



Research

at

Mount St. Mary's University

The 2009 Senior Honors Project Presentations

A THREE-WEEK CELEBRATION OF
ACADEMIC EXCELLENCE

APRIL 15-MAY 1, 2009

Mount St. Mary's University
Emmitsburg, Maryland

At Mount St. Mary's our faculty is dedicated to excellence in both teaching and research. A commitment to research ensures that the latest developments in all disciplines are present in the Mount St. Mary's classroom. The Honors Program provides a unique opportunity for talented seniors to learn from our expert faculty through a collaborative research project. The project serves as a capstone experience in the honors student's major and as a springboard to graduate school or a profession.

The three-week Celebration of Academic Excellence in the late spring has traditionally enriched the community. This year is no exception. Our senior honors students will be conducting seminars in the fields of accounting, biology, biochemistry, business, communications studies, computer science, economics, education, English, foreign languages, history, mathematics, organic chemistry, philosophy, political science, psychology, sociology, and theology.

We welcome you to join us! All of the seminars are free and open to the public. The seminars will be held at the Mount in the Bradley Conference Room in Bradley Hall or in the O'Hara Room in Patriot Hall. (Check the seminar schedule in this brochure.) Plenty of seating will be available. If you need directions or further information, please call 301-447-5396

We look forward to seeing you!

Karl W. Einolf, Ph.D.
*Director of the Honors Program,
Chair of the Honors Committee*

Honors Committee

Miguel Centellas, Ph.D.
Gregory Heaney
Christine McCauslin, Ph.D.
Allison Pressimone
Diana Rodriguez-Lozano, Ph.D.
Rodica Stoicoiu, Ph.D.
Kristen Urban, Ph.D.

JUDITH MORGIA

Wed., April 15, 10 a.m., Bradley Conf. Rm.

Assessment of the relationship between leisure-time exercise and the perception of fatigue through self-reported measures in patients with Relapsing-Remitting Multiple Sclerosis (RRMS).

Mentors: Dr. Rosina Bolen and Dr. Jennifer Staiger, Science

Multiple Sclerosis (MS) is an autoimmune disease where the immune system attacks the central nervous system, generally associated with decreased physical activity, muscle weakness, and fatigue. Recent clinical studies have shown a positive correlation between physical activity and quality of life (QOL) in MS patients. We surveyed 126 patients with Relapsing-Remitting Multiple Sclerosis (RRMS) to examine the relationship between leisure-time physical activity and the perception of fatigue severity, a component of QOL. A significant negative correlation between leisure-time exercise and fatigue was observed. Future studies can determine the direction of causality in this association between exercise and fatigue in RRMS.

MICHAEL BARGA

Wed., April 15, Noon, Bradley Conf. Rm.

A Perfect Anticipation*Mentor: Dr. Michael Miller, Philosophy*

The project begins by explaining the belief of Boethius on the subject of God's knowledge and human free will. Boethius believed that as an eternal being, God sees all worldly occurrences at one time. The paper then covers my view of God's knowledge and free will. I explain that though God is an eternal being, I believe He can choose to see with a temporal lens, or have a perfect anticipation of all things. I go on to explain the details of my view and why I find it more satisfactory than the view of Boethius.

ERIKA NEVINS

Wed., April 15, 6:30 p.m., Bradley Conf. Rm.

Effects of Environmental Enrichment on Nicotine Withdrawal in Rats*Mentor: Dr. Jennifer Phillips, Psychology*

The current study examined the effects of environmental enrichment (EE) on nicotine withdrawal (WD) in rats. Sixteen adult male Sprague-Dawley rats were randomly assigned to environmentally-enriched or non-enriched living conditions. Subjects were injected with 0.5 mg/kg nicotine solution twice daily for 14 days. Animals were observed for WD behaviors before, during, and 12, 24, 36, 48 and 60 hours after nicotine administration. Discontinuing nicotine administration resulted in a significant increase in WD behaviors, but there were no significant effects of enrichment at any time point. Findings suggest that environmental enrichment does not change response to nicotine withdrawal in rats.

KERRI BENNER

Thurs., April 16, 10 a.m., O'Hara

A Look into Child Prostitution: What We Can Do?*Mentor: Dr. Kathleen Guidroz, Sociology*

I have created a brochure dealing with the problem of commercial sexual exploitation of children. Specifically, it looks at the issues associated with child prostitution in the United States. The United States does not condone the practice of sexual exploitation; however, my paper discusses the government's steps to address and prevent the problem. The brochure contains facts, figures, and recommendations on how we as a nation can stop the occurrence of child prostitution. There is also a brief look into the history of prostitution to better understand why it is around today.

LAUREN FRAM

Thurs., April 16, Noon, O'Hara

The Effects of Music on the Behavioral Patterns of Students with Autism*Mentor: Dr. Megan Mackey, Education*

Nineteenth century composer Frederick Delius said that "music is an outburst of the soul" (Smith & Carlson 1995). My project sought to determine if music can be used in a therapeutic way to eliminate negative behaviors in students with autism. This project studied the harmful behaviors of four elementary students with autism before, during, and after music therapy in a classroom setting; three different types of therapy were used, and results varied for each student. Results indicated music can be an extremely powerful influence in the lives of children with autism, especially regarding their behaviors.

MICHAEL SCHUMAN

Thurs., April 16, 2 p.m., O'Hara

Social Capital and Parental Coping*Mentor: Dr. Timothy Wolfe, Sociology*

Raising children under any circumstances is challenging; raising a child with a developmental disability (e.g., intellectually disabled) can be especially so. Parents of such children tend to have difficulty coping with their child's disorder. Parents, however, can use their social capital (e.g., connections to others, access to resources) to more effectively cope and lower stress. It is hypothesized that informal social capital, formal social capital, and socioeconomic status are inversely associated with parental stress, positively correlated with parental coping, and inversely associated with parental burden. The National Survey of Children's Health is used to test these hypotheses. The results generally support the hypotheses.

