriculums. With economic struggles cutting an already limited education budget, many music programs are being downsized or eliminated completely, but exactly what is being cut from the students’ education?

PHILLIP LORREN (Mathematics)  Dr. Yan Wu
Computing the Eigenvalues and General Eigenvectors of Matrix Pencils

The focus of my presentation will be a Matlab program designed to explore matrix pencils and the generalized eigenvector problem. First, I will explain the source and purpose of the program. Then, I will explain the basic operating procedure of the program. The core of my presentation will be my findings and results I have produced by using my program to explore many different problems.

ANN-MARIE HEDGES (Economics)  Dr. Michael Reksulak
Taking the “Silver Scalpel” to Durable Medical Equipment Expenditures

As the health care topic becomes more relevant almost daily, health care expenditures are at the top of the list of concerns in this country. Competitive bidding has been seen as a fix to rising health care costs and has shown cost saving benefits. This presentation will focus on the use of competitive bidding in cutting costs for durable medical equipment, and why it has not been enacted nationwide after almost a decade of attempts.

CHRISTINA LARSON (Accounting & Info. Systems)  Dr. Britton McKay
Information Systems: The Sleeping Giant of IFRS Conversions

This presentation will discuss how important it is for companies in the United States to consider the conversion to International Financial Reporting Standards now. This discussion will focus on the hidden complications introduced by converting the information system. To many accountants, the information system is just an underlying structure not important enough to consider. This presentation will highlight why this is a mistake, and discusses the steps involved in information system conversion as well as the costs. It will also offer a strategy to implement in order to ease conversion.
JAIME THOMPSON (Information Technology)  Dr. Christopher Kadlec
Video Production Studio Tutorial

This Honors Capstone project displays how all parts of the video production studio (previously created) are to be assembled. It will explain the process of setting up the server which will host the web portion of the tutorial using a Windows, Apache, MySQL, and PHP (WAMP) architecture, initial setup and operation guidelines. The purpose of this project is to allow other students an opportunity to use the equipment available to produce short movies for personal or educational reasons.

MELANIE BARRON (Geography)  Dr. Robert Yarbrough
Cultural Tourism: Globalization, Authenticity, and a Tourist's Perspective

This paper is a discussion of cultural tourism and expectations of authenticity in Otavalo, Ecuador. In the eyes of many tourists, including the author's, the process of globalization has been a detriment to indigenous culture. However, upon research and reflection, the author's perspective has changed. Combining on-site interviews and academic research, the author argues that globalization does not necessarily threaten a culture, but has the potential to make it more complex and interesting.

RACHEL J. ANDERSON (Anthropology)  Dr. Heidi Altman
Conjectures about Size in the KH-2

Using the mandibular corpus size of A. afarensis specimens found in the KH-2 layer of the Hadar formation and data on the range of mandibular corpus size found in extant and extinct primate and hominid species, I will attempt to predict the range we can expect to find in future discoveries of A. afarensis in the KH-2. I hope to construct meaningful hypotheses about the morphology of the species at that point in its evolution.

KRISTEN MITCHELL (Anthropology)  Dr. Shannon Davis
Zeolite Encapsulated Copper-Amino Acid Complexes as Oxidation Catalysts

The conversion of biomass into biofuels is a promising source of alternative energy. Various enzymes exist that naturally break down biomass; however, this transformation is quite slow. Using these enzymes to create model synthetic enzymes as catalysts in biomass transformation is a plausible hypothesis in the quest to develop this alternative energy. This project focuses on zeolite encapsulated copper-amino acid complexes as catalysts in the oxidation of cyclohexane, isopropanol, benzyl alcohol, and vanillin.

GEORGE BARNHILL (History)  Dr. C. Thomas & Dr. A Sims
Another Kind of Soldier

My capstone research is an overview of the use of several types of animals during World War I, and how this early service evolved during World War II. Besides brief historical overviews of service provided, there are also case studies of certain animals that became famous for their services during both world wars. The paper also includes discussions on the effects animal service had on the rise in importance of Humane Societies, animal clinics, and animal rights legislation.

MEGAN BOWEN (History)  Dr. Jonathan Bryant
Police Chief Aycock: Villain

This presentation will unveil the events of the 1927 murder of Mr. Ernest Dyal. After addressing public opinion in the media, it will expand outward from this micro-history to examine the broader context of southern police in the early twentieth century. More specifically, it will address the tide of professionalism as well as how this shifting paradigm affected officers at the time.

