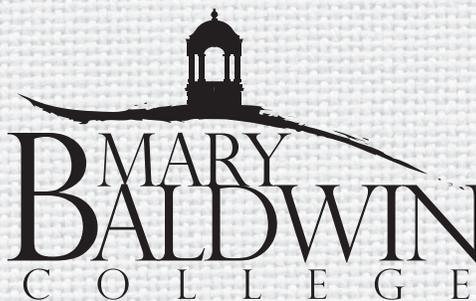


THE SHOWCASE OF UNDERGRADUATE RESEARCH,
SCHOLARSHIP, AND CREATIVE ACTIVITY AT MARY BALDWIN COLLEGE

SENIOR PROJECTS ● HONORS PROJECTS ● SPECIAL PROJECTS

MAY 8, 2014

CAPSTONE FESTIVAL



PARTICIPANTS IN THE CAPSTONE FESTIVAL HAVE BEEN NOMINATED BY THE FACULTY BASED
ON THE HIGH QUALITY AND ORIGINALITY OF THEIR WORK AND HAVE ACCEPTED NOMINATION.

CAPSTONE FESTIVAL

In the early days of Mary Baldwin Seminary, a Capstone Festival of sorts existed.

“All final examinations were held in public and members of the Board of Trustees and the townspeople attended to view students parse sentences, do intricate math problems, and recite soliloquies,” writes Professor Emerita of History Patricia H. Menk in her book *To Live in Time: The Sesquicentennial History of Mary Baldwin College 1842–1992*.

By the late 1800s, the practice of public recitations had disappeared. In 2006, Mary Baldwin College inaugurated a new Capstone Festival.

At each year’s festival, a select group of students, nominated by faculty, present their senior, honors, and special undergraduate research projects to the MBC community and the general public. The high quality and breadth of research, scholarship, and creative activities on display is a testament to the legacy of those earlier years and a celebration of our future.

The Festival is sponsored by the Advisory Board of Visitors, the Office of Sponsored Programs and Undergraduate Research, the Global Honors Scholars Program, and the Committee on Research, Scholarship, and Creative Activity.

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FESTIVAL PARTICIPANTS



LINDSEY ALDRED

Project and Academic

Advisor: Bruce Dorries

Type of Project: Honors Thesis

Presentation Category:

Presentation with multi-media support

Title: Why Doctors Scare Us: A Correlative Study of Healthcare

Professionals’ Affect Displays and Patient Anxiety

Abstract: Health communications is a new and growing field. Much research has examined verbal communication in healthcare settings, but research into the importance of nonverbal communication is limited. This correlative study focused on the possible relationship between three nonverbal cues — eye contact, tone of voice, and movement around the examination room — with patient anxiety. A survey of clients at the Mary Baldwin College Health Center provided data that was analyzed using SPSS. The majority of the hypotheses were found to be false: neither eye contact nor tone of voice produced a significant correlation, implying that those variables have little, if any, effect on patient anxiety, while movement around the room did prove to be significant.

Biography: Lindsey Aldred is a communications major with an emphasis in public communication and a minor in psychology. She studied abroad in Ireland during her junior year. Her internships included work with a local author and with the literacy council in the Shenandoah Valley, LEARN. After graduation, she plans to find a position in health communication with a government agency. She is a member of several academic honor societies, including Phi Beta Kappa and Lambda Pi Eta.



GABLE LILIANA MORRISON ARAKAKI

Project and Academic

Advisor: Abigail Wightman

Type of Project: Senior Project

Presentation Category:

Presentation with multi-media support

Title: #SeniorThesis: Linguistic Innovation and the Function of Hashtags in Social Media and Written & Spoken English

Abstract: In recent years, the # symbol, colloquially known as the hashtag, has taken on new meaning. This project took an exploratory approach, analyzing the development of the hashtag, its suggested functions, and relevance in social media. Gable uses concepts from socio-

linguistics and paralinguistics to analyze the hashtags’ way of representing intonation in written and spoken English.

Biography: Gable Arakaki is an anthropology/sociology major from Los Angeles, California. Throughout her time at Mary Baldwin College, she has been a peer advisor for the Spencer Citizen Gateway for Civic and Global Engagement and has been active in many other on-campus groups. Gable has developed an interest in linguistics and social media. In the fall she hopes to pursue a career in one of the two, or maybe both.



RANDI BEIL

Project and Academic

Advisor: Peter Ruiz-Haas

Type of Project: Honors Thesis

Presentation Category: Poster

Title: The Degradation of Bisphenol-S under UV Light

Abstract: Bisphenol S (BPS) is an endocrine-disrupting compound

(EDC) commonly found in hard plastics and thermal receipts. BPS is similar to bisphenol A (BPA), another EDC, which has been linked to obesity and diabetes. Even though BPA has been removed from many plastics, BPS still remains. Consequently, it can be found in wastewater and rivers. This project focused on the removal of BPS from water through the use of UV-C light. A box for collimating and containing the UV light was constructed. Results show that after four hours under the UV light, the concentration of the 20 mg/L BPS solution decreased by 20%; after the addition of H₂O₂, the concentration of the BPS solution decreased to 0 mg/L.

Biography: Randi Beil is a chemistry and mathematics major and a physics minor. She is from Montclair, Virginia. Randi plans to attend a graduate program in chemistry in 2014.



DEBBY BIBENS

Project Advisor: Claire Kent

Academic Advisor: Lallon Pond

Type of Project: Senior Project

Presentation Category:

Presentation with multi-media support

Title: Marketing in the 21st Century: Using Facebook to Promote ADP

Abstract: Since 1977, the Adult Degree Program (ADP) at Mary Baldwin College has offered adults the opportunity to earn an MBC degree through non-traditional

course delivery methods, and the program has become an integral part of MBC's financial chemistry. ADP has been very successful, but is currently experiencing a decline in enrollment hours and new student headcount. Decreasing unemployment rates that some believe negatively affect adults returning to college combined with a saturated competitive environment has ADP at a critical juncture in its 37-year-old history, and it needs to find a way to promote its programs to targeted markets. Facebook use is on the rise with adults, many of whom are in ADP's target markets. In addition to targeting users by age, advertisers on Facebook have many filters from which to choose in order to target their audience with pinpoint accuracy. Some even believe that Facebook is a "dream come true" for marketers. Could Facebook advertising help ADP reach its growth potential?

Biography: Debby Bibens is a marketing communications major from Verona, Virginia. She has been pursuing her degree through the Adult Degree Program since coming to work at MBC in 1999. She is currently the director of operations at ADP and has plans to continue working at MBC following graduation.



NIKKI BROOKMAN

Project Advisor: Sarah Kennedy
Academic Advisor: Abby Arnold
Type of Project: Senior Project
Presentation Category: Delivered paper
Title: A New Historicist's Exploration of Feminist Theory: *The Awakening* and Kate Chopin

Abstract: Twenty-nine years before Virginia Woolf published her defining text of feminist literature, *A Room of One's Own*, Kate Chopin, author of *The Awakening* and various other works, navigated the turbulent waters of publishing by supporting herself and her children as a professional writer. The strength of her upbringing by uncommonly strong women paired with her remarkable determination and bravery in addressing women's roles and issues set her apart as one of the most pioneering artists of her time. Woolf presents the roles assigned to women by a patriarchal society as obstructive to a successful literary career. Chopin defies this supposition and courageously presses through the boundaries of womanhood, even in the conservative American South.

Biography: Nikki Brookman is an English major with a minor in education from Virginia. She lives in Ruckersville with her husband, Kevin, and daughters, Maggie and Lilly. She enrolled at Mary Baldwin following a successful career in the mental health field to pursue her love of literature and writing. Nikki plans to pursue teaching high school in the fall.