ALICIA AGNEW

Thurs., April 16, 5 p.m., O'Hara

Synergistic Effect of Penicillin Procaine G and Oxytetracycline on Listeria monocytogenes*Mentor: Dr. Kathryn Dye, Science*

Listeria monocytogenes is a food-borne pathogen that causes disease in twenty-eight mammalian species including humans. The bacterium is opportunistic, and for this reason, outbreaks tend to be sporadic in nature. *Listeria monocytogenes* is ubiquitous in nature, so forty environmental samples were collected from a goat farm in Maryland. Twenty samples were then isolated to purity using Oxford Enrichment media. These samples were then tested for sensitivity to the antibiotics Penicillin Procaine G and Oxytetracycline. I hypothesized that the combination of these two drugs would have a synergistic effect in inhibition of bacterial growth. Microtiter tests were carried out for each environmental sample as well as a sample obtained from a commercial lab. The minimum inhibitory concentrations of Procaine G and Oxytetracycline were determined individually for each sample and then in combination for each sample to test for synergism.

REBECCA MULLAN

Fri., April 17, 10 a.m., O'Hara

Ancient Philosophy and Theology of the Body: Plato and John Paul II on Love*Mentor: Dr. Joshua P. Hochschild, Philosophy*

John Paul II's writings on marriage and love, summarized as his "theology of the body," offer a philosophy of the human person and the meaning of love. This project will examine how these ideas relate to the views of Plato. The "nuptial theology" of John Paul II is often presented as novel, or perhaps continuous only with modern phenomenology, and yet it must claim at least continuity with traditional Catholic theology and its roots in classical philosophy. Plato's writings on love and its role in human life is the obvious starting point for an examination of the relationship between ancient philosophy and John Paul II's theology of the body.

RALPH JONES

Fri., April 17, Noon, O'Hara

Demographics of Change: The Factors in Social Security Reform*Mentor: Dr. Maureen Oakley, Political Science*

This project explores the nature of social, economic and political influences on individuals' support for the current Social Security system and various recent proposals for reform. Scholarly research into demographic factors that influence opinion of Social

Security, public opinion data, and recent reform proposals are all used to evaluate the state of public opinion regarding Social Security reform. Ultimately, this project enables scholars and citizens to examine Social Security reform from the perspective of more prosperous times and reflect upon its meaning in the current political, economic, and social climate.

ERICA SHANNON

Fri., April 17, 2 p.m., O'Hara

Politics and the Veil*Mentor: Dr. Kristen Urban, Political Science*

Since the 1979 Iranian Revolution, the question of veiling has been brought to center stage regarding laws requiring or prohibiting its use. Because of politics in the globalized world, countries are evaluating the role of women and the use of the veil in different ways. By focusing on the political audiences at the global, social, and individual level in Iran, Egypt, and Indonesia, I will demonstrate how politics have influenced or spurred the veil's adoption and how the veil has been politically used by women in these three countries following the 1979 Iranian Revolution.

MEREDITH ROSENBERGER

Fri., April 17, 3:30 p.m., O'Hara

The Possible Role of C/EBP Beta, C/EBP Delta, and HMGB1 in Regulating Inflammation during Stroke*Mentors: Dr. Christine McCauslin and Dr. Jennifer Staiger, Science*

During a stroke, the brain experiences a series of insults which ultimately trigger the inflammatory response. The inflammatory process initiates macrophage activation which results in the release of cytokines that signal immune cells to repair tissue damage. CCAAT Enhancer Binding Proteins (C/EBP) beta and delta are transcription factors shown to be involved in the regulation of inflammatory cytokine genes in macrophages. HMGB1 is a DNA-binding protein which is thought to act as a proinflammatory cytokine. A possible relationship between C/EBP beta, C/EBP delta, and HMGB1 was assessed through experimentation with C6 cells, a rat glioblastoma cell line. The cells were treated with lipopolysaccharide (LPS) in order to induce an inflammatory response. Western blot analysis was used to investigate the relationship between C/EBP beta, C/EBP delta, and HMGB1; results confirm that C/EBP beta and C/EBP delta may be upregulated in response to HMGB1 signaling.

JOSEPH MARDINI

Mon., April 20, 10 a.m., Bradley Conf. Rm.

Determination of Capsaicin Levels in Hot Sauces via Scoville Method and Reverse-Phase Liquid Chromatography*Mentor: Dr. Michael Epstein, Science*

Due to the availability of standards as well as a wide variety of hot sauces, the following project was deemed most suitable for a senior honors project. Over the course of the senior year, experimental analysis of Capsaicin will be performed primarily through the use of reverse-phased high performance liquid chromatography. In addition, the sensory Scoville method, originally developed in 1912, will be used to determine the concentration of capsaicin in Scoville Heat Units. A comparison of the two methods will follow. Up to date, a lot of hot sauces have been acquired, and will be diluted for analysis by reverse phase liquid chromatography. In addition, pure capsaicin crystals were acquired and used to locate the absorption spectrum for capsaicin at 280nm on the chromatogram to compare to analyte signals. Finally, the role of Capsaicin in preventing prostate cancer, as well as its use in treating joint disease was and will continue to be explored and the biochemical aspects elucidated.

LAURA BREICHNER

Mon., April 20, Noon, Bradley Conf. Rm.

The Impact of Parental Education on Infant Mortality Rates in American States*Mentors: Dr. Maureen Oakley and Dr. Michael Towle, Political Science*

This project revolves around the question, "Does the quality and extent of the education of parents have an impact on the infant mortality rates in American states?" Based on evidence from third world countries that suggests a dramatic positive relationship between greater amounts of maternal education and increases in child survival, this project strives to determine if a similar relationship between like variables exists in the United States, the last true superpower which nonetheless has one of the highest infant mortality rates in the industrialized world.

ERIN SHOOP

Mon., April 20, 2 p.m., Bradley Conf. Rm.

Accounting for the Triple Bottom Line: The Coming Revolution*Mentors: Dr. Kirk Davidson and Dr. Raymond Speciale, Business, Accounting, and Economics*

Just as the environment, society, and economy change over time, the business world changes, as well. More specifically, the needs of companies evolve and new opportunities are created for those in the accounting

profession. This paper/presentation will argue that the current solely financial-based paradigm of accounting is no longer adequate. Instead, accountants (and especially auditors) have newfound responsibilities to turn their attention to the triple bottom line (accounting for environmental, social, and economic impacts). The revolution is coming, and it is up to today's accounting professionals to act as soon as possible to implement this change.