CAITLIN MADIGAN (Chemistry)  Dr. Karen Welch
Determining Inhibition with Dynamic Light Scattering

This research is devoted to finding carbohydrate replacements to act as drugs that will block specific cell-surface interactions and prevent disease. Enzyme-linked lectin assays were performed and a promising inhibitor was found. Synthesis of larger quantities of this inhibitor, as well as related molecules, is ongoing. Current and future work involves searching for new inhibitors and using dynamic light scattering to identify molecules that inhibit carbohydrate-protein binding by aggregation.
Probiotics are defined as a food or drug containing viable microorganisms that confer benefit to the host. Probiotic cultures are available in several over-the-counter preparations and are often added to dairy products. In the inpatient setting, probiotics are often given to patients to prevent antibiotic related diarrhea. In patients with underlying conditions and impaired immunity, probiotics can cause sepsis and even death. This review of literature will determine guidelines to guide practitioners when initiating probiotic therapy.

The “Lactone Concept” is a three-step method that is used to asymmetrically synthesize biologically active biaryls. The sequence of reactions in the “Lactone Concept” is (i) esterification, (ii) heck coupling, and then (iii) cleavage of the lactone to form biologically active biaryl compounds. In this project, the “Lactone Concept” is extended to the synthesis of polyaryl compounds that can be probed for (i) biological activity and (ii) use as ligands or catalysts in organic reactions. As a model, initial studies are geared towards simple triaryl and tetraaryl units. The results of the probing the intermediates in the triaryl and tetraaryl synthesis for glycomimetic activity will be reported.

The tick Ixodes scapularis is the primary vector of Lyme Disease (Borrelia burgdorferi) in the United States, however, the infection rate differs greatly by geographical area. In order to establish the prevalence of Borrelia infection in I. scapularis from eastern Georgia and South Carolina, over 200 tick specimens were examined by polymerase chain reaction for the presence of Borrelia DNA. Our results confirm the Borrelia prevalence in local ticks is very low (approx. 1%).

Ehrlichia is a genus of bacterium that can cause Human Ehrlichiosis, a tick-borne disease that causes an overall weakening of the immune system. Prevalence of Ehrlichia has been studied in reservoir wild animals, and previous studies have demonstrated that Ehrlichia is also present in Bulloch County, Georgia. The objective of this study was to determine the prevalence of ticks infected with the genera, Ehrlichia, within the geographic region of Bulloch County.

This study investigates the comparative fate of Aeromonas hydrophila and Pseudomonas aeruginosa in the house fly digestive tract. These Gram-negative bacteria have been isolated from wild-caught flies and cause diseases like gastroenteritis and opportunistic infections. Previous experiments showed that A. hydrophila survives for few hours in the house fly gut (McGaughey & Nayduch 2009) but the fate of P. aeruginosa has not yet been investigated. Determining the spatial and temporal fate of these bacteria in the house fly’s alimentary canal will help us assess the vector potential of flies for these disease-causing agents.

**Laurette Nean (Biological Science)**

**Comparative Analysis of Aeromonas Hydrophila and Pseudomonas Aeruginosa in the House Fly Digestive Tract**

This presentation examines the principal theme of language as a source of power in Margaret Atwood's _The Handmaid's Tale_. In establishing the dystopian context, and focusing on both the historical and modern concerns that the novel addresses, the presentation will demonstrate that manner in which the novel's structure emphasizes this theme. Additionally, the narrator's role will be carefully examined in order to underline the centrality of language control for the discovery and assertion of identity.

**Ashley Akins (English)**

**The Power of Language in The Handmaid's Tale**

My thesis is a study of Jane Austen's narrative style and how it relates to the dystopian context, and focusing on both the historical and modern concerns that the novel addresses, the presentation will demonstrate that manner in which the novel's structure emphasizes this theme. Additionally, the narrator's role will be carefully examined in order to underline the centrality of language control for the discovery and assertion of identity.
**RHETT MOORE** (Philosophy) ............................ Dr. Hemchand Gossai
The Tao of Heidegger

The two philosophies being critically analyzed are Taoism and Heidegger. Three specific aspects of each philosophy are examined. First, their respective ideas about the societal preoccupation concerning the material world are examined. Second, their suggested methods for finding an ultimate reality or truth are examined. Third, the author looks at the similarities between each philosophy’s notion of an ultimate reality. In conclusion, the author derives a common message. Summing this up, he says “Be here.”