LYDIA BUHL

Project Advisor: Cathy McPherson
Academic Advisor: Sharon Barnes
Type of Project: Senior Project
Presentation Category: Presentation with multi-media support

Title: From Book to Blockbuster: How Marketing Launches Works of Fiction into Commercial Successes
Abstract: This project examines the role of today's publishing industry within a market that has largely been influenced by the adoption of digital technology. Although the written word has seemingly lost its place, the emergence of numerous literary blockbusters over the past decade or so suggests that books are not outdated but simply evolving to meet the needs and preferences of a more demanding audience. By following the product life-cycle of a typical work of fiction, and then identifying areas in which breakout successes, such as the Harry Potter series, *The Twilight Saga*, the *Fifty Shades* trilogy, the *Millennium Trilogy*, and the Robert Langdon series, have all innovatively deviated from a standard literary marketing plan, this research provides insight into the social and technological forces that are now instrumental to a book's viral potential, while still supporting the importance of the book's content itself.

Biography: Lydia Buhl is a marketing communications major with a minor in sociology. She resides in Troutville, Virginia, with her husband and their two sons. Following graduation, she will be pursuing employment in the marketing industry, with the goal to earn a graduate degree in the future.



DARYN CAZIN

Project and Academic Advisor: Katherine Turner
Type of Project: Senior Project
Presentation Category: Delivered paper
Title: From *To Kill a Mockingbird* to Contemporary Chick-Lit: The Complex Legacy of Harper Lee

Abstract: In the modern American classic, *To Kill a Mockingbird* (1960), Harper Lee vividly conjured the racial injustice found in small towns across the South. In recent decades, authors such as Kathryn Stockett, Sue Monk Kidd, and Beth Hoffman have produced novels clearly modelled on *To Kill a Mockingbird* as part of a continuing exploration of race relations in America. Unfortunately, the archetypal characters created by Lee have become degraded stereotypes in some of these

later texts. As the characters and plots become more stereotypical, the genre becomes more contrived, diluting the importance of the civil rights movement.

Biography: Daryn Cazin will graduate this summer with an English major and a religion minor; she will then return to her native California where she plans to work as a youth minister.



ASHTON COOLEY

Project and Academic Advisor: Louise Freeman
Type of Project: Senior Project
Presentation Category: Poster
Title: From Starbucks to Ritalin: Caffeine and ADHD Medication Use in U.S. College Students
Abstract: In recent years there

has been a large increase in the number of college students who have illicitly used ADHD medications in order to enhance their cognitive skills. However, college students have been using caffeine for many years for the same cognitive enhancing effects. I conducted a survey (N=125) to see if an individual's early history or frequent use of caffeine could be considered gateway drug activity that would lead to later misuse of prescription stimulants. There was a positive relationship between use of caffeine and beneficial expectations for caffeine, $r(117) = 0.35, p < 0.05$, but not between stimulant use and expectation, $r(61) = 0.04, p > 0.05$. Correlations between caffeine and stimulant use ($r = -0.10$) and caffeine and stimulant expectations ($r = 0.18$) were not significant. There was no evidence that either licit or illicit users of stimulants used more caffeine than non-users or used it at an earlier age. This suggests caffeine does not function as a gateway drug for later stimulant abuse.

Biography: Ashton Cooley is a psychology major from Waynesboro, Virginia. She is hoping to go into the field of mental health, working on substance abuse issues and studying why individuals become addicted to certain substances. She also hopes to one day get a master's degree in psychology and to become a professor.



KYLA DANIEL

Project and Academic Advisor: Lise Keiter
Type of Project: Senior Project
Presentation Category: Presentation with multi-media support
Title: Music as a Learning Tool and Classroom

Aid: The Benefits of Integrated Study
Abstract: In today's society, teachers face many chal-

lenges, including holding the attention of their students. One logical resolution to the lack of student interest is to integrate music into the curriculum, not only as a separate class, but into the standard classroom itself. This project examines different ways in which music can be used to benefit students' ability to learn and create a positive learning environment. Music is discussed in relation to mathematics, science, and English, demonstrating how it could complement the material in those classes. Lesson plans are included to make evident music's possible uses. This project also reveals ways in which music could improve study skills, student behavior, and attentiveness, as well as benefit students with various disorders, such as ADHD and autism.

Biography: Kyla Daniel is a senior music history major with an education minor. Post-graduation, this Staunton native plans to pursue a master of library and information sciences in either Chicago, Illinois, or Minneapolis, Minnesota. Presently, however, she plans to take a year enjoying life outside of the world of academia.



ASHLEY EDMISTON

Project and Academic Advisors: Marlena Hobson and Sara Nair James
Type of Project: Senior Project
Presentation Category: Presentation with multi-media support

Title: Reclaiming Rome: Pope Nicholas V's Humanist Building Projects, 1447-1455
Abstract: Although the pontificate of Pope Nicholas V only lasted from 1447 to 1455, he instituted important philosophical changes to the papacy. In this project, Nicholas V's application of humanism, a new concept both to society and the papacy, is discussed in relation to his building projects. Under Nicholas, Rome became more orderly as public space was regulated underneath the gaze of the church, and Nicholas' take on architecture created a tradition that brought balance and regularity to the buildings. His focus on humanism transformed his building projects into symbols of strength and order, features Nicholas used to reinforce papal power in Rome. These projects suggested that through the strong leadership of the pope, Rome's former glory would return, and it would stand as the center of the Christian world for centuries to come.

Project and Academic Advisors: Mary Hill Cole and Amy Tillerson-Brown
Type of Project: Senior Project
Presentation Category: Presentation with multi-media support

Title: Ideal Versus Reality in Leisure Travel: British Travelers in Florence, 1840–1875

Abstract: The British desire to escape their utilitarian and unromantic life in industrial England drove many to travel to other countries during the mid-nineteenth century. Many of these travelers found their way to Florence, its Renaissance air, abundance of art, and sublime views luring them to the city. These travelers, who used their leisure time to search for a fading sense of imagination and joy of life, often found themselves unhappy with the realities that awaited them. This paper discusses the effects British xenophobia had upon leisure tourists in the nineteenth century. During this period, the British exhibited a sense of superiority to much of the world, as they saw most other nations as less modern. The modernization of England also drove its inhabitants to seek out less industrial areas, making cities like Florence a prime vacation spot. However, Florence had, between 1840 and 1875, begun to modernize, which destroyed the idyllic notions of British vacationers. This disconnect fed the xenophobic attitudes the British held towards the Italians, affecting the experiences of British travelers in Florence during this period.

Biography: Ashley Edmiston is a double major in history and art history and is from Chester, Virginia. She plans to seek out a job before going to graduate school for library sciences and art history.



JALYNN EDWARDS

Project Advisor: Chandra Mason
Academic Advisor: Jenna Holt
Type of Project: Senior Project
Presentation Category: Poster
Title: Relationships among Social Dominance Orientation, Gender Role Ideology, and Offender's Gender on Criminal Sanctioning

Abstract: Research on gender bias in criminal sanctioning in the United States has primarily focused on the gender and age of the offender, as well as the crime committed and the gender of the sanctioner. This study goes beyond previous research by considering the roles that two aspects of personality, social dominance orientation and gender role ideology, play in gender bias in criminal sanctioning. Participants were 90 men and women college students who took two surveys to measure social dominance orientation and gender role ideology. Following the surveys, the participants read a vignette of a crime with the gender of the offender randomly determined. Participants were asked to indicate the number of years of prison time they believed the offender should serve. My hypothesis was that participants who display signs of high social dominance orientation and

traditional views on gender role ideology would give a harsher sanction regardless of the offender's gender.

