

Welcome to the Fourteenth Annual MCLA Undergraduate Research Conference
Thursday, April 21 2016

Schedule of Events

8:45 am-9:45 am

Conference Registration*
(Bowman Lobby)

9:00 am – 9:15 am

Welcome Remarks, President James Birge

9:30 am – 10:50 am

Special Session I-A: Field Study in Marine Biology (Bowman 218)

Paper Presentations I-B (Bowman 201)

Paper Presentations I-C (Bowman 203)

Paper Presentations I-D (Bowman 205)

Special Session I-E: Stranger than English: Language and Literacy in the 21st Century
(Bowman 220)

11:00 am – 12:20 pm

Poster Session (Venable Gym)

11:00 am – 4:00 pm

Special Exhibit: Mental Health in a Box (Murdock 208)

12:30 pm – 1:30 pm

Welcome Remarks, President James Birge

Keynote Address and Luncheon (Campus Center Gym)

Presented by Chloe McGrath

1:30 pm – 2:00 pm

Meet the Keynote Speaker (Sullivan Lounge) FOR STUDENTS ONLY

2:00 pm - 3:20 pm

Special Session II-A: Creative Writing Reading (Murdock 218)

Paper Presentations II-B (Murdock 201)

Paper Presentations II-C (Murdock 301)

Paper Presentations II-D (Murdock 322)

3:30 pm – 4:50 pm

Special Session III-A: Artist Talks (Bowman 202)

Special Session III-B: Japan: A Juxtaposition of Tradition and Modernity (Murdock 201)

Paper Presentations III-C: (Murdock 213)

Special Session III-D: Philosophy Mini-Conference (Murdock 218)

*Registration / information table moves to Venable Gym 10:00-11:30, and then to Murdock 2nd floor corridor from 12 till 3:30

*Special Session I-A: Field Studies in Marine Biology:
Bowman 218, 9:30 am-10:50 am
Faculty Sponsor: Anne Goodwin*

Paper IA-1

Title: Differences between St. John bay locations focusing on flamingo tongue population and fungal infection of sea fans

Authors: Dominique Hyndman and Erinn Rayno

Abstract: *Gorgonia ventalina* (common sea fan) is a colonial soft coral that is found in the western Atlantic Ocean and the Caribbean Sea and has recently been seen to be infected by *Aspergillus sydowii*, a pathogenic fungus. *Cyphoma gibbosum* also known as the flamingo tongue snail, is a key predator of sea fans. Our experiment located in St. John is to observe and compare three bays (Little Lameshur, Great Lameshur and Haulover Bay) with regards to the number of sea fans affected by this fungus and by flamingo tongue snails.

Paper IA-2

Title: Effects of habitat complexity and depth on biodiversity along rocky outcroppings

Authors: Kennedy Valois and Chad Raimer

Abstract: As marine biodiversity loss increases, conservationists need to find new ways to preserve species by prioritizing habitats based on certain characteristics. In the Lameshur Bays, St. John, we conducted a study to determine the effects of habitat complexity and water depth on biodiversity along rocky outcroppings. Twelve meter transects were placed along rocky outcroppings with known depth, then organisms along the transects were identified and habitat complexity was assessed. The implications of this study show the need for marine management strategies to focus on creating and conserving more complex habitats in order to preserve the greatest amount of marine species.

Paper IA-3

Title: Variations in fire coral number at different bays and depths at St. John, USVI

Authors: Jordan Vanuni and Indy Rae Jones

Abstract: Fire corals help diversify reef ecosystems and provide habitats for many species. Fire coral numbers are influenced by environmental conditions, which could include depth and location. The goal of our project in St. John was to compare the number of fire corals in shallow versus deep water, and between two different bays. We gathered our data by laying down a 15 meter transect line and counting the number of fire corals. We expected to see higher numbers in

Great Lameshur Bay, which had rockier substrate, and at deeper depths to avoid coral competition.

Paper IA-4

Title: Comparison of Barrel Sponge and Rope Sponge Populations between Great Lameshur and Little Lameshur bays at St. John U.S. Virgin Island

Authors: Evan Patev and Jonathan Saloio

Abstract: Human activity can drastically disturb an ecosystem, including foot traffic or pollution in a marine ecosystem. Such activity may have an impact on marine organisms, including barrel sponges and rope sponges, resulting in a lower population. Data was gathered from Little Lameshur Bay, having a higher amount of tourists and swimmers, and Great Lameshur Bay, a neighboring area that is relatively undisturbed. Populations of barrel sponges and rope sponges were recorded along transect lines placed on the bottom of rocky substrate habitats for both bays. The populations between the two bays were then compared to see possible differences.

Paper IA-5

Title: The effects of depth and substrate on the number of long-spined black sea urchins

Authors: Tazia Johnson and Amanda LeBarron

Abstract: Our study focused on long-spined black sea urchins (*Diadema antillarum*). We observed the effect of depth and substrate type on the number of urchins in the waters of Little Lameshur Bay, St. John, USVI. Data was gathered using a quadrat and the depth was measured in meters. We observed a negative correlation between depth and number of sea urchins, and that the sea urchins were mostly found on hard substrates.

Paper IA-6

Title: Investigation into Disease Prevalence in Brain Corals between Little Lameshur and Great Lameshur Bays (St. John, USVI)

Authors: Sabrina Superneau-Gilman and Levon Hilling

Abstract: The health of coral reefs around the world is decreasing. More research into this topic is necessary for a better understanding of the possible causes behind this decline. We investigated disease prevalence in brain corals located in St. John, USVI, at different depths ranging from 0-6 meters and at a less populated/deeper Bay (Great Lameshur) compared to a more populated/shallower bay (Little Lameshur). We observed more diseased than healthy brain corals in both bays. There was greater prevalence of disease in Little Lameshur and, to a lesser extent, at shallower depths; demonstrating a potential influence of location and human impact.

Paper Presentations I-B

Bowman 201, 9:30 am-10:50 am

Paper IB-1

Title: Bungalows and Bustles: British Women in the Raj

Author: Rose C. Fitzmaurice

Faculty Advisor: Anthony Daly

Abstract: After the Sepoy Rebellion in 1857, the British Crown assumed control of India, replacing the East India Company (EIC). British India or the Raj would become the home of soldiers, administrators, gentry -- and their wives-- directly working for queen and country, not a third party (EIC). These women attempted to replicate the revered traditions and decorum to Raj. If a woman failed and represented her husband poorly she had the potential to undermine her husbands' imperial endeavors. I will argue that complications due to climate, disease, and separation led the British to modify their efforts, creating a blend of British and Indian traditions and aesthetics.

Paper IB-2

Title: D&D and Defenses

Author: Dan Greig

Faculty Advisor: Ben Wood

Abstract: Within the field of psychoanalysis, Freud, as well as many others, explored the nature of psychological self-defense. These techniques of self-defense provide individuals with methods with which they may preserve their ego, self-image, etc. Defenses may be negative or positive, meaning they may lead to psychotic or neurotic behaviors or they may grant better moral and ethical development as well as creativity. Games such as Dungeons & Dragons create a forum with which individuals may develop these defenses in a constructive environment. In conclusion, playing role-playing games is a moral and ethical practice which produces better citizens and individuals.

Paper IB-3

Title: Applied Electrical Circuit Analysis with Graph Theory

Author: Josh Colon

Faculty Advisor: Elizabeth Hartung

Abstract: This talk applies graph theory to electrical circuit analysis. Graph theory concepts

such as trees and co-trees, edge weights, and cut vertices can be used in conjunction with Kirchhoff's voltage and current laws to build a graphical representation of a complex RLC circuit. Based on this, we explain a simple way to set up the differential equations for the circuit. The final goal is to see if an algorithm can be applied for the most complex or a theoretical infinite electrical circuit for analysis.

Paper IB-4

Title: Celebrating the Audacious Soul: How Mordecai Gerstein's Narratives and Illustrations Honor the Spirit of the Adventurer

Author: Elsa Rose Mastico

Faculty Sponsor: Dale Borman Fink

Abstract: From an early age, children's minds are stimulated and molded by the world around them and the literature to which they are exposed. By taking a deep look at four of his children's picture books, this presentation will examine how award winning author and illustrator Mordecai Gerstein uses simple text and a bold medium to inspire his readers to be adventurous. My research shows how Gerstein accomplishes this through his work and how prevalent themes in his texts assist the overall aspect of honoring the adventurer and inspiring others.

Paper IB-5

Title: MCLA Participation at MASS MoCA

Author: Kathleen Sansone

Faculty Sponsor: Lisa Donovan

Abstract: This research is a look at the relationship that occurs between a collegiate institution and its local arts organization, specifically Massachusetts College of Liberal Arts and Massachusetts Museum of Contemporary Art in North Adams, Massachusetts. Arts organizations are challenged in attracting a millennial audience, and face potential losses of revenue in the future due to lack of attendance from this group. Through interviews, a survey, and review of literature on college arts participation, one can find in this research effective tactics and ideas to gain a millennial, collegiate audience.