EDMUND MCCULLOUGH

Mon., April 20, 3:30 p.m., Bradley Conf. Rm.

A Shifting Role for the Church in Latin America From the Era of Liberation to Aparecida*Mentor: Dr. John Larrivee, Business, Accounting, and Economics*

The document produced by the Fifth General Conference of Latin American Bishops marks a shift in focus for the Latin American episcopate. Though there is not a break with the previous four conferences, there is a renewed emphasis on the missionary and culture-forming nature of the Church. The inroads by dynamic Protestantism, the persecution by left-wing regimes, and the departure from Marxist economic thinking have prompted the bishops to see their role primarily in forming the normative principles that maintain the "pre-political moral foundations of a free state."

ERIC AGNEW

Mon., April 20, 5 p.m., Bradley Conf. Rm.

Comparative Study of the Effects of Timbering on Woodland Salamander Abundance in South-Central Pennsylvania*Mentor: Dr. Rosie Bolen*

This study compares woodland salamander abundance in a mature forest stand (Strawberry Hill Nature Center and Preserve [SHNCP]) and an adjoining site clear-cut in 2002 (Glatfelter Tree Farm [GTF]). In October 2008, 121 salamanders were captured in 36 5x5 m plots near streams. SHNCP had higher salamander density than GTF. Salamander density decreased with increasing proximity from the stream at GTF but not at SHNCP. The effect of other environmental variables on salamander abundance was also examined. These results support previous findings that habitat changes accompanying timbering negatively impact woodland salamanders, which are important indicators of ecosystem health.

JIM BERRY

Mon., April 20, 6:30 p.m., Bradley Conf. Rm.

Socially Responsible Investing: A Retrospective Comparison to Morningstar and Value Line Ratings*Mentor: Dr. Karl Einolf, Business, Accounting, and Economics*

Using Dr. Einolf's Socially Responsible Investing data from late 2007, this project will compare the growth or decline of both a screened stock portfolio and a Data Envelopment Analysis stock portfolio in his analysis to the S&P 500. In addition, two new portfolios will be generated, based on Morningstar and ValueLine's predictions for stock growth, and will then be compared to both the S&P 500 and the SRI portfolios. Using this financial information, the project will attempt to draw conclusions on both the accuracy of Morningstar and Value Line's predictions, and the strengths and weaknesses of investing in socially responsible companies.

AMY NOLAN

Tues., April 21, 10 a.m., Bradley Conf. Rm.

Going Green to save \$ Green*Mentor: Professor Don Butt, Business, Accounting, and Economics*

Due to the human, environmental, and financial impacts of the world's growing appetite for energy consumption, many accounting firms have and are taking steps to improve the effective use of our energy related resources. "Going Green to Save \$ Green" focuses on the energy conservation activities of businesses in the public accounting profession. In today's society, there is a current trend in the accounting profession where firms are identifying ways to cut costs and achieve greater customer satisfaction by going green. The research included in this project shows that for these firms preserving the environment and cutting costs can go hand-in-hand.

CHERYL RICE

Tues., April 21, Noon, Bradley Conf. Rm.

The Path to Discipleship: A Historical and Literary Study of the Women in the Gospel of Mark*Mentors: Sr. Mary Kate Birge, Theology; add Dr. Kathleen Guidroz, Sociology*

What did it mean to be a disciple in the Evangelist Mark's community? In particular, what did it mean to be a woman who followed Jesus in Mark's community? How might knowledge of this shed new light on what it means to be a woman who follows Jesus in the twenty-first century? In this project I will look at discipleship in the Gospel of Mark using the methods of historical and literary criticisms, and focus within this broad category on the women, named and unnamed, about whom

Mark writes. By exploring the Evangelist's development of each woman, I seek to deepen our understanding of Marcan discipleship and hope to bring to light previously unrecognized aspects of women as disciples.

MARY KRAKOWIAK

Tues., April 21, 2 p.m., Bradley Conf. Rm.

"We have indeed passed through a fiery ordeal": Gettysburg in History and Memory*Mentor: Dr. Steve Whitman, History*

In July of 1863, the civilians of Gettysburg, Pennsylvania faced a challenge that no other Northern town faced before: thousands of Union and Confederate troops converged over their fields and streets to fight one of the bloodiest battles of the Civil War. While the battle lasted only a few days, the impact it left can be felt even today. Through the comparison of letters and diaries from 1863 with memoirs and newspaper accounts published after twenty-fifth anniversary of the battle in 1888, the civilian experience can be examined with respect to how the citizens of Gettysburg chose to remember, recollect, and memorialize the events that transpired.

BETH KITCHIN

Tues., April 21, 3:30 p.m., Bradley Conf. Rm.

Spherical Relations: Vietnam and the Development of Russia's New Sphere of Influence*Mentor: Dr. Isabella Notar, History*

Russia has a history of power, first as an Imperial overlord then as a Communist dictator. Today, it seeks to regain that power by creating a new sphere of influence in the world. For less developed countries around the world, this presents an opportunity either for advancement or for ruination. Vietnam in particular has the historical and economic ties to Russia which could allow for its membership in Russia's sphere. But is it worthwhile for Vietnam to join this sphere? Is it even worth it for Russia to accept Vietnam? And what will all this mean for Americans?

ANDREW WALL

Tues., April 21, 6:30 p.m., Bradley Conf. Rm.

The Animal Faces of Akutagawa*Mentor: Dr. Robert Ducharme, English*

Japanese writer Ryunosuke Akutagawa makes frequent use of animal symbolism in a number of his early twentieth-century short stories, including "Hellscreen" and "Yam Gruel." I will illuminate some common themes present in many of Akutagawa's works that are shown to the reader through animal characters.

ERIN CANNING

Wed., April 22, 10 a.m., Bradley Conf. Rm.

The Effects of Online Quizzes in a Math Classroom*Mentor: Dr. Melanie Butlern Mathematics and Computer Science*

Research was conducted on the effects of immediate feedback offered by online quizzes. A lesson on equivalence relations was designed and taught in two sections of a math course. Students then took an online quiz, where one section was randomly selected to receive feedback on their performance, while the other section received no feedback. An exam was then given and the results are used as a post-test. Various statistical analyses have been performed to compare the sections. Results were found where students in the non-feedback section did statistically significantly better; survey results are also included to help explain the findings.