Biography: Jalyynn Edwards is a psychology major with a minor in sociology. She is from Richmond, Virginia. Jalyynn plans on getting her master's in forensic psychology and then her doctor of psychology in clinical psychology in order to become a criminal profiler.



CASSANDRA EILAND

Project and Academic Advisors: Mary Hill Cole and Amy Tillerson-Brown
Type of Project: Senior Project
Presentation Category: Delivered paper
Title: "Shrieking

Sisters Frantically Calling on Man and Gods": English Suffrage and Anti-Suffragist Publications and their Impact, 1850–1914

Abstract: During the age of technological improvement in the Victorian era in England, magazines and newspapers produced with women in mind sought to impact the fight for women's enfranchisement by using a growing medium and representing (or misrepresenting) different aspects of the suffragist cause to suit their own purposes, either in a pro-suffragist or anti-suffragist manner. Ultimately, the organizations behind the publications sought to get women either to participate for or against the goal of female enfranchisement.

Biography: Cassandra Eiland is a history major with a minor in English. She is originally from Winchester, Virginia. In the near future, Cassandra hopes to attend graduate school to pursue either library science or history.



SELMA ELSARRAG

Project Advisor: Karl Zachary
Academic Advisor: John Ong
Type of Project: Senior Project
Presentation Category: Poster
Title: Supramolecular Interactions between Peptides and a Glycouril-Based Molecular Clip: A Computational Study

Abstract: Selective recognition of amino acid residues in peptides by synthetic receptors has garnered much interest, since an understanding of such processes may illuminate fundamental properties of biomolecular dynamics and assist in the rational design of therapeutic agents, sensors, and separation techniques. We have undertaken a computational study of a glycouril-based molecular clip with the model peptides Ace-Phe-Nme (APN) and Ace-Lys-Nme (AKN) with an eye towards understanding the relative binding strengths of result-

ing complexes, the particular intermolecular forces driving association, and the conformational changes induced in the peptide. We have observed the formation of a complex with the clip in the case of the AKN peptide but not in that of the APN peptide. A comparison of the hydrogen-bonding between water and the peptide and the secondary structure of the AKN peptide in the complexed and free state has been performed. Methods used include molecular dynamics and quantum mechanics at the density functional level of theory

Biography: Selma Elsarrag is a triple major in biology, chemistry, and mathematics from Richmond, Virginia. In the fall, she will enter a combined MD/PhD program at Baylor College of Medicine in Houston Texas and hopes to earn her degree in computational biology.



AMANDA M. FADDEN

Project and Academic Advisor: Daniel A. Metráux
Type of Project: Senior Project
Presentation Category: Delivered paper
Title: China's Naval Policy: An Aggressive or Protective Force?

Abstract: Beginning in 2000, China's emergence as a growing naval power has caused considerable anxiety among surrounding Asian-Pacific nations and the United States. China's decision to become both a defensive and offensive naval player is beginning to upset the world order. While China undoubtedly should possess the right to have a navy to protect the country's economic interests, problems have arisen as naval exercises have extended beyond the country's waters and toward islands in dispute with Japan. This project seeks to understand China's intent, beginning with China's history and focusing on three key areas in the conflict: China's perception of sovereignty in the East and South China seas; the difference between intent and perception of military exercises; and how relations with Japan and the United States play into China's decision to grow its naval force. In order to avoid future conflict, China, Japan, and the United States should seek multi-lateral exercises and mutual agreements to ease growing tensions.

Biography: Amanda Fadden is a junior, majoring in international relations and Asian studies. She also plans to minor in leadership studies. Amanda is a cadet platoon sergeant in the Virginia Women's Institute for Leadership, current captain of the cross country team, a Global Scholar, and a member of CGIU: Changemakers for Women. During her time here at Mary Baldwin, she has earned a three-year Navy scholarship through which she plans to commission as a surface warfare officer in the spring of 2015.



HALLE' D. HURT

Project and Academic Advisor: Paul Deeble
Type of Project: Senior Project
Presentation Category: Poster
Title: The Effects of Triclosan on Skeletal and Cardiac Muscles
Abstract: Triclosan is an antimicrobial used primarily to inhibit the

growth of fungi and bacteria in most of our soaps, toothpastes, and cleaning products. It is now under the investigation of the FDA and EPA for causing adverse side effects to the population and the environment. This project investigated Triclosan's ability to impair the function of the cardiac and skeletal muscles. Using large male frogs and the iWorx software, the experiment compared variables such as latency in the skeletal muscle, heart rate, and amplitude in both the treated and untreated subjects.

Biography: Halle' Hurt is a biology major with a biomedical emphasis and a minor in sociology. Her hometown is Fredericksburg, Virginia, where she lives with her parents and her younger brother. After graduation, Halle' plans to further her education and become an anesthesiologist.



MARIAH JENKINS

Project Advisor: Judy Klein
Academic Advisor: Virginia Trovato
Type of Project: Senior Project
Presentation Category: Presentation with multimedia support
Title: Improving Children's Health

by Encouraging Women's Education in Sub-Saharan Africa

Abstract: Sub-Saharan Africa is delayed in its movement through the second stage of demographic transition, where high fertility rates decrease to match the lowering mortality rates that occur in the first stage. Both men and women in Sub-Saharan Africa continue to have a preference for six to nine children per household. In addition, child mortality remains high. How can these countries lower their fertility and child mortality rates? Women are the caregivers and bearers of children, and research shows that increasing women's educational attainment can improve children's health. The theory of positive externalities and Amartya Sen's Capabilities Approach give further validity to the returns of women's education to the society and individually. In this study, correlations between secondary schooling rates among females and males, the adolescent fertility rate, and the under-five mortality rate were completed and provided further evidence for this claim. We observed countries in Sub-Saharan Africa that proved

as outliers in our correlations, gaining models for reasonable and attainable policies that can encourage women's education for the sake of future generations. **Biography:** Mariah F. Jenkins is an international economics and business major from Staunton, Virginia, who has also gained a certification in entrepreneurship. She will pursue her master's degree in human services while beginning the process of starting her own business. She is a member of Omicron Delta Epsilon and Alpha Sigma Lambda.



ALEXANDRA JOHNSON

Project and Academic Advisor: Brenci Patiño
Type of Project: Senior Project
Presentation Category: Delivered paper
Title: Disrupting the Foundation of Patriarchal Dominance:

Exploring the Role of the Women in *Pedro Páramo*
Abstract: The Mexican writer Juan Rulfo's only novel, *Pedro Páramo*, contains an array of characters who are subjugated under the power of the political boss, Pedro, in the rural town of Comala. This literary analysis seeks to view this subjugation through feminist and psychoanalytic criticisms, considering the role of women in relation to the archetypes studied by psychologist Carl Jung. Upon investigation, this analysis concludes that women do not completely adhere to these archetypes and therefore establish their own respective identities. However, these identities are nevertheless impacted by the oppression they face under the patriarchal system of the town, and, as a result, women either subtly or explicitly rebel against male power, both when they are alive and, after death, in the form of ghosts.
Project and Academic Advisor: Katherine Turner
Type of Project: Senior Project
Presentation Category: Delivered paper
Title: Biculturalism and Sexual Fluidity in Two Latina Plays
Abstract: This paper explores the themes of biculturalism and sexual fluidity in two recent Latina plays, Cherrie Moraga's *Giving up the Ghost* (1986) and Dolores Prida's *Coser y Cantar [To Sew and to Sing]* (1981). The Latina characters in these plays never fully assimilate to one culture or the other, but develop a distinctive cultural identity which facilitates sexual diversity.
Biography: Alexandra Johnson is an English and Spanish major with an education minor, and she is also pursuing her master of arts in teaching in the fall of 2014. She is from Baltimore, Maryland; after her college career, she seeks to teach Spanish in secondary schools.