Paper Presentations I-C
Bowman 203, 9:30 am-10:50 am

Paper IC-1

Title: Modern Cases of Civil Disobedience Compared to Thoreau

Author: Torin Gannon

Faculty Advisor: David Langston

Abstract: The goal of this paper is to compare and contrast Henry David Thoreau's essay Civil Disobedience to real-life instances of civil disobedience. A thorough analysis of Thoreau's essay will be conducted in order to establish a set of criteria that will serve as a checklist for what constitutes an act of civil disobedience, according to Thoreau's vision. Several historically significant examples of acts of civil disobedience will be discussed and compared to the criteria checklist. Through research into Thoreau's broader ideas, this paper will attempt to draw conclusions about how Thoreau may have viewed these changes to his initial model.

Paper IC-2

Title: Fighting a World War

Author: Rodger Coryell

Faculty Advisor: Anthony Daly

Abstract: As Europe continues to commemorate the 100th anniversary of World War I, its focus remains on the fighting that took place in Europe. Fighting, however, also took place across the globe in European colonies. This presentation examines the fighting that took place across Africa that helped make this conflict a world war. Topics that will be covered include who fought, where the fighting took place, how the European adversaries fought each other in their colonies, and what the outcome of the war in Africa was, thousands of miles away from the home front.

Paper IC-3

Title: The Singing Revolution: The Road to Freedom

Author: Jennifer Wilson

Faculty Advisor: Sumi Colligan

Abstract: 1989 saw the end of a decade, but it also saw the dissolution of the Soviet Union and marked the imminent fall of specific Communist regimes. This research explores the Singing Revolution, the collective efforts of the Baltic states of Lithuania, Latvia, and Estonia to gain independence from the Soviets. Various cultural and political factors were at play that led to the

road towards independence. By examining the independence movement's internal factions, we can more clearly see what kind of society was desired by movement's participants and how a significant number of goals were achieved through their efforts.

Paper IC-4

Title: Oral Nicotine Self-Administration Using a Progressive-Duration Schedule

Author: Haily Kelliher

Faculty Advisor: Tom Byrne

Abstract: In order to increase knowledge of nicotine abuse in humans, researchers have used animal self-administration procedures to examine the self-administration of nicotine by rats (e.g. Abreu-Villaça et al., 2006). The present study will determine if the progressive-duration schedule of reinforcement can be used to successfully acquire oral nicotine self-administration in Long-Evans rats, when the aqueous nicotine solution is supplemented with sweetened-condensed milk. The present study will also determine if rats will respond more robustly to a nicotine solution supplemented with sweetened-condensed milk than to a nicotine solution that has not been supplemented with any sweetener.

Paper Presentations I-D
Bowman 205, 9:30 am-10:50 am

Paper ID-1

Title: ePortfolio: “What’s All the Hype About?”

Author: Benjamin Finley

Faculty Advisor: Gerol Petruzella

Abstract: ePortfolio. We’ve all heard about it, but what’s all the hype with it. Why do I need one? Is there even a point? All your questions will be answered! This presentation examines the advantages, disadvantages and possible implementation of ePortfolio. This presentation not only focuses on Digication ePortfolio, but also ePortfolios in general. This presentation includes studies from several independent research institutions; along with information included from well-known publications, online blogs, and studies conducted by Notre Dame University, Boston University, and the Association of American Colleges & Universities. Interviews from students and faculty from MCLA will be included.

Paper ID-2

Title: American Independents

Author: Michael McAndrew

Faculty Advisor: Ben Taylor

Abstract: In American presidential elections, it is extremely important for candidates to get the votes of independents to win the presidency. What drives independent voters to choose either the Democratic or Republican party? To find this out it is important to note what is on the public’s mind. In this paper, it is my goal to look at the relationship between what the focuses of that election year to see if they are linked to the party choice independents make.

Paper ID-3

Title: Their Own Agenda: European Missionaries in India and Native Agency

Author: Wilhelmina Beeler

Faculty Advisor: Anthony Daly

Abstract: Missionaries in India during the nineteenth and early twentieth centuries came from many different countries, such as Britain, Germany, and Portugal. They also had varying affiliations with the different Christian denominations. Despite these divisions, they shared a common goal: to civilize, educate, and convert the indigenous people of India. They achieved these ends by many means, from infant schools to trickery. However, the people of India were

not passive players in these plans. They too had their own agenda and were key factors in the success or failure of the mission.

Paper ID-4

Title: Resiliency and Locus of Control as a Function of Student Engagement

Author: Rachel Mills

Faculty Advisor: Deborah Foss

Abstract: Although it is commonly believed that student athletes are different from non-athletes in college athletics, little research exists to support this. The purpose of this study was to examine factors contributing to college success (resiliency and locus of control) for three groups (students involved in athletics, a dance club or involved in neither). MCLA students volunteered to complete surveys assessing level of resilience, locus of control, and anxiety along with academic performance. Results will examine interrelationships between resilience and locus of control between the three groups. This research would be relevant to learning more about predicting student success at MCLA.

Paper ID-5

Title: The Impact of Social Media Marketing

Author: Nicholas Hernigle

Faculty Sponsor: Nancy Ovitsky

Abstract: Social media has now become a large part of marketing plans for companies. The rise of social media has made it easier for companies to reach selected consumers, or has it? Different companies have varied results, some successful and some not. Through a survey distributed to the students we will see if social media marketing is working the way it was designed to work by the companies.

*Special Session II-E: Stranger than English, Language and Literacy in the 21st
Century*

Bowman 220, 9:30 am-10:50 am

Faculty Sponsor: Amber Engelson

Paper IE-1

Title: Fanfiction: Changing the Way Readers Read

Author: Brigid Downey

Abstract: Fanfiction is gaining mainstream popularity fast due to the use of the internet. More and more young people daily are getting into the world that fanfiction has to offer. Scholars like Jenkins have argued that students have a right to write in their own way of talking and expressing themselves in the classroom. In this paper, I draw from interviews I have conducted with members of prominent fanfiction communities to argue that integrating more creative writing, specifically fanfiction, into a classroom setting would be beneficial to students and their connection to what they are learning in an engaging way.

Paper IE-2

Title: Tumblr and the Changing Standard English

Author: Lauren Levite

Abstract: Scholars such as Rogozinska and Howard have argued social media platforms and other areas of the Internet are rapidly changing the way English is used in public settings, schools and professional environments, one meeting this change from Standard English with both outrage and acceptance. Despite their research, studies have been few and far between on individual media, such as the blogging site Tumblr, focusing more on the whole of new media. In my presentation, I will explore through online primary research how Tumblr might help students acquire academic literacy.

Paper IE-3

Title: Stranger Than Fiction: Examining Fanfiction as Cultural Literature

Author: Jillian Meyerson

Abstract: Literature is forever evolving. In today's convergence culture, the internet has produced new forms of authorship, such as fanfiction. Academic scholars such as Henry Jenkins and Cornel Sandvoss have explored how fanfiction works as a reaction to the original text or

“mother source;” yet none have thought to view fanfiction beyond its connection to the text, working as literature itself. Through internet based primary research, my presentation will explore how contemporary amateur writers create their own texts within previously created spheres in order to engage and critique the literary world around them.

Special Exhibit: Mental Health in a Box
Murdock 208, 11 am-4 pm
Faculty Sponsor: Ingrid Castro

More often than not, mental illness is viewed as something to be covered up, kept close to one's person, kept in the family. For example, we do not allow others to know that we are on disability for mental health reasons; instead, we protect this information because we believe it will be used to perform discrimination (and it just may well be). Thirteen students enrolled in the Sociology course Representations of Mental Health are exhibiting diorama-like projects constructed within 10X10 boxes, representing how mental illness/health is hidden from society as a whole.

Students each chose a distinct disorder to depict from the DSM for this exhibit.

Kelsey Alfonso, Christiana Ampofo, Kelsey Calicchia, Alexis Clay, Joelle Dumont, Dahlia Gallagher, Cassandra LaChance, Rachel McLoughlin, Kami Norcross, Jenna O'Connor
Christine Osimo, Kylie Ritoch, Alyssa St. Franc.

Poster Session
Venable Gym, 11 am-12:20 pm

Poster 1

Title: Hybrid PV/TEG System

Author: Dylan Straczek

Faculty Advisor: Adrienne Wooters

Abstract: I have tested the efficiency of a hybrid PV TEG system. In theory, by combining the two systems for harnessing energy, a greater efficiency output can be obtained from the solar panel than with the solar panel alone. This is because the TEG cools the panel causing it to have less electrical resistance, which translates to more energy. A cost to benefit analysis of the PV/TEG system is presented.