KATIE LETSCH

Wed., April 22, Noon, Bradley Conf. Rm.

Fan Identification and Spectator Perception of their Influence on Players, Performance, Officiating, and the Athletes' Perception of Spectators' Influence*Mentor: Dr. Julie Higgins, Business, Accounting, and Economics*

Most athletes, sport organizations, and fans agree a home advantage does exist; the extent to which spectators play a role in the home advantage is examined. The relationship between levels of fan identification and spectator perception of their influence to enhance the performance of the home team by positively influencing players of their team while negatively influencing players of the opposing team, pressuring officials to make calls in favor of their team, and thus increasing the likelihood of a successful outcome for their team is discussed. The idea that spectators can positively influence their favored team's performance while negatively influencing the opposing team is applied to Mount St. Mary's Athletics in a study examining the fans and athletes of Mount Basketball. The different fan identification levels among MSM basketball supporters are examined in relation to their perception of their influence upon performance and outcome. The perceptions the athletes of Mount Basketball have of these spectators and their role in the home advantage is also examined.

SAM KACYON

Wed., April 22, 2 p.m., Bradley Conf. Rm.

State Budgets in Crisis: An Analysis of Causes and Consequences of Contemporary State Budget Shortfalls*Mentor: Dr. John Larrivee, Business, Accounting, and Economics*

Due to an alarming decrease in revenues spurred by a struggling national economy, the vast majority of the fifty states are currently experiencing shortfalls in their state budgets. This paper will analyze both the causes and consequences of contemporary gaps in state budgets by examining the influence of past tax revenue volatility, as well as investigating case studies for trends in state reactions to such shortfalls. With this, special attention will be paid to the effective manner and proposed solutions of alleviating gaps in state budgets and the effects of these meaningful decisions on the citizens of the states.

CAROLANN LARKIN

Wed., April 22, 3:30 p.m., Bradley Conf. Rm.

Spilling the Beans: A Teaching Case Study on Starbucks' Corporate Social Responsibility Practices*Mentor: Dr. Karl Einolf, Business, Accounting, and Economics*

This teaching case study has been comprised by researching the business practices of the Starbucks Corporation to present issues in a way that would be conducive to learning and discussing the topics surrounding Corporate Social Responsibility. It examines Starbucks' labor issues, Fair Trade Coffee, and globalization. From part-time employee healthcare, to shade-grown coffee farming, to locations in China's Forbidden City, Starbucks provides ample material to examine CSR practices and ethical initiatives.

NICHOLAS REGESTER

Wed., April 22, 5 p.m., Bradley Conf. Rm.

Can Economic Freedom be considered a Sufficient Condition for Eventual Political Freedom?*Mentor: Dr. John Larrivee, Business, Accounting, and Economics*

There is significant evidence suggesting capitalism's place as a necessary condition for the eventual development of political freedom. In this paper, I analyze relatively current time series data for a cross section of diverse countries spanning various levels of economic development and geographic orientation. Utilizing Polity IV and Center for Systemic Peace data in conjunction with the Heritage Index of Economic Freedom, I hope to ascertain whether capitalism can also be considered a sufficient condition for eventual democratic development and proliferation.

CAITLIN FINNERTY

Wed., April 22, 6:30 p.m., Bradley Conf. Rm.

Essays from Abroad*Mentor: Dr. Carmen Schmersahl, Communications Studies*

"Essays from Abroad" is a collection of creative, non-fiction essays that relays my experience studying abroad in Florence, Italy with thirty other Mount students.

In addition to writing about my personal adventures, I researched various travel writing traditions and Italian history to create a hodgepodge of third person narratives that represent my semester abroad. The collection reveals the unique situation of the Mount's study abroad students, not only as long-term tourists in Italy, but also as college students faced with a friend's unexpected death.

KATHERINE RESSEL

Thurs., April 23, 10 a.m., Bradley Conf. Rm.

As Christ Loved the Church: An Analysis of Catholic Marriage Preparation, Regarding Marital Theology and Spirituality*Mentors: Rev. James Donohue and Professor Tony Tamberino, Theology*

To help couples prepare for married life, marriage preparation is a requirement for anyone seeking marriage in the Catholic Church. It is therefore beneficial to examine the Church's view of marriage as a sacrament. This project highlights various aspects of marital theology found in Church teaching. Using these findings, it evaluates how specific marriage preparation programs convey an understanding of the theology of marriage and prepare couples for spirituality in married life. For the benefit of catechists and couples, this project creates an inventory of elements essential for a comprehensive marriage preparation program, benefitting the couple's faith formation within marriage.

BENJAMIN RUSH

Thurs., April 23, Noon, Bradley Conf. Rm.

The development of an organic chemistry series experiment: The multiple pathways of a Grignard Reagent*Mentor: Dr. Patricia Kreke, Science*

The series experiment is a vital part of the organic chemistry laboratory experience. It demonstrates the importance of intermediates, the use of correct reactants, and the formulation of an appropriate mechanism or experimental pathway for a given product. The next goal is a new set of experiments to synthesize a notable product. One of the intermediates in the series experiment is called a Grignard's Reagent, phenylmagnesium bromide. This research explores multiple synthetic paths that this single reagent can be taken through to produce a variety of products for our undergraduate laboratory experience. Future research will build on this work in the critical Grignard step of the series experiment.

ERICA GEORGE

Thurs., April 23, 2 p.m., Bradley Conf. Rm.

Orgullo Mount Marketing Campaign: Pride in Both Hispanic Heritage and Achievement at the Mount*Mentor: Dr. Christine Blackshaw, Foreign Languages*

The Orgullo campaign addresses the need to publicize Mount St. Mary's University to Hispanic communities. The campaign portrays how the Mount allows students to take pride in their heritage as well as in their accomplishment at an institution. A well-designed brochure, unified with the current admissions packet, appeals to a prospective student/parent audience. Since many parents speak English as a second language, it is in Spanish as to encourage involvement in the admissions process. The marketing plan was devised through statistical research and a number of interviews including those with admissions, intercultural development, and current Mount students of Hispanic descent.