HOLLY JOHNSTON

Project and Academic Advisor: Laura van Assendelft
Type of Project: Senior Project
Presentation Category: Presentation with multi-media support
Title: Occupy Wall Street: A Case Study

of Political Opportunity Theory
Abstract: Occupy Wall Street was one of the most visible groups in American public life in 2011. Two years later, enough time has passed to question the success or failure of Occupy Wall Street (OWS) in relation to political opportunity theory. Can OWS be classified as a social movement, and by what definition? By examining OWS in light of political opportunity theory, it becomes clearer that it was in fact not a social movement, but rather an amorphous collective of individual preferences and choices with somewhat complementary but competing goals. This paper will shed new light on the OWS phenomenon by examining the decentralized leadership style, the anti-leaders of Occupy Wall Street, and the network of Occupy encampments that popped up across the nation. These three components are examined in hopes of answering how Occupy Wall Street could be so visible yet unsuccessful.
Biography: Holly Johnston is a double major in political science and religion with a minor in economics. She is from Danville, Virginia. She presented her thesis at the Midwest Political Science Association undergraduate poster session this past April in Chicago, Illinois. In the fall, she will either attend a graduate program in American studies or enter the workforce.



KRYSTAL JONES

Project Advisor: Daniel Stuhlsatz
Academic Advisor: Carey Usher
Type of Project: Senior Project
Presentation Category: Delivered paper
Title: Gang Activity in Rural America and Its Connection to the Components

of Social Disorganization Theory
Abstract: This project addresses the question of how the major elements of social disorganization theory help to explain gang membership in rural areas. In addition, the project analyzes the socializing factors of family, community, and school as they are related to the likelihood of gang activity in youth and young adults. Using the basic principles and ideas of social disorganization theory, developed by the Chicago School in relation

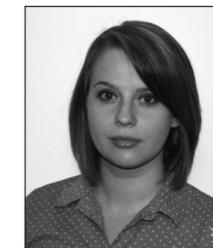
to ecological theories, the project links crime rates to neighborhood ecology. Qualitative data from surveys of confirmed gang members assesses their biographical information, community, school, and family culture.
Biography: Krystal Jones was born and raised in Norfolk, Virginia, and is currently pursuing a bachelor of arts in criminal justice. Krystal's honors at Mary Baldwin College have included induction into the Ida B. Wells Society, Alpha Kappa Delta (national sociology honor society), and the Nu Sigma chapter of Alpha Phi Sigma (national criminal justice honor society). She plans to contribute to the community that raised her by doing her part to decrease the rate of recidivism of ex-convicts, accomplishing her life's work through community-based sanctions and public assistance programs that promote civility and a sense of well-being for all people.



MICHELLE KAYOSA-AJAYI

Project and Academic Advisor: Daniel A. Metráux
Type of Project: Senior Project
Presentation Category: Delivered paper
Title: Bringing Zambia Back to a Sustainable Age

Abstract: As the world realizes the necessity for policies for a sustainable Earth, past transgressions are being mended. Questions on Zambia's sustainable future were asked to confront this reality. What efforts have been taken and can be taken, politically and environmentally, to ensure a capable and sustainable society, culture, and economy for the organisms that claim Zambia as home? With the wealth and loss of culture that urbanization is bringing to Zambia, the fifty million hectares of depleting forestation, the mismanaged waste from mining, and the recent presidential mandates that belittle a lack of thorough planning for the future of the nation, Zambia is in need of continued efforts and a new plan. Through proper planning and solid policy changes that are privy to the cultural atmosphere of the nation, as well as policies that are mindful of a successful future, Zambia will have a great story to tell.
Biography: Michelle Kayosa-Ajayi is a senior at Mary Baldwin College. She is an international relations major with a minor in peacemaking and conflict resolution. Michelle resides in Rockville, Maryland, but has roots in Zambia and Nigeria. With a passion for human rights advocacy, Michelle plans on taking that same passion to the continent of Africa in an effort to further advance her people.



INNA KIRILYUK

Project Advisor: Nadine Gergel-Hackett
Academic Advisor: Karl Zachary
Type of Project: Senior Project
Presentation Category: Poster
Title: Low-Cost Flexible Memristor Fabrication
Abstract: Memristors are two-

terminal electronic devices that exhibit unique electrical characteristics, including nonvolatile electrical switching between resistive states. These unique electrical characteristics may enable the use of memristors as logic and/or memory components in novel computer architectures. Flexible memristors have been shown not only to exhibit the electrical characteristics unique to the devices, but are also operable after 4,000 flexes, require voltages less than 10 V, show ON:OFF ratios greater than 10,000:1, are nonvolatile for up to 14 days, and are fabricated at room-temperature with sol-gel solution processing. To increase accessibility to the technology and decrease production costs, we are developing methods of flexible memristor fabrication that are low-cost compared to current conventional fabrication. This low-cost fabrication includes exploring alternative materials and processes for device contacts, synthesizing and storing a precursor titanium dioxide (TiO₂) sol-gel using standard wet chemistry tools without the use of a glove box, and using a low-cost spinner to spin sol-gel onto devices.

Biography: Inna Kirilyuk is a chemistry major with a minor in physics. She currently resides in Grottoes, Virginia.



LINNEA KUGLITSCH

Project Advisors: Mary Hill Cole and Amy Tillerson-Brown
Academic Advisor: Abigail Wightman
Type of Project: Senior Project
Presentation Category: Presentation

with multi-media support
Title: "Best Obtained in Seclusion": Landscapes of Healing and Pleasure at Marienbad and Baden-Baden, 1820-1880
Abstract: Nineteenth-century Britain presented a number of challenges to maintaining one's mental and physical health. Exacerbated by the social and environmental changes that accompanied the industrial revolution, a cultural obsession with the maintenance of one's health emerged. Uncomfortable and antiquated cures often boasted minimal success, leading many invalids with

the means to seek out more pleasant or effectual treatments. Visiting a spa-town to take the waters — to bathe and imbibe medicinal water from mineral or thermal springs — offered a popular alternative. Documentary evidence left by British invalids, physicians, and commercially-produced spa-guides demonstrates that travel to continental spa-towns boasted rehabilitative benefits that reached beyond their specialized waters. The treatments advertised at the spas of Baden-Baden and Marienbad emphasized the holistic treatment of their patients, appealing to British health-seekers with offers to relocate them from the industrialized landscape of their homeland to a healthful, picturesque environment that promoted both physical and mental recuperation.

Project and Academic Advisor: Abigail Wightman

Type of Project: Senior Project

Presentation Category: Presentation with multi-media support

Title: Blueprints to Control: Medicine and Space in Two Historical Medical Institutions

Abstract: The landscape in proximity to the Blue Ridge Mountain Range has served as backdrop to many institutions dedicated to the care of those considered ill, physically or otherwise. Their purpose-built environments encapsulate the practices and beliefs embraced by the communities they served, as evidenced by the archival-derived floor plans of two such institutions — Western Lunatic Asylum and Mecklenburg County Sanatorium — founded one-hundred years apart and dedicated to the treatment of two illnesses, madness and tuberculosis. This paper conducts a comparative analysis of the built environment of these institutions, identifying the spatial and architectural elements of healing and control in the context of medical hegemony.

Biography: Linnea Zuege Kuglitsch is a double major in anthropology and history with minors in public history and psychology. She hails from Milwaukee, Wisconsin. Linnea intends to collect several years of practical experience in archaeology before pursuing a graduate degree at the University of Manchester.