Poster 2

Title: Keeping the Elderly Engaged Program (K.E.E.P.)

Authors: Rachel Mills and Rebecca Godblout

Faculty Advisor: Amanda Beckwith

Abstract: The Steve Green Community Engagement Scholarship is designed to create or enhance a volunteer program at MCLA. This year, the scholarship was focused on a program named K.E.E.P. (Keeping the elderly engaged program), which involves college students volunteering to form relationships with the elderly of Berkshire County through arranged events. In order to initiate growth between collegiate students and elderly individuals, new relationships and structure have been added to the program. This presentation will share the new elements and relationships that were formed to create and strengthen K.E.E.P. as a Center for Service volunteer program.

Poster 3

Title: Using Graph Theory to Analyze Social Networks

Authors: Rebecca Godbout and Kayla Lavoice

Faculty Advisor: Elizabeth Hartung

Abstract: Social networking has made a strong impact on today's society and has become vital for many fields, including economics and law enforcement. A social network can be modeled by a graph and explores the different connections between individuals. Using graph theory to analyze these social networking webs, we investigated aspects of our own social networks through Facebook to support hypotheses such as the Small World Phenomenon to show how everyone is connected through a short chain of people. Through this analysis we can also gain information about different kinds of relationships, disease transmission, fashion, crime, intelligence, and much more.

Poster 4

Title: Investigating the Relationship between Mindfulness and Relative Functioning/Altruistic Tendencies

Authors: Rebecca Godbout, Jessica Sawicki and Ian Larson

Faculty Advisor: Maria Bartini

Abstract: Research on the psychological benefits of “mindfulness”, a trait associated with openness and non-judgmental awareness, has yielded much information regarding its potential for improved cognitive and emotional well-being. The present study intends to expand the current literature, by investigating the relationship between mindfulness, academic self-efficacy, altruistic tendencies, emotional regulation, and stress. Participants will include 100 undergraduates from the Massachusetts College of Liberal Arts who will complete a 15 minute survey. Through our investigation, we anticipate our results to be consistent with past research in respect to mindfulness as a predictor of one's ability to self-regulate their cognitive and emotional well-being.

Poster 5

Title: Flashlamp-Pumped Dye Laser

Author: Cody Gawle

Faculty Advisor: Adrienne Wootters

Abstract: I have constructed a working flashlamp-pumped dye laser. The word laser stands for “light amplification of stimulated emission of radiation,” which is observed when a population inversion created in an organic dye. In this poster I explain the theory of how a laser works and the requirements of its construction.

Poster 6

Title: Effects of persistent organic pollutants (PCBs and PBDEs) on marine mammals

Author: Heather Nielsen

Faculty Advisor: Anne Goodwin

Abstract: Persistent organic pollutants are a concern for many wild populations of marine mammals. Polychlorinated biphenyls (PCBs) and polybrominated diphenyl ethers (PBDEs) are among the most common organic pollutants in wild marine mammals, and high levels of PCBs and PBDEs have shown a positive correlation with decreased population size for marine mammals such as dolphins and whales. Impaired reproductive health is a side effect associated with high concentrations of PCBs and PBDE. Female marine mammals in particular are showing higher levels of bioaccumulation than in previous time periods. This could be a contributing factor in population declines for marine mammals.

Poster 7

Title: Growing a Healthy Garden

Authors: Moira Mathieu, Angelica Gahn, Chelsey Simmons and Meghan Cook

Faculty Advisor: Elena Traister

Abstract: The Growing Healthy Garden Program works to grow vegetables with the help of community members in order to provide a food source for those who may struggle with food insecurity. Our project aims to establish seedlings for the program which will later be used in various community gardens in which people can learn how to grow their own vegetables at home. This also allows people to learn what healthy and fresh foods look and taste like. We are planting seeds and growing them in the Venable greenhouse. We are each taking shifts watering the seeds as they grow into seedlings.

Poster 8

Title: Thermoregulation of Cyclic-di-GMP in Pathogenic *E.coli*

Author: Jacob Kress

Faculty Advisor: Carolyn Dehner

Abstract: *Escherichia coli* is a very common bacterium; while most strains are harmless, a few have harmful effects on humans and other organisms. Like all living cells, *E.coli* uses a complex series of chemical reactions to signal a particular response to its environment. Using temperature as an environmental “cue,” we found that genes involved in motility and biofilm formation were significantly affected. It is believed that a change in the level of the chemical messenger cyclic-di-GMP is largely responsible for this response. Our goal is to use high-pressure liquid chromatography (HPLC), to quantify levels of cyclic-di-GMP at various temperatures. This work has implications for the development of antimicrobials, as well as a more nuanced understanding of the host-pathogen relationship.

Poster 9

Title: France and the Congo Crisis

Author: Tyler Spencer

Faculty Advisor: Ben Taylor

Abstract: At the North American Model United Nations, I represented the state of France in the United Nations Security Council. I was thrown into a historical committee, where the council had to resolve the 1960’s Congo Crisis. In the year 1960, the Congo gained independence, the region of Katanga attempted to secede, and the country was thrown into a civil war. France’s goal was to limit the number of peacekeepers that would be sent to the Congo and to promote a one state solution to the crisis. This poster will demonstrate the history, strategy, and diplomacy of France in this crisis.

Poster 10

Title: Thermoregulation of Genes in Uropathogenic *E. coli*

Author: Grace Ngobo Toko Mbonda

Faculty Advisor: Carolyn Dehner

Abstract: Humans' relationship with bacteria is complex. Sometimes they can be helpful and other times they can cause diseases such as pneumonia and strep throat. Bacteria have the ability to keenly sense a multitude of environmental stimuli, such as temperature, pH, etc. Urinary tract infection (UTI) is the most frequently diagnosed kidney and urologic disease and *Escherichia coli* is by far its most common etiologic agent. In order for the pathogenic strains to infect the host, they require a number of virulence genes such as *papA*, *ompT*, *dsrA*, *rprA* and *arcZ*. The purpose of this experiment is to examine the thermoregulation of gene expression as they shift from room temperature (23°C) to human body temperature (37°C) via qRT-PCR. The results show that *papA* and *ompT* genes were expressed more at 37°C whilst *dsrA*, *rprA* and *arcZ* genes were expressed more at 23°C. This work has implications for developing antimicrobials, as well as understanding the host-pathogen relationship

Poster 11

Title: MCLA Forest Mapping and Signage Project

Authors: Adam Galambos and John Burr

Faculty Advisor: Elena Traister

Abstract: The 86 acre MCLA forest is a multi-use outdoor learning and recreational property which is used by the student body, staff and the general public. By mapping the trails, features and property boundaries as well as installing signage facing the parking area, we seek to educate and promote the forest as a sustainable, renewable source for student engagement and learning. Through these efforts, we aim to address unwanted activities such as hunting and dumping while boosting the many outdoor educational opportunities the forest has to offer.

Poster 12

Title: MCLA Arboretum

Authors: Liam Fitzgerald, Evan Hess and Vasilis Kostantinidis

Faculty Advisor: Elena Traister

Abstract: We plan to measure, tag, and record trees around campus with informative fields including ID number species, trunk diameter, canopy diameter, taxonomic family, male/female, native/nonnative, etc. Locations will be mapped using GPS and ArcGIS mapping software to make an interactive map displaying information for each tree on campus. The map will include specific symbols regarding various tree types and information in order to make it graphically appealing. We plan to order/make/print the tags we use to mark each tree and will provide appropriate information on a website made by us regarding each specimen.

Poster 13

Title: NAMUN 2005 World Summit

Author: John J. Kelly

Faculty Advisor: Ben Taylor

Abstract: This abstract is for a poster presentation. The poster will set focus on the NAMUN 2005 World Summit simulation, where I had the honor to act as a delegate of Ukraine. The outcomes of the simulation will be compared with the outcomes of the original World Summit. The topics discussed will be on development, human rights, security, and reformation of the United Nations. The poster will also include a brief overview of Ukraine.

Poster 14

Title: Measuring Vibrational Constant of Diatomic Gas

Author: Al McKinney

Faculty Advisor: Adrienne Wootters

Abstract: In spectroscopy, we use the spectrum of light that a substance (in this case, molecular gas) emits when we put an electric potential across it to learn about its structure. My project uses the light spectra of N₂ and O₂ to discern the fundamental vibrational constant. This is achieved by examining the data of each spectrum, identifying and then comparing the transition peaks to known transitions of the molecule.

Poster 15

Title: Children of Stuxnet-Israel

Author: Amber Coombe

Faculty Advisor: Ben Taylor

Abstract: This abstract is for a Poster Submission. For 96 hours at the North American Model United Nations, I had the honor of representing Defense Minister Moshe Ya'alon as a member of the Israeli Intelligence Community Taskforce in a triple joint crisis committee. Our objective was to infiltrate Iran, expose their nuclear program and destroy it while maintaining plausible deniability. Using advanced cyber technology and creative strategizing, our team was able to successfully take down Iran, weaken the United States, and display Israel's superior cyber intelligence capabilities. Essential to our victory was teamwork, in-depth understanding of the Middle East, and our tactical approach to the new age of cyberwarfare.

