

SCHOLARS DAY 2018

A Celebration of Student Scholarship

FRIDAY, APRIL 20, 2018

8 A.M. – 5:30 P.M.

JAMES COMMONS AND CURTIN SPECIAL EVENTS ROOM
CAMPUS CENTER

LE MOYNE

Greatness meets Goodness

FROM THE PRESIDENT

Congratulations, student scholars, for your exemplary commitment to intellectual achievement!

Additionally, I add my thanks to the friends and family that supported and encouraged you when you spent those days and nights in the library or laboratory. And finally, to your faculty mentors, who nurtured and guided you through the creative process, my sincerest thanks.

Scholars Day at Le Moyne College is the culmination of a year, and in some cases, more than one, of intense study, careful faculty mentoring, and tremendous discipline. Active involvement in scholarly investigation is a hallmark of a Jesuit education. As a direct result of research and creative experiences across the disciplines, you, the students become actively involved with important questions, driving you to develop skills in research design, empirical observation, data collection and analysis, artistic production, literary analysis, information literacy, and communication, developing and utilizing cutting edge technologies along the way.

Thank you for your intellectual contributions to our community of scholars!

Kindest regards,

Linda M. LeMura, Ph.D., President

FROM THE PROVOST

Nearly 500 years ago, a nobleman from the north of Spain was critically wounded in the town of Pamplona during a battle between the Spanish and the French. His name was Inigo Lopez, and he was a member of the prominent Loyola family. The conversion he experienced over the course of his long convalescence would eventually bloom into the founding of the Society of Jesus (i.e., the Jesuits), along with one of the most admired and rigorous networks of higher education in the history of civilization. You, our students, are part of this great history and tradition. By your remarkable achievements, you are now counted among those with the potential to change the world in true Jesuit fashion – by exceeding the bonds of mediocrity and dedicating your lives to the pursuit of knowledge, self-reflection, and being women and men for others. Thank you for providing such a great example of the Le Moyne College mission to the world through your scholarly work. Congratulations on all that you have accomplished so far and may the best be yet to come!

Sincerely,

Joseph G. Marina, S.J., Provost and Vice President for Academic Affairs

FROM THE DEAN OF ARTS AND SCIENCES

It is a privilege for me to join in welcoming you to Scholars Day, our annual celebration of student scholarship from across Le Moyne College. Scholars Day foregrounds not only the variety and breadth of study pursued across campus, but also the concrete research, presentations, publications, and results produced by our most determined and talented students. Such studies mark the culmination of their evolution into mature student-scholars. Working closely with faculty mentors, these high-achieving individuals have explored what it means actively to live the life of the mind; to pursue a theory through the challenges, frustrations, and delights of intellectual inquiry; and to reap the satisfaction of completing a large-scale scholarly inquiry. The results the students share today reflect ambition, hard work, and creativity, as well as the accumulated skills and knowledge they have painstakingly gathered throughout their time here at Le Moyne.

We are immensely proud of these students' achievements; grateful to the faculty who have guided them so diligently and tirelessly; and delighted to share with each of you today's recognition of their successes. It is a joy to have watched their evolution; thank you for joining us as we celebrate the scholars they have become!

Kind regards,

Kathleen Costello-Sullivan, Ph.D., Dean of the College of Arts and Sciences

FROM THE DEAN OF THE MADDEN SCHOOL OF BUSINESS

First, congratulations to the students and their faculty mentors on your achievements. Across all disciplines, academic research asks and answers the questions that propel civilization forward. At the Madden School of Business, we are fully aware that research is very often the catalyst for innovation. These explorations help solve the problems of our time and ensure that society does not become stagnant. Represented here today, we see the symbiotic relationship between academia and society, reminding us that without researchers and their work we stand still, we fail to evolve, and eventually we fall behind. Today we celebrate this relationship and, most of all, the Le Moyne students who are poised to become the innovators and leaders of tomorrow.

Sincerely,

James Joseph '83, M.P.A.

Dean of the Madden School of Business

FROM THE INTERIM DEAN OF THE PURCELL SCHOOL OF PROFESSIONAL STUDIES

The celebration of student scholarship and research has become a ritual at Le Moyne College that celebrates what is at the very core of our Ignatian mission. It is the intimate relationship between student and faculty mentor that will ultimately produce a graduate who has the mental capacity and passion to make our world a better place. Your contribution today is evidence of the rich intellectual environment that thrives in our academic enterprise. Our faculty in the Purcell School of Professional Studies recognizes the important role of research and scholarship in preparing tomorrow's educators and health care professionals. We congratulate our student and faculty presenters today, not only for their commitment to this work, but more importantly, for their collaborative efforts which give testimony to the academic excellence of our College.