KATELYN MAERKI

Project Advisor: Steven Mosher
Academic Advisor: Virginia Trovato

Type of Project: Senior Project
Presentation Category: Presentation with multi-media support

Title: Does Age Matter?

Quality, Inpatient Care, and the Elderly

Abstract: The purpose of this paper is to assess the quality of inpatient programs regarding the care of the

growing population of Medicare patients 65 and older. For the purpose of this research, quality is defined and assessed using Donabedian's model of structure, process, and outcomes. Through an in-depth analysis of publicly reported data for Sentara Martha Jefferson Hospital (SMJH), the relationship between quality inpatient care and the elderly is examined. The research demonstrated gaps in data collection at SMJH, as the hospital does not collect some age-related information, thus challenging the ability to draw conclusions from that hospital alone. Comparison and gap analyses were performed to assess the delivery of care and determine if there is a fundamental need for specialized geriatric care delivery. Although publicly reported patient satisfaction scores for SMJH are high in almost every category when compared to national and state averages, the literature shows that there is an open market in the health care industry to align a specialized delivery of care to the high-risk, high-cost, high-utilizing population of elder Medicare beneficiaries.

Biography: Katelyn is a health care administration major from Waynesboro, Virginia. Through her education and personal experiences, she has developed a passion for elders and the desire to enhance the quality of health care delivery. After graduation, Katelyn hopes to begin a career in long-term care.



CHARITY MARTIN

Project Advisor: Laura van Assendelft

Academic Advisors: Douglas Davis and Laura van Assendelft

Type of Project: Senior Project
Presentation Category: Presentation with multi-media support

Title: Bridging the Political Gender Gap: Is the Farm Team an Adequate Opponent?

Abstract: The political gender gap is a phenomenon that is not new to the political arena. For years, females with political ambition and the desire to be involved in national politics have faced discrimination, but over time organizations have been developed to combat the gender gap. Organizations such as the Farm Team of Virginia are focused on dissolving this problem and its effects on female participation in politics. The Farm Team endorses women such as Elizabeth Jones in efforts to better their chances in political races. Through careful research and content analysis, this study shows that the Farm Team has the makings of a successful interest group, therefore giving it the foundation to be successful at bridging the political gender gap.

Biography: Charity Martin is a double major in political science and criminal justice from Baltimore,

Maryland. In the fall she will be entering the JD program at the University of Maryland Francis King Carey School of Law. Charity will be studying criminal law in hopes of becoming a prosecutor.



QUEEN ELIZABETH MARTIN

Project Advisor: Roderic Owen
Academic Advisor: Laura van Assendelft

Type of Project: Senior Project
Presentation Category: Delivered paper

Title: Pogge and Nussbaum: A Philosophical Analysis of Citizenship and Immigration

Abstract: In the 21st century, the notion of citizenship has been defined and explained in various ways as it relates and pertains to immigration. Philosophers from Aristotle onwards have defined citizenship and given their own conceptual explanations of what citizenship is. Contemporary philosophers Thomas Pogge and Martha Nussbaum differ on the issue of citizenship and its relationship to immigration. Some of Thomas Pogge's views emerge from such topics as understanding the distribution of membership, aliens and citizenships, the case for open borders, and the laws of people. Although Martha Nussbaum does not follow the same path and ideology, she draws many of her views from the idea of social contract, the state of nature, and the capabilities approach. However, both philosophers argue that citizenship deals with equality, freedom, independence and, above all, a global conception of justice. Pogge and Nussbaum's conception of citizenship has the potential to shape and affect U. S. immigration policies.

Biography: Queen Elizabeth Martin is a political science and philosophy major, with a minor in peace making and conflict resolution. She is originally from Ghana, but currently calls Alexandria, Virginia, her home. Working as a paralegal intern in an immigration law firm in the summer of 2013 increased her interest in attending law school in the fall of 2015.

DEQUANA MERVIN

Project and Academic Advisor: Daniel Metráux

Type of Project: Senior Project

Presentation Category: Delivered paper

Title: International Constraints on

Inter-Korean Engagement

Abstract: Korea's position in the heart of East Asia has garnered the attention of foreign states who wish to use it as either a buffer zone or springboard; since 1860 this has severely impeded Korean autonomy. The



decision by the United States and the Soviet Union to divide Korea cemented not only the ideological divisions, which have made the states politically incompatible, but also permanently transformed the issue of Korean reunification into an international dispute. Although the "Korea

Question" was originally posed by outside forces, it cannot be solved by those same parties. This paper, using a historical framework, will highlight the international drivers of Inter-Korean engagement and why interventions have been, and will continue to be, unsuccessful.

Biography: Dequana Mervin is a senior double majoring in international relations and Asian studies. Her hometown is Newport News, Virginia. She studied at Sungshin Women's University in Seoul, South Korea during the fall 2013 semester. Next fall, she will enter a master's program in Korean studies at the University of Washington.



EMILY MILLER

Project and Academic Advisors: Mary Hill Cole and Amy Tillerson-Brown

Type of Project: Senior Project
Presentation Category: Delivered paper

Title: Community Leisure for Self-Improvement: The

Beginnings of the Chautauqua Movement, 1874–1915

Abstract: Beginning in 1874, summer meetings at Chautauqua were intended to meet the growing need for educating Sunday School teachers. The Chautauqua Assembly began as an intensive two-week program set along the shores of Chautauqua Lake in upstate New York. It grew into a nine-week summer assembly accompanied by an optional full-year reading program designed to reach those who could not reach New York. This project chronicles the early growth of the movement, attempting to discover what drew people to the assembly and what led them to return, paying particular attention to aspects of the assembly that were considered uniquely "Chautauqua."

Biography: Emily Miller is a history major with minors in French and education from Mechanicsburg, Pennsylvania. She is enrolled in the BA/MAT program and will continue progress towards her masters of arts in teaching at Mary Baldwin in the fall.



JOANNA E. MILLS

Project Advisor: Daniel M. Stuhlsatz

Academic Advisor: John D. Wells

Type of Project: Senior Project
Presentation Category:

Delivered paper
Title: Young Males'

Attitudes Toward Gender and Male Femininity

Abstract: In the past century, women have slowly become more accepted into the traditional men's world, gaining the right to vote, taking on positions of power in the office and in the government, and beginning to work in typically male-dominated professions. However, the same cannot be said for men entering into the women's world, as men in this society still face social stigma for displaying feminine traits. This may slowly be changing, but very little research has been done in regards to men and their relationship to femininity. This study sought to discern whether young males' personal perspectives on gender meshed with the binary system implanted by society and how much those conceptions may have changed in recent years, if any.

Biography: JoAnna Mills is a double major in sociology and studio art, with an emphasis in ceramics. Her hometown is Dale City in northern Virginia. After graduation, she will continue her studies as a sociologist and artist in graduate school with the aim of becoming a professor of sociology.



GENEVIEVE NEICE

Project and Academic Advisor: Paul Ryan

Type of Project: Senior Project
Presentation Category: Visual or audio-visual creation

Title: Surface Details and Deeper Energies

Abstract: My work is a culmination of years of observing textures and rhythms in nature — the stark contrast of bare branches against a winter sky, the gentle swirls and undulations of clouds, the overlapping textures of autumn leaves — these have always intrigued me. In my work, I investigate these interests further through layering of paper and paint, and, in my latest efforts, through incorporation of materials such as fabric and tree branches. My earlier studies as a textile major at Virginia Commonwealth University instilled a desire in me to explore surface details and deeper energies in my work. I use suminagashi ink because it floats on the water: no need for sizing or other ingredients used in traditional marbling. The rice

paper is thin, lending itself easily to layering and collage. The marbled paper elements add organic details to my work that are beyond my control, leading to happy accidents from which to build. I want to continue to investigate the synthesis of various materials in my work as I explore my obsessions with texture, detail, and layers.
Biography: Genevieve Neice was born in Covington, Virginia, in 1968. She is currently a studio art major here at Mary Baldwin College. Previously, Genevieve attended VCU (1989–92) as a textile major. She was awarded first place in the MBC Juried Student Art Show this spring and wishes to continue her studies as a graduate student at James Madison University.