Poster 16

Title: Bioremediation of Light Sweet Raw Crude Oil Using the Fungi *Pleurotus ostreatus*

Author: Anthony Young

Faculty Advisor: Carolyn Dehner

Abstract: Bioremediation is the use of biological organisms and their functions to clean up environmental pollution. This experiment was designed to test whether or not the white rot fungi *Pleurotus ostreatus* can be used in the remediation of raw petroleum contamination. Several

samples of clean straw were contaminated with raw crude petroleum and inoculated with fungi, along with no-oil and no-fungi controls. Using liquid extraction and evaporation methods, the mass of oil left in each sample was compared to that of the controls. The average percent of petroleum added that was consumed by the fungi was 89.1%. This shows that this species of fungi can be a powerful tool in the fight to restore ecosystems affected by petroleum spills and safeguard the habitability of our planet against the effects of such pollution.

Poster 17

Title: Pruning Apple Trees to Improve Fruit Yield with Massachusetts Fish and Wildlife

Authors: Amanda Doucette, Emily Hardy and Billy Fitzgerald

Faculty Advisor: Elena Traister

Abstract: We worked with the Massachusetts Division of Fisheries and Wildlife to prune apple trees on state protected lands. Included in the thousands of acres of state land are apple orchards, many of which have not been managed for more than 20 years. The goal of pruning is to help the trees to produce larger and more nutritious fruits for wildlife in the future.

Poster 18

Title: Rain garden proposal

Authors: Jordan Vanuni, Michael Friedman, Sarah Williams and Danielle Paquette

Faculty Advisor: Elena Traister

Abstract: The goal of this project is to propose a rain garden on the MCLA Campus in front of the Feigenbaum Center for Science and Innovation. In planning, we will analyze the roof plan of the building as well as the soil texture, make proper measurements and calculations, and determine an accurate and effective size for the rain garden. The rain garden will divert rainwater away from the sewer system, putting it back into the ground water. It will also enhance the habitat on the MCLA campus with the use of 100% native plants to promote natural bird and insect species.

Poster 19

Title: Malkus Lorenz Water Wheel

Author: Benjamin Guinness

Faculty Advisor: Adrienne Wootters

Abstract: The Malkus Lorenz Water Wheel was developed by Malkus, Howard, and Krishnamurti as a demonstration of a solution of Lorenz equations, a set of ordinary differential equations which have a chaotic solution. As a chaotic system, a small change in the initial conditions causes results to diverge drastically from what might be intuited; this can create the illusion of randomness, when the system is actually deterministic. For this project, I have created a Malkus Lorenz Water Wheel with the intent to attempt a prediction of its motion with a solution of the Lorenz equations.

Poster 20**Title:** Canoe Meadows Cover-board Array**Authors:** Sarah Guidetti and Payton Hines**Faculty Advisor:** Elena Traister

Abstract: In partnership with Mass Audubon we are setting up a cover-board array in Canoe Meadows. Data will only be collected after the first thaw through the first frost, and should be collected starting one year after the cover-boards are laid down. Long-term data on red-backed salamander populations will be used to understand how populations are changing over time. If this cover-board array is successful it will be used for many years to come by Mass Audubon.

Poster 21**Title:** Writing for Whom?**Author:** Tayler Wiese**Faculty Advisor:** Amber Engelson

Abstract: I will be using a poster to illustrate findings from my research project. My project focused on researching the necessities and particularities of writing to specific audiences, with special focus on the realm of journalistic writing. This project analyzes journalism writers for the MCLA Beacon writing for the Arts and Entertainment section, Sports Section, General News, and Features and discovers the different ways that these writers have to write to audience. All areas of journalism have a specific audience and each of those journalistic writers work in slightly different ways and pay attention to audience differently.

Poster 22**Title:** Sixth Committee- Representing India in the Model UN**Author:** Charles Marquis**Faculty Advisor:** Ben Taylor

Abstract: I plan to present a poster on The Sixth Committee General Assembly at NAMUN 2016. We had recreated the Convention on the Prevention and Punishment of the Crime of Genocide. The committee first defined genocide. India fought for inclusion of cultural and political groups. Second, we discussed prevention. India advocated individual state legislation for prevention at the request of the UN to protect new sovereignties. Punishment would be dictated through an international court when evidence of genocide is provided. Overall, India advocated for inclusive language and decisive action against crimes of genocide.

Poster 23

Title: Spectroscopic Measurement of Semiconductor Band Gap Energy

Author: David Reardon

Faculty Advisor: Adrienne Wootters

Abstract: Semiconductors are commonplace in modern technology; solar cells and LEDs are two examples. The fundamental feature of a semiconductor is its band gap energy, which is the energy required to liberate an electron to produce current by freeing the electron from the valence band to the conduction band. Using Einstein's photoelectric effect, light interacts with the atoms in the semiconductor to liberate electrons into the conduction band. Using a spectrometer, I have measured the incident wavelength of the light and I have used this data to determine the band gap energy of the most popular semiconductor, silicon.

Poster 24

Title: Behavioral Momentum

Author: Sara Peck

Faculty Advisor: Tom Byrne

Abstract: Behavioral momentum theory provides a parallel to physical momentum, wherein a behavior will persist until some stimulus disrupts that behavior (Nevin 1992). Behavioral momentum theory suggests that resistance to change may be a useful measure of response strength. (Nevin & Shahan, 2011). This is commonly displayed in experiments by the use of abolishing operations, extinction, extreme multiple schedules, etc. (Nevin & Shahan, 2011; Shahan & Podlesnik, 2005; McLean, Grace, & Nevin, 2012). In this study, we will examine behavioral momentum by testing schedules of reinforcement for response duration rather than discrete responses. Our subjects are four adolescent Long Evans rats. After learning to lever press, the rats will be placed in operant chambers and exposed to multiple fixed-duration reinforcement schedules. Sweetened condensed milk will be used because it has shown to maintain high rates of responding in previous studies.

Poster 25

Title: Delay Discounting Combined with Effort: Sweetened Condensed Milk Self-Administration in Rats

Author: Sara Peck

Faculty Advisor: Tom Byrne

Abstract: Delay discounting is a laboratory model of self-control in which learners choose between an immediate lesser reinforcer versus a delayed larger reinforcer (Wilhelm & Mitchell, 2008). This research may inform our understanding of human impulsivity problems such as addiction. Outside the laboratory, it is hard to find examples as simple as a dichotomous choice between something good now, or something great later. In reality, humans often have choices to earn quick, small reinforcers, or to work harder and receive delayed, larger reinforcers. In this study, we will attempt to test both delay and effort in model of self-control choice. Our subjects will include four adolescent Long Evans rats.

Poster 26**Title:** Binge Eating Combined with Progressive Duration**Authors:** Sara Peck and Milena Casamassima**Faculty Advisor:** Tom Byrne**Abstract:** We will display binge eating in rats with a progressive duration.**Poster 27****Title:** Mobile Augmented Reality in Biology Education**Author:** Daniel Heinen**Faculty Advisor:** Sarah Herrick**Abstract:** Using widely available technology, we are attempting to revolutionize the way students interact with and information. Our research and development focused on Anatomy and Physiology education. Combining augmented reality, smart-devices and virtual reality, we have created a learning technology that allows students to interact with real world objects in augmented reality in a way that is not possible with conventional 2D learning material. This platform would make it possible to use both CGI and 3d scan in a Mixed Reality environment. This creates a way for students to take complex objects wherever they require both in and out of class.**Poster 28****Title:** Congo Crisis, 1960 - Jordan**Author:** Siobhan Greene**Faculty Advisor:** Ben Taylor**Abstract:** This poster is based upon my research that took place for my participation in the North American Model United Nations in the Fourth Emergency Session of the General Assembly of 1960, better known as the Congo Crisis. As the representative of Jordan in the General Assembly, I had to work together with the other members of the Assembly. I had to become an expert in the country's history and the Congo Crisis. I had to work inside of the constraints of the UN system.**Poster 29****Title:** Discovering properties of plasma using a Langmuir probe**Author:** Joshua Colon**Faculty Advisor:** Adrienne Wootters**Abstract:** This research project is to investigate the fourth state of matter, plasma, through a Langmuir Probe. By using a vacuum tube with argon filling the void for air, and a Langmuir probe, the properties of plasma will be tested. Plasma is ionized gas that is often identified by its bright colors in the visible spectrum of light. Properties tested include electron density, electron temperature, and electrical potential. By plotting the current as a function of potential of the

Langmuir probe, I have identified the floating potential, which is when the electrons will start to flow into the probe increasing the current, and the plasma potential, which is the point where the probe can't take on more electrons and the current levels off to a maximum.