DEVIN HOLLENBAUGH

Thurs., April 23, 3:30 p.m., Bradley Conf. Rm.

Socially Responsible Investing: Staying Green & Staying Profitable*Mentor: Dr. Karl Einolf, Business, Accounting, and Economics*

Is "going green" economically viable for publicly traded corporations? Has the economic downturn affected the environmentally friendly activities of some companies? These are the questions that "Socially Responsible Investing: Staying Green & Staying Profitable" seeks to answer. Using Dr. Einolf's publication, "Building a Socially Responsible Equity Portfolio Using Data Envelopment Analysis," as a base, this research project

seeks to analyze the relationship between profitability and environmentally friendly business activities over the course of one year in hopes that current and future investors will come to realize the power they wield when they choose to invest.

ELIZABETH TRENTACOSTE

Thurs., April 23, 5 p.m., Bradley Conf. Rm.

Approaches to Teaching the Classics: A Study on the Importance of High School Literature

Mentors: Dr. Sarah Scott, English and Dr. Caroline Eick, Education

Why are high school students required to read classics in English classes? I have interviewed three current high school English teachers from Maryland and New York to ask them questions about the importance of teaching literary classics. My research examines teachers' perspectives on this question and their approaches to instruction.

CASEY WINDISCH

Thurs., April 23, 6:30 p.m., Bradley Conf. Rm.

Keep on Smiling Sister Sunshine

Mentor: Dr. Thomas Bligh, English

Keep on Smiling Sister Sunshine is a fictional narrative written as a series of vignettes that trace events in the life of Kallie through her junior year of college. Kallie is a contemporary character foil to Charlotte Brontë's legendary figure, Jane Eyre. Against the backdrop of a southern university, Kallie confronts obstacles similar to those Jane faced, experiences which complicate her relationships with others, test her values, and drive her to reconsider her priorities. Such events shape Kallie's development into a more mature, rounded figure who achieves inner peace in a world that offers incomplete closure. This work aims to render the complexities of the human spirit by drawing on literary traditions.

ELISABETH WAGNER

Fri., April 24, Noon, Bradley Conf. Rm.

Changing Catholics, Changing Votes: How the Americanization of Catholics Affects Political Identification

Mentor: Dr. Michael Towle, Political Science

Catholic voters are an important swing bloc in American politics. Much of the current literature explaining the twentieth century shift, from a strong relationship with the Democratic Party to split allegiance, applies only to White ethnic Catholics. It has been suggested that the rate at which Catholics were becoming Republican would be much higher if it were not for recent immigration by Hispanics and Asians. This study evaluates that claim by examining what, if any, relationship exists between race and political identification of Catholics through analyses of White and Hispanic Catholics.

RENEE BROWN

Fri., April 24, 2 p.m., Bradley Conf. Rm.

Active Reading in the Social Studies Classroom

Mentor: Dr. Caroline Eick, Education

Developing comprehension skills is essential for success in the Social Studies classroom where much of the instruction relies on reading. However, many students do not possess the comprehension strategies necessary to develop critical understanding of Social Studies content. This becomes a broader problem when one considers that a functioning democracy relies on an educated citizenry. In order to improve 7th graders' comprehension skills in social studies, I implemented the *Active Reading* strategy in teaching the Constitution. While the strategy did improve students' critical reading skills, it took too much time away from instruction of content to implement effectively.

HONORED FACULTY RESEARCH PRESENTATION DR. MICHAEL BARRY, BUSINESS, ACCOUNTING, AND ECONOMICS

Fri., April 24, 3:30 p.m., Bradley Conf. Rm.

Computable General Equilibrium: Four Papers on Russia and Central Asia

Computable General Equilibrium (CGE) models employ very large systems of simultaneous equations which can model the interconnections of all markets in a global economy. This presentation will summarize the results of four separate articles written using CGE techniques. They include: (1) the macroeconomic effects of FDI into Central Asian oil and gas; (2) the benefits to Russia of enforcing its obligations under the UN Convention Against Corruption; (3) the welfare losses caused by Russia's new trade protectionism in the auto industry; and (4) the international effects of the Russia-Ukraine natural gas wars.

COURTNEY HOFFMAN

Mon., April 27, 10 a.m., O'Hara

Culture's Role in the Implementation of Microcredit*Mentor: Dr. Kristen Urban, Political Science*

Microfinance has helped a countless number of people to overcome extreme poverty all over the world. The Grameen Bank, a pioneer microfinance institution is a primary cause of such success in Bangladesh as well as other regions. However, success does not come without obstacles that must be overcome. Each nation's distinguishing culture is a large force in the ultimate success or failure of a microfinance institution. This is especially apparent when comparing the progress of different microfinance programs around the globe.

BENNETT MYERS

Mon., April 27, Noon, O'Hara

Regulation of vascular smooth muscle cell proliferation by the adhesive microenvironment*Mentor: Dr. Dana Ward, Science*

Irregular growth of smooth muscle cells (SMC) is a contributing factor in cardiovascular diseases such as atherosclerosis. SMC proliferation is regulated by attachment to the extracellular matrix (ECM), though the mechanism through which cell adhesion regulates SMC growth is not well understood. In this study, we have independently investigated the effects of ECM ligand type and amount of cell-ECM adhesion (either ligand density or cell shape) on SMC proliferation. Decreasing the amount of cell-ECM adhesion, either by decreasing ECM ligand density or restricting cell shape, effectively decreased cell proliferation. These studies demonstrate that several parameters of cell adhesion to the ECM appear to be critical regulators of SMC growth.

KELLY LESAGONICZ

Mon., April 27 2 p.m., O'Hara

The Federal Reserve's Position in the Past and Its Role in the Future*Mentor: Dr. John Larrivee, Business, Accounting, and Economics*

The Federal Reserve was created in 1913 to serve as the central bank of the United States. Over the years it has worked to keep the economy of the country stable and fix economic issues when they arise. The current credit crisis has proven to be a situation that challenges the Fed's traditional monetary policy tools, however. The valuation of mortgages and mortgage-backed securities is a major issue that banks and regulatory agencies must contend with in this crisis. This issue may change the Federal Reserve's role and which policies it chooses to pursue in the future.