TYLER NGUYEN

Project Advisor: Maria L. Craig
Academic Advisor: Karl Zachary

Type of Project: Senior Project
Presentation Category: Poster

Title: The Interactions Between the LL37 Peptide and PolyA DNA and the

Localization of the DNA-LL37 Complex in Monocytes

Abstract: Research within the past decade has shown that a peptide molecule produced by our own cells, called LL-37, can bind to DNA released from dying cells and escort it into certain immune cells. By doing this, LL-37 allows DNA to enter the cell in a process similar to a virus infecting that cell. However, since this process is not actually a viral infection, it sends a false alarm to the immune system that causes immune cells to attack other cells in the body through what is known as autoimmunity. In this project, Tyler compared the abilities of two different DNA sequences (CpG and Poly A) to bind to LL-37 by performing a technique known as the electrophoretic mobility shift assay (EMSA). In addition, he developed a protocol for observing the cellular location of DNA once it binds to LL-37 and enters the cell, using a method called immunofluorescence microscopy (IFM). He observed that PolyA and CpG both bind to LL-37 in the same concentration range and that the binding between LL-37 and PolyA is slightly stronger than the binding between LL-37 and CpG. His further analysis of the LL-37/PolyA interaction rules out a simple one-site binding model and suggests a more complex model involving 2 or more binding sites for DNA on LL-37. Fluorescence micrographs of the monocytes show a faint, but visible fluorescent region that likely indicates the presence of DNA/LL-37 complexes in the cells.

Biography: Tyler Nguyen is a chemistry major with a biochemistry emphasis and a minor in physics. His hometown is Reston, Virginia. Tyler hopes to be accepted to an accredited medical school in the future in order to pursue his career aspiration of becoming a doctor.



MICHELLE RADFORD

Project and Academic Advisor: Maria Craig

Type of Project: Senior Project
Presentation Category: Poster

Title: Interaction between Human Cathelicidin LL-37 and CpG DNA

Abstract: LL-37 is an antimicrobial protein known to be involved in immune response mechanisms. LL-37 is also suspected to have some key roles in certain autoimmune diseases, such as psoriasis and lupus. Current published models suggest that LL-37 forms complexes with self-DNA and that this interaction allows self-DNA to enter cells. The LL-37/DNA interaction is believed to start a series of cascading events that lead to autoimmune diseases. Understanding the role of LL-37 in autoimmune diseases can offer insight into treatments for the diseases, and the key to the LL-37 role is its interaction with DNA. Knowing specific characteristics about the binding between LL-37 and DNA could lead to treatments that inhibit LL-37/DNA complex formation. In order to characterize LL-37/DNA binding, we have performed electrophoretic mobility shift assays (EMSA), Western Blotting, and Isothermal Titration Calorimetry (ITC). By EMSA, we observe a shift in DNA mobility with increasing LL-37 concentration over the range 1–50 μM. Quantitative analysis of gel images was performed to derive binding curves for the association of LL-37 with DNA. Western Blots in a corresponding concentration range indicate that LL-37 self-associates in the absence of DNA. These LL-37 complexes increase in size as LL-37 concentration increases, and addition of DNA causes LL-37 complexes to decrease in size. The ITC results indicate that there are two binding sites for LL-37/DNA association with a 20:1 peptide: DNA ratio. These data suggest that LL-37 self-associates at concentrations high enough to bind DNA, and that DNA binds to LL-37 complexes by displacing LL-37 self-contacts.

Biography: Michelle Radford is a chemistry major with minors in physics and mathematics. Michelle is from Ferrum, Virginia. She plans to dedicate the early part of her life to public service. Currently, she is waiting for acceptance into the Peace Corps before pursuing further education.

SHEKIRA A. RAMDASS

Project and Academic Advisor: Daniel A. Metráux
Type of Project: Senior Project

Presentation Category: Delivered paper
Title: The Socio-Economic Impact of HIV/AIDS on Indian Women

Abstract: HIV/AIDS has emerged as a serious public



health issue across the world, affecting the well-being of many men, women, and children. Diffusing across borders as an infectious killer, it has jeopardized domestic and international stability since the 1970s. Highly prevalent in India, which is the third-largest nation with a high

rate of HIV, the virus has had negative social and economic implications for women. Socially, it has caused women to suffer from unethical stigma and discrimination, forcing them to live in isolation and endure brutal violence. Economically, the virus places a financial burden on Indian women due to the high cost of medication and treatment. Furthermore, the spread of HIV/AIDS hinders women's ability to be caregivers and homemakers — vital economic roles that Indian women value and cherish — and places them in a vulnerable position. Unable to attend school or achieve economic stability, many HIV-infected women are forced to enter prostitution, thereby spreading the disease to clients and, worse, to children through mother-to-child transmission. Though actions have been taken to deter the diffusion of HIV/AIDS in India, more aggressive efforts are essential to improve the social and economic well-being of all Indian women. It is vital that international, national, and local agencies collaborate to achieve advanced solutions to prevent further destruction in society.

Biography: Shekira A. Ramdass is a junior with a double major in international relations and Asian studies. She is also pursuing a double minor in peacemaking and conflict resolution and women's studies. Shekira is the current president of the Mary Baldwin club CGIU: Changemakers for Women, which focuses on serving the needs of at-risk women and girls both domestically and internationally. She is also an active member of the President's Society and interns seasonally with the Department of State.



ANNA REILLY

Project Advisor: Sarah Kennedy
Academic Advisor: Kerry Mills

Type of Project: Senior Project
Presentation Category:

Delivered paper
Title: *As I Lay Dying*: The

External Manifestations of Internal Conflicts

Abstract: Modernist literature broke from the "traditional ways of viewing and interacting with the world" and replaced them with a concern for individualism, "inner self and consciousness," and a "growing alienation of the individual" (Rahn). This thesis presents a psychoanalytic analysis, using both Sigmund Freud's and Jacques

Lacan's methodologies, of William Faulkner's novel *As I Lay Dying*. Faulkner uses form and narrative technique to direct his readers' eyes inward to explore the human psyche. This thesis examines the interior monologues of the main characters, Anse, Addie, Vardaman, Dewey Dell, Cash, Jewel, and Darl, based on their subjective thoughts and actions throughout the novel in regards to themselves and the other characters. Fiascoes occur during the journey to bury Addie's body in her hometown of Jefferson because of the internal conflicts that surface from within each character; these struggles between internal consciousness and external experience that potentially control behavior are revealed, in the novel, to characterize the human race. The Bundrens, like all people, do not completely expose their deep, dark inner worlds, and despite the seeming chaos that they experience in themselves, they, like most of us, find a way to cope and be members of society, in spite of it all.

Biography: Anna Reilly is an English major with a minor in elementary education from Chester, Virginia. Anna hopes to teach elementary school in Chesterfield County this fall.



SHELLEY M. RUBIANI

Project Advisor: Paul Ryan
Academic Advisors: Bruce Dorries and Paul Ryan
Type of Project: Senior Project
Presentation Category: Visual or audio-visual creation
Title: My Plastic Psyche

Abstract: As contemporary artist Janine Antoni describes her relationship to materials — "to uncover stories through the material of the object" — I am also interested in the narrative and metaphorical possibilities of the materials I use. The primary materials I am interested in and employ are plastic bags that one typically finds at retail stores. My plastic-bag art pieces emphasize the intimate relationship that women have with these objects and how they signify roles women play in society. Additionally, I am focused on utilizing the bags as paintings, fragments of paintings, and even as individual brushstrokes within larger constructions.