Poster 30

Title: Locating Amphibian Road Crossings with the Berkshire Environmental Action Team

Authors: Kennedy Valois, Chad Raimer, Rachel Durgin, and Sean Oswain

Faculty Advisor: Elena Traister

Abstract: In partnership with the Berkshire Environmental Action Team (BEAT), we will collect data on amphibians crossing Notch Road in North Adams, MA. We will record species, help the individuals across the road, and, in our final transect, we will count the number of dead animals. There are six main species that we will focus on, the Spotted Salamander, Four toed Salamander, Wood Frog, Spring Peeper, Jefferson Salamander, and the American Newt. The study will conclude by looking at local topography and features to make suggestions on why the populations of amphibians are at their current levels.

Poster 31

Title: Finding the Clar and Fries Numbers for Infinite Classes of Graphs

Authors: Satchel Lefebvre and Ian Angell

Faculty Advisor: Elizabeth Hartung

Abstract: A fullerene is a graphical model of a pure carbon molecule. The fullerene project is a collaboration between MCLA and Syracuse University examining two features of fullerenes related to the double bond structure, the Clar and the Fries Number. These values are hypothesized to be related to the stability of the molecule. We use mathematical methods to find the Clar and Fries numbers for infinite classes of these graphs. The fullerene project is ongoing study, however we have been able to find the Clar and Fries number formula for several infinite classes of graphs.

Poster 32

Title: Model UN: Crisis Committee for The Cabinet of the Republic of the Congo

Author: Zoe Schwartz

Faculty Advisor: Ben Taylor

Abstract: This abstract is for a poster presentation. When I went to Toronto in February, I sat on the Republic of the Congo crisis committee, which was based on the crisis in the Congo in 1960. We had several counterparts who were the Cabinet of Katanga, the United Nations Security Council, and the United Nations General Assembly. We worked hand in hand in order to bring peace to the region in Africa. While we tried to bring peace, the crisis room brought crisis after crisis upon us, which we had to figure out both in our committee and with the other committees.

Poster 33**Title:** Exploring the Genetic Mechanisms of Exfoliation Syndrome and Glaucoma**Author:** Annie Gagnon**Faculty Advisor:** Jeffrey Harder (Jackson Laboratory)

Abstract: Glaucoma is a progressive eye disease characterized by increased intraocular pressure (IOP) that causes irreversible blindness. Exfoliation syndrome (XFS) results in accumulations of exfoliate material in the eye and a raised IOP. The pathological mechanisms of XFS are unknown. In this project we are searching for novel XFS genes by exome sequencing a large pedigree with many affected individuals and evaluating ocular phenotypes in mice with mutations in the two known XFS genes, LOXL1 and CACNA1A. This information will be used in the future to develop a mouse model of XFS by combining vascular inflammation, novel genes, and environmental stressors.

Poster 34**Title:** Injuries in Youth Sports**Author:** Tyler Vona**Faculty Advisor:** Jerry Smosky

Abstract: This presentation will be based on accumulated research involving sports related injuries in youth athletics. It will incorporate knowledge on the repercussions of certain actions in sports and ways to prevent them. Research on youth development and injuries has already begun to change the rules set in youth athletics. This presentation will provide information on said research as well as awareness and knowledge on ways to make youth sports safer in the future.

Poster 35**Title:** Maternal Conditioning in Fancy Guppies (*Poecilia reticulata*)**Author:** Evan Patev**Faculty Advisor:** Justin Golub

Abstract: Embryos exposed to predator cues are able to learn, and avoid that predator's scents after hatching. However, in live-bearing fish, such as guppies (*Poecilia reticulata*), embryos are not exposed to the environment, and there are no opportunities for embryos to learn directly from environmental signals. Alternatively, embryos carried internally receive chemical signals from the mother, and learn to recognize danger. Pregnant females were exposed to predator alarm cues. The behavior patterns of offspring were observed after hatching. We compared fry behavior to duration of maternal conditioning to see if longer exposure (simulating greater predator threat) would intensify fry fright behavior.

Poster 36**Title:** Older Architecture of Japan**Author:** Gillian Russo**Faculty Advisor:** Kailai Huang

Abstract: The part of Japan I love the most is the difference in their architecture (especially the older architecture) from most other cultures. Temples and shrines are a huge part, but at the same time, there are many building types for houses and stores that we don't see in America, or in fact, all over the world. The Japanese tendency to build things that are naturally resistant can be seen even today.

Poster 37**Title:** The Effects of Health Behaviors and Self-Esteem on Academic Success**Author:** Elsa Rose Mastico, Emily Chevalier and Kristopher Briggs**Faculty Advisor:** Maria Bartini

Abstract: There has been a recent push for research about how health affects education. The connection between health behaviors, self-esteem, and academic success may be a relatively under-studied area of research. Our objective is to show a connection between the influence of health behaviors and self-esteem on academic success. We will be surveying a total of 100 undergraduate students from the Massachusetts College of Liberal Arts. Our variables include sleep behaviors, eating behaviors, GPA, self-perceived esteem, and self-perceived academic motivation. This study should develop the idea that healthy behaviors influence self-esteem and academic success.

Poster 38**Title:** The Library Scholar: Experiences in Public vs. Academic Libraries**Author:** Diana Faulkner**Faculty Advisor:** Pamela Contakos

Abstract: This poster will examine the similarities and differences of the public versus the academic library experience. It will illustrate the challenges and opportunities that libraries face in the 21st century, and how these differ between the two types of institutions. Using accounts of firsthand experience, research data, and visual aids, this poster will focus on both the employee and patron perspectives.

Poster 39**Title:** Japan's Antiquity**Author:** Anthony Corbett**Faculty Advisor:** Kailai Huang

Abstract: Some buildings in Japan are hard to miss because of their antiquity. For 12 days, 9 students spent their time walking down the busy streets of Japan's most modern cities. Despite

the bustling commercial sectors, the ubiquitous vending machines selling both ice and hot coffee, and toilets with heated seats, one could find ancient shrines, temples and castles dating back to Japan's medieval period and beyond. This presentation shows how the people of Japan have become so modern but how they have not forgotten their roots.

Poster 40

Title: Diet Preference in Guppies (*Poecilia reticulata*)

Author: Amanda LeBarron

Faculty Advisor: Justin Golub

Abstract: Organisms use environmental cues to find food, seek mates, and avoid danger. Guppies (*Poecilia reticulata*) normally feed on algal remains, plants, insect larvae and mineral particles in nature. Guppies use a variety of environmental cues to locate food, including chemical signals. This allows the guppies to expend less energy searching for food. Guppies were raised on one of three diets; a commercial brand (animal-based protein) flakes, vegetable (plant-based protein) seaweed, or live brine shrimp. Fish were given a dietary choice (familiar vs. novel) using a T-maze. Preference for a specific diet (conditioned or novel) was observed for each fish.

Poster 41

Title: Devastation of Nagasaki and its Reconstruction

Author: Kayla Sylvia

Faculty Advisor: Kailai Huang

Abstract: Nagasaki August 9, 1945, the U.S. dropped the second atomic bomb called "Fat Man". An estimated 80,000 people died when the bomb hit. Even though Japan was hit with the world's most powerful weapon they overcame it. The peace park was established to commemorate those who died and to show their alliance to the U.S. This serene city was rebuilt and is magnificent to behold today. This presentation will show you what actually happened to the people as well as how powerful the bomb was. It will also show the beauty of Nagasaki today.

Poster 42

Title: MCLA- Learning and Serving in Belize

Author: Monica Vogel

Faculty Advisor: Spencer Moser

Abstract: This poster presentation will discuss MCLA's Alternative Spring Break cultural exploration and community service program to Belize, Central America. The presentation will present the collective insights and perspectives acquired by the twelve MCLA students who decided to spend their spring break learning, exploring and engaging in serving in rural Belize. The MCLA student participants will share their experiences participating in the different cultures and visiting the various regions of Belize. They will also present their experiences assisting in

the building of a health center in a rural village. Presenters will also comment on the observed and experienced cultural, social, economic, and historical influences of the area. The student's will particularly discuss how the experience impacted their academic, personal and professional interests and development as undergraduates. The students will especially focus on what value such an experience might have as part of a liberal arts education.

Poster 43

Title: Sleep Deprivation and Academic Motivation in College Students

Authors: Rachelle Ferguson and Jailyn Matos

Faculty Advisor: Maria Bartini

Abstract: Previous research seems to suggest that there is a relationship between sleep and academics. For example, Gomes, Tavares, and de Azevedo (2011) conducted a study where they found that students who have shorter sleep tend to have lower academic performance. In our study, we will distribute an online survey through email to MCLA undergraduate students asking about their sleep habits and academic motivation. We expect to see that those who have trouble with sleep also have a lower academic motivation than those who have less sleep issues.