NOELLE HENDERSON

Mon., April 27 3:30 p.m., O'Hara

Forbidden Love: Themes of Desire in the Poetry of Lorca and Cernuda*Mentor: Dr. Christine Blackshaw, Foreign Languages*

The Spanish poets Federico García Lorca and Luis Cernuda present common themes throughout their respective collections of love poems, Sonetos del amor oscuro and Un río, un amor, los placeres prohibidos. These poets lived and wrote in Spain during the early 1900s and shared many similar experiences of alienation and oppression during this historically turbulent time. By exploring the biographical backgrounds and selected poems of each writer, similarities in personal, social and cultural experiences become evident and contribute to common themes in their poetry including the emotional expression of passion and desire along with ideas of temptation and forbidden love.

TIMOTHY ROSEN

Mon., April 27 5 p.m., O'Hara

Examination of whether nucleotide differences in the E. coli PhoA gene can be used to distinguish between strains of E. coli isolated from local streams*Mentor: Dr. Jennifer Staiger, Science*

Fecal contamination of aquatic systems is an environmental problem of increasing importance. Several methods have been developed in order to determine between different host sources such as humans, pets, livestock, or wild animals, but the effectiveness of these methods have been limited by geographic variability or changes in antibiotic use and resistance patterns. This study explores the possible use of nucleotide variations in the PhoA gene, a conserved gene present in all E. coli, to differentiate between different host point sources of E. coli. A sequence protocol was developed to compare the nucleotide sequences of the PhoA gene of a known strain of E. coli (E. coli B) and E. coli strains collected and isolated from six different water samples collected from Toms Creek (Frederick County, MD). Preliminary results have not shown clear nucleotide differences in PhoA among the different strains of E.coli.

AARON LANDERS

Mon., April 27 6:30 p.m., O'Hara

Inflation Measurement: A Post Boskin Commission Evaluation*Mentor: Dr. John Larrivee, Business, Accounting, and Economics*

After an explanation of inflation measurement and an examination of the reforms suggested in the December, 4 1996 Boskin Commission, this paper will offer a succinct evaluation on the current state of inflation reforms. In addition, it will compare different indices and measurements of inflation. This paper will then evaluate various economic studies to determine what methods are predominately used for inflation measurement and why they are used. Finally, this paper will conclude by summarizing the findings and offering insight into why some research uses the new methods and other research continues to use old methods.

ADAM KAUFFMAN

Tues., April 28 10 a.m., O'Hara

Perceptions and Responses of Individuals of Different Sexual Orientations towards Religion*Mentors: Dr. Mindy Korol, Psychology and Rev. James Donohue, Theology*

A growing body of literature explores the relationship between sexual orientation and religious experience. This study explored the probability that non-heterosexuals would seek a religion other than the one in which they were raised or abandon religion altogether, given that they perceive their first religion as not accepting them because of their sexual orientation. A survey of college-aged students revealed significant differences between heterosexuals and non-heterosexuals in the likelihood of seeking a new religion or rejecting religion. Potential reasons are explored, and suggestions offered for development of this study for future research.

ANTHONY BERTOGGIO

Tues., April 28, Noon, O'Hara

The Costs and Benefits of the War in the Middle East As It Pertains to Oil*Mentor: Dr. Michael Barry, Business, Accounting, and Economics*

This project analyzes the war in the Middle East in the sense that the United States has oil-driven motives to be there. It looks at the history of the United States' dependence on oil, the history of U.S. interaction with countries in the Middle East, the positives of the war (gains from oil), the costs of the war, and costs of alternative fuel sources to oil. Despite the many moral arguments concerning the war, the conclusion is based on what makes the most sense for the country, from a business point of view.

MEGAN HOMAN

Tues., April 28 2 p.m., O'Hara

Without God, Nothing Made Sense to Me: Spirituality, Religion, and Bereavement*Mentor: Dr. Timothy Wolfe, Sociology*

This study examines the relationship between spirituality, religion, and the bereavement process that people must go through when someone they love dies. Spirituality is defined as having a belief in a higher being (i.e. God) and a belief in some sort of afterlife. Religion is a specific fundamental set of beliefs and practices generally agreed upon by a number of persons or sects. A small number of students from the MSM Grief Group were interviewed about their bereavement experience; the findings will be discussed. Learning more about this relationship between spirituality, religion, and bereavement will help counselors and others better able themselves to help people who are grieving the death of a loved one.

SAMANTHA SACHS

Tues., April 28 4 p.m., O'Hara

The Accounting Profession Dilemma: The Link between Critical Thought Development and its Ability to Enhance Moral Reasoning Skills*Mentor: James P. Sweeney, National Lead, Exempt Organization Technical Tax Services, Managing Director/ Partner RSM McGladrey, Inc./McGladrey & Pullen LLP*

A rise in accounting profession failures during the late 1990's and early 2000's resulted in the passage of the Sarbanes/Oxley Act of 2002, which sets forth rules and regulations that the profession must follow. Recently, many academic studies have focused on the practicing accountant's moral reasoning skills and the link of these skills to the potential reduction in professional incidents of malfeasance. It is imperative for the profession to maintain the public's trust, and this can be accomplished if accountants possess high ethical capabilities in their decision-making processes. This study reviews the literature regarding a practicing accountant's moral reasoning skills and how these skills may be linked to critical thinking. Suggestions are made to the profession's leadership to focus on critical thought developmental skills as a licensing tool to enhance its members' ethical actions in practice.

EMILY JONES

Tues., April 28 5 p.m., O'Hara

Weapons Never Die: Small arms, small conflicts?*Mentor: Dr. Kristen Urban, Political Science*

Even after conflicts end, guns remain. The prolific spread of light weaponry is an enormous challenge to post-conflict societies working toward reconstruction. My research centers on defining the role of small arms and combating their negative effects on development. I address five case studies: Afghanistan, Cambodia, Mexico, Montenegro and Sudan. I outline the individual challenges each nation faces and explain how governments and citizens can address these challenges. I predict policies' results based on historical comparisons and current developments. I conclude with a list of universal policy suggestions for combating small arms spread, a culmination of my case study research.