Biography: Shelley M. Rubiani is a communications and studio art major from Ponce, Puerto Rico. After graduation, she plans on moving to Chicago, Illinois, in order to further her academic career and life as an artist.



JESSIE RUBLEE

Project Advisor: Nancy Ross
Academic Advisor: Susie Schmeissing
Type of Project: Senior Project
Presentation Category: Visual or audio-visual creation
Title: Frail and Sound

Abstract: Clay, to me, is the most intriguing and versatile of materials. It is a strong substance, extracted from the very earth beneath our feet, so that the potter is solidly grounded with the natural world when he/she manipulates the material. However, ceramics are also fragile, and working with clay can be a very delicate process. It is this juxtaposition that inspires my work, combined with a relationship to the natural world. I create forms that push the limits of the clay's fragility and contrast them against solid forms to convey a sense of growth and fluidity. In utilizing nontraditional materials such as paper clay and paper clay slip, I have been able to achieve a seemingly impossible level of fragility, yet the forms retain strength. My pieces are further informed by delicate lines and structures found in nature including roots, tree branches, feathers, seed pods, and various species of mushrooms. I strive to convey a sense of growth and fragility while emphasizing line, negative space, and balance

Biography: Jessie Rublee is a studio art major with a ceramics emphasis. Her hometown is Harrisonburg, Virginia. After graduating in December, she plans on continuing to live and produce art in Staunton, with hopes of eventually attending graduate school.



ASTRID SALARDA

Project and Academic Advisor: Joseph Sprangel
Type of Project: Senior Project
Presentation Category: Presentation with multi-media support
Title: Lessons Learned from the Community Foundation

of the Central Blue Ridge: Developing Strategies to Better Respond to Future Economic Downturns

Abstract: A case study of the Community Foundation of the Central Blue Ridge (CFCBR) was conducted in order to gain a real-life understanding of how the 2008 economic recession impacted CFCBR and how the organization responded in terms of its management and operational strategies. The ultimate goal is for community foundations to assist community groups in dealing with increasing social problems in society and to create effective change. The scholarly literature indicates that sustaining the purpose of nonprofit organizations has

in recent years met with diverse challenges; the 2008 economic recession amplified this issue, since funding for nonprofit organizations across the board was significantly reduced. This study further evaluated the effectiveness of CFCBR's response and explored recommendations as to how the organization can be more efficient and effective in coping with future recessions.

Biography: Astrid Salarda is a business major, with a management emphasis and marketing minor, from Houston, Texas. Astrid has dedicated her undergraduate work to pursuing her interest of utilizing the nonprofit business model to improve the social wellbeing of those in need. She intends to continue working in the nonprofit sector after graduating in May.



OLIVIA SAMERDYKE

Project and Academic Advisor: Bruce Dorries
Type of Project: Honors Thesis
Presentation Category: Presentation with multi-media support
Title: State of Frankenstein:

Uses and Gratifications Theory, Horror, and World War II

Abstract: The story of Frankenstein's Monster endures almost as stubbornly as the creature itself. First noted on film in an Edison picture in 1911, it was most recently reincarnated in January 2014 as the action movie, *I, Frankenstein*. With over a hundred years of film representation, it is worth asking, "What keeps bringing audiences back?" Even within a single generation, audiences kept returning to the theatres in the 1930s and 40s, against the backdrop of the Great Depression and World War II. The films never explicitly mentioned current events, such as the war — an episode in history that drastically affected all of Hollywood. Thought of as "frivolous," "distracting," or insufficiently patriotic, the genre typically experienced dismissal by critics, scholars, and the studios themselves, which gave the horror units very little funding. However, each film in the Frankenstein series enjoyed impressive box office success, even during the war, which raises questions about their appeal. This study applies uses and gratifications theory to analyze the content of Frankenstein films from 1931–1945. It addresses the allure of this franchise during a pivotal period in history.

Biography: Olivia Samerdyke is from Big Stone Gap, Virginia. A communication major and film minor, she served as editor in chief of *Campus Comments*. As a child, one of her favorite toys, a Frankenstein's Monster doll named Boris, sparked her future academic interest in the subject. As a writer she hopes

to create her own monster someday. She will continue her communication studies in graduate school.



DALILA SMITH

Project Advisor: Judy Klein
Academic Advisor: Amy Diduch
Type of Project: Senior Project
Presentation Category: Presentation with multi-media support
Title: The Impact of Women's Educational Attainment on the Labor Force

Abstract: The labor force participation rate for women is lower than that of men. Women also work fewer hours than men. Researchers have found that there is an increased rate of return, or wage premium, on the college degree for everyone, but in some cases it is lower for women. Why are women choosing to attend college at higher rates than men if women have a lower labor force participation rate and earn a lower income? What impact does this choice have on the labor force as a whole? Using an age-earnings profile that considers direct and opportunity costs will show that income over one's lifetime is an incentive to attend college. Examining the effects of income changes indicates that the relationship between the hours women choose to work and their level of income is unknown. This information, coupled with the economic theory behind reservation wages, gives insight into the possibility of educational attainment not being the only factor that determines female labor force participation.

Biography: Dalila Smith is an economics major from Baltimore, Maryland. She has dedicated her time and talents to numerous organizations on the Mary Baldwin College campus. After graduation, Dalila plans to find a fulfilling career in her area of study.



MADELINE SORIANO

Project Advisor: Joseph Sprangel
Academic Advisor: Janet Ewing
Type of Project: Senior Project
Presentation Category: Presentation with multi-media support

Title: The Impact of the International Financial Reporting Standards on the Auditing Profession

Abstract: The International Financial Reporting Standards (IFRS) could soon replace the US Generally Accepted Accounting Principles (GAAP) as the guidelines for financial reporting. Critics of the rules-based GAAP say that IFRS could improve the overall quality

of financial statements. The inherent differences of the principles-based IFRS will impact the functioning of current regulations, such as the Sarbanes-Oxley Act of 2002, and their ability to encourage professionals to behave ethically. This research investigated the effect this shift to IFRS will have on the auditing profession, which evaluates and approves of a firm's use of the financial reporting standards.

Biography: Madeline Soriano, from Staunton, Virginia, is majoring in business with an accounting emphasis and minoring in management. She plans to graduate in December 2014, after which she will pursue a career in the auditing field.



REBECCA LYNN STEARN

Project and Academic

Advisor: Joseph Sprangel

Type of Project: Senior Project

Presentation Category:

Presentation with multi-media support

Title: The Effects of a Male-Dominated Industry on Female Executives' Leadership Styles

Abstract: Female executives are slowly rising in numbers in corporate America and so has research on their leadership styles. However, women continue to make up a smaller percentage of executive positions in male-dominated industries. In this study, Rebecca examined whether being in a male-dominated industry affects how female executives lead in the workplace. After reviewing the literature, she created a qualitative survey instrument and interviewed six female executives in male-dominated industries. Analysis of the data revealed that female executives in male-dominated industries had some differing leadership characteristics and gender-specific influences than had been documented in the literature to date.

Biography: Rebecca Stearn, from Hampton, Virginia, is a business major and member of Sigma Beta Delta. She has been involved on campus over her four years, including serving as SGA vice president. Rebecca hopes to return home and work at Newport News Shipbuilding, where she interned for two summers.