Poster 44

Title: An Examination of Microorganismal Relationships Involving *Diadumene lineata*

Authors: Daniel Dermody and Erinn Rayno

Faculty Advisor: Anne Goodwin

Abstract: Sea anemones are invertebrates that inhabit the world's oceans, often attached to rocks or coral reefs. Many sea anemones have symbiotic relationships with photosynthetic dinoflagellates, typically brown in color. *Diadumene lineata*, the orange-striped green sea anemone, is green in appearance. This green color led to the question of whether chlorophyll is being produced by symbiotic organisms, and whether these organisms might be dinoflagellates or cyanobacteria. Understanding this relationship could provide valuable information for the study of reef corals, which are closely related to sea anemones and can "bleach" when they lose their photosynthetic symbionts.

Poster 45

Title: North American Model United Nations 2016 – Fourth Emergency Session of the General

Assembly: Somalia on the Congo Crisis

Author: Nicole LoGiudice

Faculty Advisor: Ben Taylor

Abstract: For the Undergraduate Research Conference, I plan to present during the poster session my research that took place for my participation in the North American Model United Nations. The committee I sat on was the Fourth Emergency Session of the General Assembly of 1960 that dealt with the issue of the Congo Crisis. My committee was one-fourth of a quadruple integrated simulation dealing with the crisis. As Somalia, I participated as the delegate for a

newly developed country that had escaped the confines of colonialism a few months before this issue was taking place. For my poster, I plan to outline the history leading up the crisis, as well as the history of Somalia, including its colonial past, and position during the crisis. Furthermore, I plan to outline the course of action that took place over the course of the three day conference during the committee sessions. I will outline the discussion on the legality of intervention, budget and the role of the United Nations that took place in session. I also plan to describe how I was able to get elected as a non-permanent member of the Security Council. This will help to show how the four different committees interacted with each other through resolutions, voting procedure, and action.

Poster 46

Title: The Effect of Individual Achievement Goals and Causal Attributions on Learning Regulation in Small Groups

Authors: Rosy Gil Diaz, Aaron Starkman, Morgan Jasewicz, Samantha Giffen and Chelsea Palmer

Faculty Advisor: Ruby Vega

Abstract: The purpose of this study is to examine how college students who are motivated to get a good grade versus those who are motivated to master the material regulate their learning during small group activities. In particular, we are interested in how the student's perception of a member's non-participation may affect the type of learning regulation that student engages in. Participants will be given a hypothetical group situation and asked to report their leaning goals and strategies for the group activity. This study will add to existing research by investigating the impact of the individual student's perspective on group-level regulation.

Poster 47

Title: Belize combat of HIV/AIDS

Author: Alejandra Aguilar

Faculty Advisor: Sarah Herrick

Abstract: Belize combat of HIV/AIDS was a project developed for the service-learning Spring Break trip. **PURPOSE:** To educate and raise awareness about HIV/AIDS in a rural town in Belize. **EXPERIENCE:** Prior to Spring Break, I researched the topic and put together an informational pamphlet to deliver to the community. Also, the MCLA health center donated condoms to give out at the health clinic. **REFLECTION:** My experience was exciting and the nurse and people I talked to were happy and thankful for receiving this help. I accomplished my goal of educating and raising awareness of HIV/AIDS to improve health conditions in Belize.

Poster 48**Title:** College Satisfaction**Authors:** Kayla Lingel, Sam Boyle and Nicolas Colon**Faculty Advisor:** Maria Bartini

Abstract: Studies have found that participation in athletics; co-curricular activities and campus groups have been correlated with higher academic achievement and life satisfaction. We propose that students involved in campus activities, sports and groups will have greater academic achievement and higher life and college satisfaction than un-involved students. A sample of 100 students will take our survey, which combined a Penn State survey and Satisfied with Life Scale to obtain information on GPA, college satisfaction and overall life satisfaction. We expect our results to show that students involved in co-curricular activities, groups and sports score higher on life satisfaction, college satisfaction and academic achievement and athletes score higher for college satisfaction than any other group.

Poster 49**Title:** Identification and Antimicrobial Analysis of Bacteria from the Sea Anemone *Aiptasia pallida***Author:** Andrea Fachini**Faculty Sponsor:** Ann Billetz

Abstract: The purpose of this study is to identify endosymbiont bacteria from the cnidarian *Aiptasia pallida* and test them for antimicrobial properties. Pure cultures of the bacteria were isolated and maintained on marine agar slants. DNA harvested from bacteria was amplified using the 16S rDNA primers 16F and 1542R. The DNA sequenced, resulted in the positive identification of twenty-nine samples. Antimicrobial assays were performed testing the newly identified bacteria against several pathogenic bacteria including *E. coli*, *S. marcescens*, *S. aureus*, *P. aeruginosa*, *K. pneumoniae*, *C. albicans*, *V. fischeri*, and *V. anguillarum*. To date, inhibition has only been observed between *H. meridian* and *S. marcescens*.

Poster 50**Title:** Japan: A Collision of Modern Progress and Ancient Traditional Respect for the Environment**Author:** Joshua Farland**Faculty Sponsor:** Kailai Huang

Abstract: Japan is a juxtaposition of tradition and modernity where both the modern and the ancient are held in high regard in Japanese culture and society. Ancient Japanese culture had a great regard for the natural world. Today Japan is a world leader economically and technologically. And yet it is also a world leader in developing new environment friendly technologies and practices. Japan is a country which keeps this collision of the modern and ancient in harmony and balance. This presentation will show what lessons can be learned from Japan in creating more eco-friendly and sustainable environments in which to live.

Keynote Address: Chloe McGrath '13*
Campus Center Gym, 12:30 pm - 1:30 pm

Originally from Adams, Massachusetts, Chloe graduated summa cum laude with a major in Political Science and Public Policy, and a minor in History. In May 2016, she will graduate from American University's Master of Public Policy graduate program with a concentration in Public Financial Management. Since September 2015, Chloe has been a federal Pathways program Trainee at the IRS Office of Chief Counsel, Department of Treasury in Washington D.C. Upon graduation she will begin working as a Management Analyst for the Department of Treasury.

Meet the Speaker: Sullivan Lounge

1:30 pm – 2:00 pm

For Students Only

Students will have the opportunity to have an informal question and answer session with the keynote speaker following the luncheon. Chloe McGrath will be available to answer any questions you have about her experiences both at MCLA and in graduate school. Take advantage of this opportunity to learn from someone who has walked in your shoes not too long ago.

*Lunch is provided for URC presenters and faculty advisors

Special Session II-A: Creative Writing Reading
Faculty Sponsor: Zack Finch
Murdock 218, 2-3:20 pm

This Creative Writing Session is a place where 9 MCLA writers come together to read their pieces in the spirit of invention and fellowship. They are: Erica Barreto, Julia Daly, Dee Davis, Sarah DeFusco, Alex Hicks-Courant, Deven Philbrick, Gillian Russo, Stefani Skerry and Jade Tarris.

Paper Session II-B
Murdock 201, 2-3:20 pm

Paper IIB-1

Title: State Spending and the Quality of Education

Author: Tyler Spencer

Faculty Advisor: Ben Taylor

Abstract: The allocation of a budget is one of the most important decisions that any government makes. At the state level, education is one of the most important items in that budget. But does the amount allocated to the school have an impact on the quality of education. Using different statistical variables and measures, I test my theory that that the more a state spends per student, the higher the quality of education. Some of the variables that I test include ACT and SAT scores, graduation rates, and more. In my oral presentation, I will discuss the evidence in my paper.

Paper IIB-2

Title: Vertex Coloring Game

Author: Allison Gaylock

Faculty Advisor: Elizabeth Hartung

Abstract: My presentation examines a mathematical game based on vertex coloring in graph theory. Given a graph and k colors, participants must color the vertices of the graph according to certain rules. My presentation shows that with a certain number of colors, one participant is guaranteed to win if following a specific strategy. My presentation will introduce basic graph theory and enhance our knowledge of graph labeling while remaining accessible to non-math majors.

Paper IIB-3

Title: The Relationship between Modes of Social Comparison, Test Anxiety, Considering the Moderating Effects of Personally and Socially Prescribed Perfectionism

Author: Monique M. Lemay

Faculty Advisor: Maria Bartini

Abstract: Test anxiety, the prevalence of anxiety symptoms prior to and during important exams or assignments, is a concern for the college student population due to its potential impact on academic performance. Additionally, previous research has established that socially prescribed perfectionism is positively correlated with dimensions of test anxiety, including but not limited to worry, emotionality, interference, lack of confidence, and total anxiety. The construct of social comparison and how its modes relate to test anxiety scores, however, has yet to be demonstrated.