JAMES M. HORTON IV

Tues., April 28 6:30 p.m., O'Hara

Grassroots Racing: Study of the Business, Economic, and Accounting Aspects of Local Short Track Auto Racing*Mentor: Professor John Sherwin, Business, Accounting, and Economics*

The world and economy has evolved into a situation where even personal hobbies and activities need to have a more focus, business approach. Local Short Track Racing is one of those activities for millions of individuals. Many of them, however, do not possess the necessary skills to operate in this new racing culture of professionalism and business. Through hands-on experience, interviews, and general analysis, I assess the general situation of the sport, what participants need to do to improve their situation, as well as give recommendations to resurrect this declining sport.

TRACY FLUTY

Wed., April 29 10 a.m., O'Hara

The 120/150 Discussion: Should CPA Candidates with 120 Credits be Eligible to Sit for the Exam Before Earning the 150 Credits Necessary for Licensure?*Mentor: Dr. Ray Speciale, Business, Accounting, and Economics*

In June 2008, the National Association of State Boards of Accountancy (NASBA) released a document discussing the possibility of allowing degreed candidates with at least 120 credits to sit for the CPA exam before earning the 150 credits necessary for licensure. Currently, 19 out of the 55 state boards have revised their educational requirement model to fit this model, which has caused many other state boards to examine

their current standards in comparison with this new idea. This research project will be an extensive analysis of the 120/150 discussion, beginning with an examination of the reasoning behind the implementation of the 150 hour requirement. Recently released opinions on the 120/150 issue from various state boards and accounting institutions will be reviewed. Additionally, data from interviews with professors, practitioners, and students will provide additional insight into the varying opinions on this issue.

CHRISTINA MCLEAN

Wed., April 29, Noon, O'Hara

The theory and practice of planning the "Mount's first annual International Pillow Fight Day"*Mentor: Dr. Carl Glover, Communications Studies*

The theory and practice of event planning are two entirely different things. However, you cannot have one without the other. An effective practice of an event highly depends on having an adaptable theory. But the success of an event does not stop there. Along with the right theory and practice, it takes good advertising strategies, great organizational skills, the proper manpower, valuable networking contacts, and of course some kind of budget. In planning for the Mount's first annual International Pillow Fight Day all of these facets of event planning were explored to determine its success.

DIANA MUTTITT

Wed., April 29 2 p.m., O'Hara

The Impact of Handheld Technology on Student Motivation during Classroom Assessments*Mentor: Professor Laura Frazier, Education*

How is student motivation affected by the use of technology for assessments in the classroom? Students seem eager to use technology. Computer-based, handheld technology offers an alternate method for giving classroom assessments, which gives teachers instant feedback about student learning. Less planning time is focused on grading assessments and more time can be devoted to planning new instruction based on assessment results. Computer Performance System (CPS) remotes offer an innovative assessment alternative for teachers. Through student and teacher interviews, this action research project analyzed the impact of using of CPS technology during classroom assessment on student motivation and feelings of self-esteem.

BRYNN MCGOWAN

Wed., April 29 3:30 p.m., O'Hara

Harry Truman: Crusader Against Communism?*Mentor: Dr. Michelle Patterson, History*

Harry Truman is hailed by history as a crusader against communism. My project assesses this conception by examining Truman's post-World War II foreign policies, looking specifically at his application of those policies in China, Korea and French Indochina. Using primary sources from Truman's presidency and historiographical interpretations, I explore the effectiveness of his foreign policies, like the Truman Doctrine, and assert that the failure of his policies to contain communism in East Asia left the free world vulnerable to a dangerous ideology in an increasingly "Colder" world.

CRISTINA RAMIREZ

Wed., April 29 5 p.m., O'Hara

The Role of Nicotine Administration in Strength of Conditioned Place Preference in Enriched Rats vs. Non-Enriched Rats*Mentor: Dr. Jennifer Phillips, Psychology*

The present study examined environmental enrichment and conditioned place preference (CPP) in nicotine dependent rats. Enriched rats were housed in groups of four and provided novel items and toys. Non-enriched rats were housed individually without enrichment. A 10-minute pre-trial established chamber preference and subjects were assigned to drug-administration chambers based on the results. A 0.5 mg/kg nicotine solution was administered twice daily for 6 days; subjects were placed in the CPP apparatus for 300 seconds following injection. Chamber preference was measured on day 7. Results indicate that there was no chamber preference; subjects spent approximately equal time in each chamber regardless of enrichment condition.

CARROLL GALVIN

Wed., April 29 6:30 p.m., O'Hara

Roles Reversed: The Relation of the Portrayal of Gender, Divorce, and Property in Edith Wharton's "The Other Two"*Mentor: Dr. David Wehner, English*

Edith Wharton (1862-1938) reigns as one of the most significant female authors of the late 19th and early 20th centuries. Famous mostly for her novels, Wharton was a prolific writer who also authored many significant short stories, whose underlying meanings pushed for greater female equality. Biographer R.W.B. Lewis calls "The Other Two" (1904) Wharton's "most nearly perfect short story." The influences of 19th century playwright Henrik Ibsen and leading feminist Elizabeth Cady Stanton are evident in the story's push for female parity in terms of property laws and divorce laws, as Wharton brings in elements of her own life to caution her audience against quick and easy divorce.

ASHLEY HUGHES

Thurs., April 30 10 a.m., O'Hara

The Implementation of a National Retail Sales Tax and Its Impact on the People and the Accounting Profession*Mentor: Professor John Sherwin, Business, Accounting, and Economics*

Recently, the federal income tax has been an issue of debate. Its complexity, unfair nature, burden of compliance, and lack of popularity have given rise to a tax reform. A proposed alternative is a national retail sales tax (NRST). If implemented, the NRST will eliminate the income tax and its shortcomings. More importantly, the NRST will allow Americans to control the amount of taxes they pay. This project will provide a comparative analysis of the federal income tax and the NRST. It will calculate an individual's taxes under both systems to further emphasize the differences. Lastly, the project will uncover the impact on Americans and the accounting profession if the NRST is implemented.