SOPHIA STONE

Project Advisor: Paul Deeble

Academic Advisor: Louise Freeman

Type of Project: Senior Project

Presentation Category: Poster

Title: Characterization of Antimicrobial Peptide LL-37 in Prostate Cancer as a Potential Vehicle for Cancer-Targeted DNA Delivery

Abstract: Human cathelicidin hCAP-18 is an antimicrobial



protein that is proteolytically processed to its active form, LL-37, an alpha-helical immune defense peptide. Overexpression of hCAP-18 overexpression is associated with disease progression in multiple epithelial cancers, and proliferative and pro-metastatic effects of LL-37 on cancer cells contribute

to a more aggressive tumor phenotype. In this study, we detect hCAP-18 mRNA expression by RT-PCR in LNCaP (androgen-sensitive) and PC3 (androgen-insensitive) prostate cancer cell lines and observe higher expression in PC3 cells using western blotting. Internalization of LL-37 was investigated using immunofluorescence and western blot analyses which reveal localization of LL-37 in endocytic vesicles and perinuclear or nuclear regions of cells. We also report binding between LL-37 and triplex-forming oligonucleotides (TFOs), which may suggest the use of LL-37 as a potential strategy to increase the efficacy and target specificity of anti-gene TFO therapy. However, the tumor-promoting effects of LL-37 must be carefully examined prior to consideration of its proposed use in cancer treatment if it is to provide any chemotherapeutic value.

Biography: Sophia Stone is a senior from Pacific Palisades, California, with majors in biology, psychology, and chemistry. In the next year, she has plans to complete a senior project in chemistry while applying for graduate programs in molecular and cellular neurobiology.



KAWANDA TEMPLE

Project Advisor: Daniel Stulhsatz

Academic Advisor: Douglas Davis

Type of Project: Senior Project

Presentation Category:

Delivered paper

Title: Adult Time for the Adult Crime?:

The Issue of Transferring Juveniles to the Adult Criminal Justice System

Abstract: This project analyzes how transferring juveniles to the adult criminal justice system impacts the recidivism rate. It also investigates the definition of "juvenile," differences between the juvenile and adult criminal justice systems, and laws associated with the issue. The study begins with the history of the juvenile justice system and leads to the issue that we are faced with today, which is transferring juveniles to the adult criminal justice system. It presents both sides of the issue as to why juveniles should or shouldn't be transferred to the adult criminal justice system and incorporates criminological and sociological theory.

Biography: KaWanda Temple is a criminal justice major with a sociology minor from King William, Virginia. She is the daughter of Mattew and Monica Temple. She has two sisters, KaDedra and KaShea Temple. She has a significant other, Chantz Claggette. After graduation, she will be a police officer for the city of Staunton.



IVANA WADE

Project and Academic

Advisor: Laura van Assendelft

Type of Project: Senior Project

Presentation Category:

Presentation with multi-media support

Title: Social Media

Power: Are Social Media Networks Effective Tools for Social Movement Groups?

Abstract: Social media networks, including Facebook and Twitter, have made it possible for people all over the world to communicate with each other. In less than ten minutes, a Facebook or Twitter page can be created, granting access and connection to any other person in the world. Both Facebook and Twitter inspired, informed, and served as platforms for communication during the Egyptian Revolution in the Arab Spring. On January 25, 2011, 250,000 people gathered in Tahrir Square demanding transparent government and judiciary systems and improved economy. The demonstrations lasted 18 days and resulted in the citizens of Egypt ousting President Hosni Mubarak, their leader of 30 years. By examining various theories regarding social movement group formation, democratization, and communication, this project illustrates the direct role Facebook and Twitter played in organizing of the demonstrations and investigates the future potential role for social media in the liberalization of citizens under authoritarian regimes.

Biography: Ivana Wade is a political science major with two minors, in philosophy and peacemaking and conflict resolution. She is from Chesapeake, Virginia.



KARI WATSON

Project Advisor: Theresa Rollison

Academic Advisor: Jim Sconyers

Type of Project: Senior Project

Presentation

Category: Presentation

with multi-media support

Title: Caree On

Abstract: "Caree On," transforming trash to beauty, is a product line that has been created and branded from the bottom up. The products are handmade purses that

have been crocheted from plastic grocery bags. The goal of the project is to raise awareness about the damage that single-use plastics have done to our environment and society. Caree On also hopes to encourage people to do smarter things with their unwanted material, instead of throwing it in the trash, by offering to show people how they can transform their trash into something beautiful.

Biography: Kari Watson is a senior studio art major with an emphasis in graphic design. She is from Staunton, Virginia, and enjoys hiking, swimming, photography, and painting in her free time. Kari will start working full time as a marketing manager and graphic designer at Sigora Solar in Waynesboro, Virginia in May of 2014.



BRITTANY WEEKS

Project and Academic

Advisor: Steven Mosher

Type of Project: Senior Project

Presentation Category:

Presentation with multi-media support

Title: Patient-Centered

Medical Homes: The Impact of Coordinated

Care on the Diabetic Medicare Population

Abstract: The concept of patient-centered medical homes (PCMHs) is becoming popular in primary care practices all over the United States. With the goal of providing coordinated care that is less redundant, physicians who operate PCMHs hope to improve the health outcomes of patients, while also helping to alleviate the financial burden that overutilization of medical services places on the entire health care system. In particular, people with chronic conditions, such as diabetes, tend to use the health care system more than any other group of people. In addition, previous literature has illustrated the need for more coordinated care, especially for patients with chronic conditions and who are part of a government insurance plan, such as Medicare. This project analyzes whether or not there are differences in the way that health care services are designed and carried out for the diabetic Medicare population in a PCMH, concluding that both PCMHs and traditional medical practices are lacking in a number of different ways in providing coordinated care to their diabetic Medicare patients.

Biography: Brittany Weeks is a double major in health care administration and business, with an emphasis in human resources, from Raphine, Virginia. With a strong passion for health care, Brittany hopes to find a job in the health insurance industry after graduation.

MAY TERM ABROAD CAPSTONE NOMINEE

The following student was nominated for the Capstone Festival but is unable to participate because she is on a study abroad program during May Term. We include her information here in recognition of her achievement and commitment to international awareness.

KRISTIN ZIMMER

Project and Academic Advisor: Brenci Patiño

Type of Project: Senior Project

Presentation Category: May Term Abroad

Title: El Escape de la Opresión Doméstica

Abstract: The oppression felt by women in their domestic environments is a common theme in the works of female Latin American writers. The oppression emerges due to the expectations placed on women by their families, society, and themselves. In this project, the theme of oppression was explored by observing female protagonists in works of fiction by renowned women writers of Latin America, including *El Eterno Feminino*, by Rosario Castellanos, the short story "Cuando Todo Brille," by Liliana Heker, and the novel *Como Agua para Chocolate*, by Laura Esquivel. Through means of confronting, coping, and escaping from their domestic oppression, female protagonists in these works find their own personal peace and identity.

Biography: Kristin Zimmer grew up in Adamstown, close to Frederick, Maryland. Kristin will continue her education at Mary Baldwin during the summer and fall, intending to graduate with a masters of arts in teaching by December 2014. She aspires to be an elementary school English as a second language (ESL) teacher.



PHOTO BY IAN BRADSHAW

Congratulations to all students participating in the 2014 CAPSTONE FESTIVAL

Nomination to the Capstone Festival is in itself a high honor. To recognize extraordinary achievement, top honors will also be given in each presentation category (delivered papers; presentations with multi-media support; posters; and visual/audio-visual creations). Panels of three judges will evaluate the creativity, challenge, and execution of the projects as well as the ability of the presenters to communicate the content and significance of their work to a general audience. Top honors awards are accompanied by a cash prize of \$150.