Paper IIB-4

Title: Black Death Bombay

Author: James W. Campagna

Faculty Advisor: Anthony Daly

Abstract: The Bubonic Plague is most often identified as the disease that ravaged Europe in the late middle ages, decimating the population. The third outbreak of the “Black Death,” which spread from China to Bombay (now known as Mumbai), India in the late 1800’s is not as well known. This outbreak during the age of empires would devastate the area, killing over 12 million people. This presentation will examine how failed colonial policy, political conflict, racism, and environmental factors allowed the plague to flourish in colonial India.

Paper IIB-5

Title: French Imperialism in Algeria

Author: Nicole LoGiudice

Faculty Advisor: Anthony Daly

Abstract: The Algerian colony was essential for the imperial efforts of the French in their pursuit to bolster their image on an international scale following their defeat to Germany in the Franco-Prussian War from 1870 to 1871. French resentment at the size of the British Empire led to efforts to gain more French colonies. The French were faced with the task of not only fighting the indigenous people of the land they chose to conquer, but they also had to disregard their own history which was built on the ideas of revolution and enlightenment.

Paper Presentations II-C
Murdock 301, 2-3:20 pm

Paper IIC-1

Title: Modern Minstrels: Vine, Representation, and Stereotypes in 6 Seconds

Author: Bryanna Bradley

Faculty Advisor: Jenna Sciuto

Abstract: Minstrelsy is an 18th-century entertainment form that contains negative portrayals of Black America. Minstrelsy is the common root in Black entertainment to this day, as seen in the social media platform Vine, due to the codes and conventions used. Black viners, as well as Black minstrels at the time, have the ability to accept, reject, or signify stereotypes. I will analyze black Viners against black minstrels and address the power of representation, specifically negative representation along with the Black American experience. Should black individuals accept the works of Black Minstrels and Viners? Should their work be dismissed as buffoonery?

Paper IIC-2

Title: Burning Man: Ritual, Radicalism, and Contradiction in an Anti-Capitalist Arts Utopia

Author: Nina Merritt

Faculty Advisor: Sumi Colligan

Abstract: Burning Man is an alternative arts festival full of unconventional practices. For one week in late summer in Nevada, organizers construct a temporary desert city and challenge the capitalist societal norms that ordinarily shape the lives of most festival-goers. Through scholarly and primary sources, I explore the practices that make this festival interesting, including the ritual burning of an effigy dubbed "the man" and the collectivist community principles of radical inclusion, self-reliance, and a gift-based economy. My aim is to analyze problems existing around and within this temporary utopian society, and ways it can be self-contradictory.

Paper IIC-3

Title: Formation and Shaping of American Social Work

Author: Benjamin Hoyt

Faculty Advisor: Rita Nnodim

Abstract: My paper on "The Formation and Shaping of American Social Work" represents a study into the emergence of the social work profession in the United States, as well as its changing approaches and subsequent development within the US in socio-economic and political

contexts. This is done by examining key points in American history (the progressive era, pre/post WWII America, etc.), their sometimes abstract impact on social work, and in turn the impressions social work itself has made on the country.

Paper IIC-4

Title: 19th Century Germany and its Colonies

Author: Ryan Grady

Faculty Advisor: Anthony Daly

Abstract: The nineteenth century was a unique time for European history. It was a time of empires when various European powers sought to spread their powers across the world, seeking opportunities in trade and materials. Germany emerged within this era, a newly unified country which sought to find its place as a world power by securing its own colonies. This research not only looks at how Germany affected its various protectorates but how colonies and colonial thoughts affected Germany. In particular this research focuses on political, economic and social changes.

Paper IIC-5

Title: The Boxer Rebellion

Author: Edward Burdick

Faculty Advisor: Anthony Daly

Abstract: The Boxer Rebellion took place in China between 1899 and 1901 and was an anti-foreign and anti-Christian uprising that came to fruition during the end of the Qing dynasty. This Presentation, drawing on research from a wide variety primary and secondary sources, will analyze the rise of the Boxers and why they turned to violence to achieve their goals as well as whether or not violence was necessary. This research will also determine the effectiveness of the Boxers in expelling foreigners in China.

Paper Presentations II-D
Murdock 322, 2-3:20 pm

Paper IID-1

Title: "Cinderella": The Art of the Fairytale

Author: Kathryn Donnelly

Faculty Advisor: Rosanne Denhard

Abstract: People are drawn to fairytales for didactic and escapist purposes. To understand the true value of a tale, it is imperative to understand that each version of each tale is an outcome of historical, social, political, and cultural contexts. An exploration of the contexts of tales in all forms allows for an understanding that these tales are multi-layered wonders of their times. With this background, a case-study on iterations of the story of "Cinderella" in various forms of media exemplifies these influences and concludes that fairytales are omnipresent. The "Cinderella" figure stands as both a universal and a product of his or her time.

Paper IID-2

Title: The Examination of Various Internal and External Factors that Affect the Stress-Performance Relationship Proven in the Yerkes-Dodson Law

Author: Abigail Lucas

Faculty Advisor: Tom Whalen

Abstract: The purpose of this paper and presentation is to examine the relationship between stress and performance, specifically job performance, as well as go into detail about potential future research of other factors that could affect this correlation. The Yerkes-Dodson Law was developed in 1908 by the researchers who possess the same names. This law states that stress is beneficial to performance, but only to an optimal point. Once that point is surpassed, stress becomes detrimental to performance. The Yerkes-Dodson Law can be represented visually as an inverse bell-shaped curve. Since its development over one hundred years ago, various researchers have continued to study the correlation between stress and performance, and have tried to determine if other factors impact this relationship. These other factors include, but are not limited to: a person's personality type, a person's emotional state, or the amount of relevant experience a person has. By conducting more studies focusing on other potential variables, researchers would finally be able to determine exactly how valid the Yerkes-Dodson Law is.

Paper IID-3

Title: “She Had Lived by Harvesting the Sea”: The Decline of the Portuguese Empire from the 1400’s to the 1900’s

Author: Nathan Buchanan

Faculty Advisor: Anthony Daly

Abstract: The Portuguese were the first colonial power in the modern era, being the first to open the African and Asian coasts to the world. The Portuguese colonized parts of Asia and Africa in the fifteenth and sixteenth centuries, gaining considerable wealth and becoming a world power; however, by the nineteenth century Portugal’s imperial eminence would be eclipsed by other empires, especially Britain’s. This presentation will analyze the decline of the Portuguese empire in the late sixteenth and seventeenth centuries, explaining the political decline of Lisbon as other European nations ascended to prominence.

Paper IID-4

Title: The Relationship between Belief in a Just World and Attitudes toward Crime Suspects

Author: Chuck Kimberling

Faculty Advisor: Deborah Foss

Abstract: The purpose of this study was to examine how people’s beliefs relate to attitudes toward different suspects during a crime interview. Participants completed surveys on belief in a just world, self-efficacy and social desirability. The same participants then listened to a recording of a mock police interview of either an English or Spanish speaking suspect. After hearing the recording, participants were asked questions about their attitudes and beliefs of the suspect’s credibility. It is anticipated that participants who believe in a just world would show more differences in evaluating the Spanish speaking suspect.

Special Session III-A: Artist Talks

Bowman 202, 3:30-4:50 pm
Faculty Sponsor: Josh Ostraff

Talk IIIA-1

Title: Nature Paintings

Author: Elaine Myers

Abstract: Inspired by my familiar sense of the Berkshire landscape, my recent paintings depict parts of nature that enthuse me. Simultaneously, I have been exploring Impressionism, particularly the variety of brushstrokes Impressionist painters used and their color choices. Throughout my presentation I will be describing how I have used Impressionistic brushstrokes to create shape, form, movement and a build of color relationships. Concurrently, I want to describe how my application of paint informs what I see and reflects the imperfection and uniqueness of the ever changing nature world. At the heart of all this is a life-long connection and love of nature.

Talk IIIA-2

Title: Representing my Creative Process

Author: Nate Massari

Abstract: In choosing work to present as part of my senior exhibit and research conference, I extended on a series of paintings not necessarily representative of my art. I will explain this stylistic choice and justify the reasons for going beyond the typical approach to my art. The series communicates who I've become as an artist during my time as a student, summing up my vision of the creative process. My presentation will be autobiographical, focusing on the important elements that influence my work. Following that, I will also be analyzing the work, illustrating how these personal influences manifest while also giving it its subjectivity.

Talk IIIA-3

Title: Graphic Design Work

Author: Patrick Engle

Abstract: This collection of graphic design work is made of two components. The first is a re-design of MCLA's Fine and Performing Arts Department promotional material. The second part includes various MCLA logo designs that can be used on T-shirts, mugs, stickers and other merchandise. Both of these components tackle design issues such as choosing appropriate fonts, colors, and photos that help convey each respective message.