**BETH COOPER** (Philosophy) ............................ Dr. Hemchand Gossai
Rooted in Abraham: The Politics of Shared Heritage, Conflict and Redemption in Three Monotheistic Religions

This paper explores the commonalities and differences between Judaism, Christianity and Islam as shaped and understood within history, tradition and sacred texts. The paper argues that while rooted in Abraham, what both binds and separates the religions and their practices are the progenitors of Abraham and what they have come to represent. The paper concludes with a textual analysis of the narrative of the binding/sacrifice of Isaac/Ishmael, which has universal claims for the three religions.

**KURT BARNES** (Information Systems) .............. Dr. Ednilson Bernardes
Enterprise Systems and Supply Chain Management

My research is on the application of enterprise systems in the supply chain management field. Enterprise systems are a type of information system (IT system) which were primarily developed to support and integrate organizational processes. My research highlights the importance and benefits of implementing these systems to support supply chain operations. In addition, it presents a discussion on some of the problems in it implementation and provides some case studies and a few statistics to support the discussion.

**DAVID STYER** (Information Systems) .............. Dr. Adrian Gardiner
Open Source Software Development: A Website Analysis and Model Curricula

This research addresses whether universities should be teaching open-source software development concepts and techniques. Specifically, a web survey was completed of the websites of 35 universities, focusing on the Computer Science and Information Systems departments’ web-pages. The survey found that very few universities cover open source development in any depth. Taking into consideration the methods used by other universities, a recommendation for an open source software development curriculum at Georgia Southern University is provided.

**AMIRALI NATHOO** (Information Systems)  .......... Dr. Adrian Gardiner
Applying Value-Driven Technology Road Mapping to Evaluate the Survivability of Innovative Search Engine Technologies: A Case Study of Yebol.com

The number of search engines grows each year. In 2009 alone, four major search engines were launched: Bing, Yebol, Mugurdy, and Goby. According to Charles S. Knight, the editor for AltSearchEngines.com, there are currently over 100 search engines available to the general internet-browsing public. Given the proliferation of new search engine technologies, this research applies a new approach in technology valuation and assessment – the value-driven road mapping methodology (Fenwick, Daim, & Gerdsi, 2009) – to assess the longer-term survivability of the Yebol.com search engine, which was launched in 2009.

**ALEXSANDRA RAKOCZY** (Marketing) .............. Dr. Linda Munilla
Georgia Southern University’s Marketing Concept: Adapting the Brand to Meet an Evolving Academic and Economic Climate

In a time when Georgia Southern is rapidly changing, how can the university focus its marketing efforts and adapt its brand to meet the challenges of marketing higher education? Through an analysis of the current marketing and brand positioning strategy, an in-depth discussion has emerged regarding the evolution of the Georgia Southern brand and recommendations for future positioning in a changing economic and academic environment.

**KEITH WARBURG** (Graphic Comm. Management) .... Dr. Donald Armel
Making It (Finally) Work: The Dependent Success of Variable Data Print

The presentation will attempt to demonstrate to the audience the importance and relevance of variable data printing and direct marketing as they relate to the needed transition of the current manufacturing business model most printers currently employ to a marketing-based business model. The presentation will include case studies and tangible examples of the effectiveness of variable digital printing.
Special thanks to the faculty members of the Honors Council 2009-2010

Dr. Cheryl Aasheim, Information Technology
Dr. Constance Campbell, Management, Marketing & Logistics
Dr. Robert Cook, Computer Science
Dr. Dan Czech, Health and Kinesiology
Dr. Trey Denton, Management, Marketing and Logistics
Dr. Laura Frost, Chemistry
Dr. Michelle Haberland, History
Dr. Bill Irby, Biology
Dr. Joe Pellegrino, Literature and Philosophy
Dr. Michelle Reidel, Teaching and Learning
Dr. Allison Rushing, Nursing
Dr. Meca Williams-Johnson, Curriculum, Foundations & Reading

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Program Designed by Keith Warburg (‘10)