CHRISTINE WROGE

Thurs., April 30, Noon, O'Hara

Investigation into Levels of Alpha-Antitrypsin, MPO, and the Presence of ANCA In Autistic Individuals with Gastrointestinal Disorders*Mentor: Dr. Christine McCauslin, Science*

Alpha 1 Antitrypsin is a glycoprotein released mostly by hepatocytes. Its main function is as an inhibitor of neutrophil elastase in the lungs. Secondly, it inhibits Anti-Neutrophilic Cytoplasmic Antibodies (ANCA) aimed at myeloperoxidase (MPO) in the inflammatory response. MPO, an oxidative protein found in granules of neutrophils, is released during inflammation. The first part of this study looked at levels of $\alpha 1$ antitrypsin in autistic families. Then levels of α -1 antitrypsin, MPO, and the presence or absence of ANCA were determined in the sera of autistic individuals with gastrointestinal disorders in an attempt to draw a connection between the two diseases.

GREGORY KANE

Thurs., April 30 2 p.m., O'Hara

The Use of Film to Elicit Mortality Salience and its Effect on Political Involvement*Mentor: Dr. Robert Keefer, Psychology*

The present study, based upon terror management theory, examined the impact of mortality salience on political involvement or participation, thought to be an American cultural worldview. Forty-five college students viewed either a film clip featuring reminders of death or a neutral film clip. Film clips were used as treatment to test a recent hypothesis that mortality salience could be elicited through film; this hypothesis was supported. They then completed a Likert-type survey, containing items that measured their political involvement. The hypothesis that mortality salience would strengthen political involvement was supported.

LAUREN BROWN

Thurs., April 30 5 p.m., O'Hara

Developing a Safe Method of Disposal for Household Pharmaceuticals*Mentor: Dr. Jeffrey Simmons, Science*

Pharmaceutical contamination is an emerging problem in aquatic environments, occurring in over one-third of streams, lakes, rivers, and oceans in the United States (Buxton). This includes a range of drugs from antibiotics to hormones, anti-convulsants to immunosuppressants. As a result of this exposure, cancer cells proliferate too quickly, kidney cells grow too slowly, and blood cells show activity indicative of inflammation. It is because of this that I plan to develop a method to break down organic compounds such as pharmaceuticals for safer disposal in the home. A number of oxidizing agents will be tested on common antibiotics such as hydrogen peroxide and OxiClean. Bacterial bioassays must be used to determine which antibiotics are appropriate for which strains of bacteria. Digested and undigested antibiotic solutions will be applied to the bacteria along with a sterile water control, and inhibition of bacterial growth will be compared. The break down procedure will be optimized to minimize waste generation and maximize effectiveness and ease of use. Finally, it is necessary to apply methods of antibiotic digestion to the most effective combination, using only common household items.

STEPHANIE KRAFT

Thurs., April 30 6:30 p.m., O'Hara

Defending Globalization: A Computable General Equilibrium Model*Mentor: Dr. Michael Barry, Business, Accounting, and Economics*

Is globalization good or bad? Critics argue that globalization is responsible for an increase in child labor, degradation of women, continued oppression of the poor, and the loss of jobs in the United States. Others, however, point to the efficiency gains of linking countries' trade and finance, allowing them to specialize in what they do best. This paper will use a computable general equilibrium (CGE) model to quantify the effects of complete trade liberalization on the planet. Who would gain and who would lose if there were no barriers to global trade at all?

COLLEEN REGAN

Fri., May 1 10 a.m., O'Hara

The effectiveness of parental support in homeschooling compared to public schooling

Mentor: Professor Barbara Onofrey, Education

This research was originally intended to determine strategies that produce a supportive motivational climate in upper elementary school classrooms. The initial findings led to the conclusion that lack of parental support is a strong factor in low student motivation and success. The study turned to look at the effectiveness of homeschooling cooperative groups as an alternative to the regular public education classroom. Data collection includes teacher/parent interviews, student surveys and observation, as well as background research.

KATIE COLLISON

Fri., May 1, Noon, O'Hara

Rebuilding a Newarcc: A Plan to save the National Endangered Wild Animal Research and Conservation Center

Mentor: Dr. Michael Barry, Business, Accounting, and Economics

The purpose of this project is to analyze the economic and business environment for the National Endangered Wild Animal Research and Conservation Center. Newarcc is a small zoo which provides a chance for children to learn about animals along with the importance of the farm in which they live. Newarcc is in need of a new business plan. The plan will establish ideas to raise admissions and show financial projections that will allow the farm to successfully support itself. To do this I am researching the Zoo's history and competitors and developing a marketing plan in order to better advertise Newarcc to their target market.

MATTHEW PARANTHA

Fri., May 1 2 p.m., O'Hara

Solving Logic Puzzles with Constraint Satisfaction Techniques

Mentor: Professor Scott Weiss, Math and Computer Science

The purpose of this project is to develop a program that utilizes an algorithm that will generate and solve different logic puzzles, as well as other possible applications. My methodology is to treat the solving and generation of the different logic puzzles as separate Constraint Satisfaction Problems, or CSPs. A CSP is a tuple, or a set containing three elements. These elements are a set of Variables, a set of Domains (values for each variable), and a set of Constraints (assignments from values in a Variable's Domain to the specific Variable). The algorithm that I have decided upon is known as Constraint Propagation. Constraint Propagation is the concept of operating on (or making decisions about) different variables based solely upon the Constraints for each variable. The algorithm will propagate on each variable until the solution has been found or a Variable's Domain is empty (no possible value can be entered that will not violate a Constraint). If the latter happens, the algorithm backtracks and tries again.

BRIGID MCDONNELL

Fri., May 1 3:30 p.m., O'Hara

The Face in the Mirror: Self Deception and the Possibility of Avoiding It

Mentor: Dr. Trudy Conway, Philosophy

Despite the vast psychological work done on self-deception, there has been little philosophical writing on this topic. This project focuses on a philosophical analysis of self-deception and whether there is a natural pull toward such deception and a way of avoiding it. It analyzes the works of Max Scheler, Jean-Paul Sartre and Aristotle, generating an understanding of self-deception and the role self-examination and true friendship plays in it.



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