Talk IIIA-4

Title: I am my anxiety

Author: Amber Coldwell

Abstract: Being a young adult with anxiety can make simple things or objects in a normal day hard for me, but it is a part of who I am and how I do things. I have been creating a series of acrylic paintings focused on key elements of my everyday life to portray my anxieties. My presentation will explain how these pieces come into play and the thought process behind the works through my introverted point of view.

Talk IIIA-5

Title: A Quick Guide to Shopping Cart Parking Lot Etiquette

Author: Angela DiGennaro

Abstract: I chose this project because I'm an angry person and I'm very salty about a lot of petty insignificant things that don't matter so I decided to do something about it. Shopping carts left in the middle of parking spaces aren't a life or death matter, but they're more of a major inconvenience than a minor one. Passive-aggression is my specialty, so I took a passive-aggressive approach to coaching more people into putting their shopping carts away by making an infographic implying that people who don't put their shopping carts away are idiots who literally need instructions to know how.

Talk IIIA-6

Title: Portraits of Suppressed Emotions

Author: Sarah Tefft

Abstract: The ability to discern sadness or joy from a facial expression without verbal communication always feels like its own language. Such subtleties often are manifested in the way a person's mouth curls to a small smile when hearing the name of a loved one, or the intensity in one's eyes when speaking of their passions. I have been exploring the idea of suppressed and subconscious emotion through portraiture. During my presentation I want to break down and explain the importance of my process in relaying the human emotions that are in in my portraits.

Special Session III-B: Japan: A Juxtaposition of Tradition and Modernity
Murdock 216, 3:30-4:50 pm
Faculty Sponsor: Kailai Huang

Paper IIB-1

Title: Social Customs in Japan

Author: Kelsey McGonigle

Abstract: Many cultures have different social norms. After spending 12 days in Japan and interacting with many people from rural cities like Nagasaki to urban cities such as Tokyo, the social customs were unlike those of America. This presentation compares and contrasts the social norms between the United States and Japan with a focus on business.

Paper IIB-2

Title: Arcade Culture in Japan

Author: Ian Sullivan

Abstract: My presentation is about arcades in Japan. Video game culture has moved into a strange world in America. Either it's online anonymously, online with a group of players communicating in real time, or offline at underground events and tournaments. Arcades in Japan however offer both. Mixing online and offline play with the thrill of sitting next to your opponent. Offering unique experiences in presentation is aesthetic that simply aren't available in modern gaming. Mostly Japan exclusive.

Paper IIB-3

Title: Trend Meets Tradition: Japanese Street Fashion and Aesthetics

Author: Meg Gugarty

Faculty Sponsor: Kailai Huang

Abstract: Japanese street fashion has become famous in recent years, thanks to exposure in pop culture and the globalizing effect of media. Looking past the exterior, this form of self-expression reveals depths reflecting on Japanese cultural norms and traditional art forms. This presentation examines the way alternative fashion and music in Japan act as both homage to and rejection of traditional aesthetic values.

Paper Session III-C
Murdock 213, 3:30-4:50 pm

Paper IIC-1

Title: King Leopold and the Belgian Congo

Author: Charles Marquis

Faculty Advisor: Anthony Daly

Abstract: This presentation will compare the characteristics of King Leopold's personal rule of the Congo, beginning in 1885, with the form of rule after the state of Belgium assumed control in 1908. The international community shifted its perception of the practices in the Congo after Belgium assumed governing responsibility; this presentation explores the similarities and differences between the two periods of rule in the Congo and analyzes why it was more acceptable for a government to rule the colony. The consequences of foreign rule were detrimental to the Congolese and human rights violations continued into the early twentieth century.

Paper IIC-2

Title: Self-Deception in Medical Professionals

Author: Megan Chanowitz

Faculty Advisor: Ben Wood

Abstract: Sometimes we forget the doctors are only human beings, and are not above self-deceiving themselves just like the rest of us. I theorize that when employed it can help doctors, nurses and other medical professionals to do their jobs while minimizing the effect of negative emotions and decreasing workplace stress. Unfortunately this mental coping strategy has the potential to lead doctors to make unethical choices down the road. To delve further, I theorize that fears of death, failure, and intimacy (the fears of death and failure having more of an effect than the fear of intimacy) can lead to self-deceptive behaviors which over time can cause "ethical fading."

Paper IIC-3

Title: Black Lives Matter: Kadir Nelson's Children's Books Showcase the Pride and Power of African American Culture

Author: Merle Darling

Faculty Advisor: Dale Borman Fink

Abstract: The detailed artwork of Kadir Nelson gives children's literature a new outlook on African Americans. His depiction of African American history and current popular culture cast

African Americans as heroes in society. He does this books that he wrote and illustrated such as: Mandela, We Are the Ship, and Heart and Soul. Without even reading the text, any reader, young or old, will be inspired by the powerful images of strength and pride that this award winning artist has created.

Paper IIC-4

Title: Print Still Lives

Author: Emily Ericson

Faculty Advisor: Celia Norcross

Abstract: My research discusses how print media will continue even in today's world where digital media appears as the superior medium. Both print and digital media has its advantages and disadvantages. The majority of the public have the perspective that print will cease to exist because of digital being on the rise and the number of businesses that used to be print is turning digital. However, this is not the case. Based on case studies, surveys, and business patterns of publishers and advertisers, print media is very much needed for publishers and advertisers to survive. As previously mentioned, many businesses have switched over to digital but they eventually return to print, utilizing both forms of media. Many people in the publishing and advertising business claim that neither of the two forms is better than other, but both working together brings forth beneficial outcomes once the business model is set. So the print medium will not fade away anytime soon and will probably be around for a long time.

Paper IIC-5

Title: The Power of Suggestion: "It's Mind Control, People!"

Author: Benjamin Finley

Faculty Advisor: Diane Balduzy

Abstract: The power of suggestion are phrases that can be very powerful. It can affect our thoughts, emotions, and our physical actions. However, did you realize that you could use this is your advantage? This presentation examines the effects of the words we use in our daily activities and how they affect ourselves and how they can affect others. Essentially, you can control someone else's thoughts through simple phrases. Studies conducted by several independent research institutions, along with information from well-known publications, like NPR News, and studies done in collaboration with the University of Leuven will be discussed.

Special Session III-D: Philosophy Mini-Conference
Murdock 218, 3:30-4:50 pm
Faculty Sponsor: Matt Silliman

Paper IID-1

Title: Are We There Yet? Responses to Zeno's Paradoxes

Author: Brett Belcastro

Faculty Advisor: Matt Silliman

Abstract: Zeno's paradoxes of time and motion have baffled mathematicians (and undergraduate students) with their simplicity and logic for thousands of years, but very rarely does their introduction include a report on the progress that we've made in resolving them. The project aims to collect and evaluate the quality of the progress since Zeno first wrote in the 5th century BCE, while the presentation will focus on the results of this survey, from which criticisms of prior methods and a new perspective on Zeno as a philosopher emerge.

Paper IID-2

Title: The Life, Philosophy, and Exile of Jean Jacques Rousseau

Author: Cassandra Jernegan

Faculty Advisor: Paul Nnodim

Abstract: This research examines the life and works of Jean Jacques Rousseau, a Francophone Genevan philosopher, in light of the social and political conditions of France during the 18th century. In exploring a variety of Rousseau's publications, such as *The Social Contract* and *Reveries of the Solitary Walker*, alongside documents depicting the social circumstances during the French Enlightenment, one can identify the origins of Rousseau's social theories and the impact these theories had on the general public. An important insight gained in the course of this research is that though Rousseau suffered greatly for his philosophical notions of freedom and liberty, nevertheless, these ideas provided the French population the needed philosophical basis for a paradigm shift - the French Revolution.

Paper IID-3

Title: The Epistemology of Possibility: How We Know What Might Be

Author: Deven Philbrick

Faculty Advisor: David Braden-Johnson

Abstract: In metaphysics, discussions of a thing's existence often hinge on the acceptance of the possibility of the thing's existence. Arguments for the existence of God, for example, frequently

contain the tacit or explicit acceptance of the premise: it is possible that God exists. It is my contention that the acceptance of this premise reflects insufficiently modal analysis, and that the claim to the possibility of a proposition is as much in need of justification as the claim to the truth of a proposition.

Paper IID-4

Title: Intentionality and Morality

Author: Andrea Martin

Faculty Advisor: Gerol Petruzella

Abstract: Determining the morality of any situation is an important philosophical undertaking. Various factors determine whether an action is ethical or unethical. One possible way to evaluate the morality of an act is through intentionality. However, the task of precisely pinpointing any individual's real intentions is difficult. As part of my procedural methodology, I would like to present to the audience several hypothetical situations that might call into question the motives of moral agents. Immanuel Kant's *Critique of Practical Reason* and *Groundworks of the Metaphysics of Morals* will be my primary sources. Thus, I will show how intentionality plays a significant role in gauging the ethics of any praxis.

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