Sincerely,

Margaret (Meega) Wells, PhD, RN, ANP-BC

Interim Dean of the Purcell School of Professional Studies

ABOUT LE MOYNE COLLEGE STUDENT SCHOLARS DAY

Welcome to Le Moyne College Student Scholars Day, a tradition that started with the Undergraduate Research Symposium in 1998. Scholars Day 2018 celebrates the research, entrepreneurial, and creative scholarly accomplishments of students across all academic disciplines. Today's program reveals how vibrant scholarly activity is on the Le Moyne College campus, with approximately 55 students representing more than 20 academic majors presenting their work. We are so happy to have you join us in this celebration of our students' achievements. In addition to the work you see today, Le Moyne students are publishing in scholarly journals, presenting at professional meetings, producing works of art, participating in theatrical works, and gaining admittance into diverse post-graduate programs. This year we are delighted to continue the tradition of hosting an exceptional Le Moyne College graduate as a guest speaker, by welcoming Alicia Zielenski '15 to campus. Alicia is currently pursuing her doctorate in psychology at Alfred University and will speak during the lunch intermission. Please join us for food and drinks during the poster session directly following our afternoon talks.

Sincerely,

Devon Keeney, Ph.D.

Associate Professor of Biological and Environmental Sciences

Chair of the Student Research Committee

SCHEDULE OF EVENTS

8 – 9:30 A.M.	CONTINENTAL BREAKFAST
8:15 – 8:30 A.M.	WELCOMING REMARKS Devon Keeney, Ph.D. Associate Professor of Biological and Environmental Sciences Chair of the Student Research Committee Patrick Yurco, Ph.D. Associate Professor of Biological and Environmental Sciences 2017-2018 Louis D. DeGennaro, Ph.D., Undergraduate Mentor of the Year
8:30 A.M. – NOON	MORNING PRESENTATION SESSIONS
NOON – 12:45 P.M.	LUNCH
12:10 – 12:45 P.M.	GUEST SPEAKER ALICIA ZIELENSKI '15
12:45 – 4 P.M.	AFTERNOON PRESENTATION SESSIONS
4 – 4:10 P.M.	CONCLUDING REMARKS FOR ORAL PRESENTATIONS
4:15 – 5:30 P.M.	POSTER SESSION AND CLOSING RECEPTION (BEER, WINE, AND HORS D'OEUVRES)

SCHEDULE OF SESSIONS

MORNING SESSION

8:30 – 8:45 a.m.	Ralph Waldo Emerson and Catholicism: A New Sacramentalism Dominic P. Uliano IV, <i>English</i>
8:45 – 9 a.m.	Ventilation in Conscious and Light Isoflurane Anesthetized Mice Ashley Loeven, <i>biology</i>
9 – 9:15 a.m.	Have Your Cake And Eat It Too?: Nonprofit Enterprise, the Consumer, and the Future of Capitalism Ella DiGiovanni, <i>sociology, peace and global studies</i>
9:15 – 9:30 a.m.	Trump Gags Global Discussion of Abortion: A Sociological Look at the Effects of the Global Gag Rule in Kenya Jessica Rundell, <i>political science</i>
9:30 – 9:45 a.m.	Into the Lives of Serial Killers: Psychopathy, Abuse, and 'Inherent Evil' Emily Murdock, <i>psychology</i>

9:45 – 10 a.m.	#BlackLivesMatter: The Playlist- "A Mother's Cry" Alice Olom, <i>political science</i>
10 – 10:15 a.m.	The Sacred Heart & the Agonizing Christ: How the History of the Sacred Heart Image Influenced the Image of the Agonizing Christ Amanda Camilleri, <i>English</i>
10:15 – 10:30 a.m.	The Union, the Confederacy and Parasites: The Influence of Parasites on the American Civil War Jeanette Cudney, <i>biology</i>
10:30 – 10:45 a.m.	Dental Deserts: Inequality of Oral Health in New York State Karleigh Volk, <i>biochemistry</i>
10:45 – 11 a.m.	The Muslim Ban: A Revelation of Broken American Politics Veronica Ung-Kono, <i>political science, communications</i>
11 – 11:15 a.m.	Syracuse, New York: Incidents of Diabetes in Regions of Poverty Martha Campos, <i>biology</i>
11:15 – 11:30 a.m.	Kyodatsu and Kurosawa: Exhaustion and Despair in the Postwar Films of Kurosawa Akira Alexander Leblond, <i>history, theatre arts</i>
11:30 – 11:45 a.m.	Shakespeare Shifted: Is Language a Barrier to Understanding Shakespeare? Emily Brown, <i>theatre arts, English</i>
11:45 a.m. – Noon	Artificially Poetic: Exploring the Implications of Poetry Created by Artificial Intelligence Grace Babcock, <i>English</i>

NOON – 12:45 P.M. LUNCH

12:10 – 12:45 p.m. *Guest Speaker* Alicia Zielenski '15

AFTERNOON SESSION

12:45 – 1 p.m.	Nabokov's Bedtime Story: Subverting Children's Literature in Lolita through Lewis Carroll Kaelin Foody, <i>English</i>
1 – 1:15 p.m.	Between Chiaro and Scuro: Race, Gender, and Italian-American Identity Rachel Scalzetti, <i>history</i>
1:15 – 1:30 p.m.	Make Gatsby Great Again Gabrielle Bruscia, <i>political science</i>

SCHEDULE OF SESSIONS

- 1:30 – 1:45 p.m. Intersectionality and Factionalism in the New Left: A Social Movement Case Study
Isabel Lasch-Quinn, *history*
- 1:45 – 2 p.m. Competing Ideas in Quantum Measurement: The Search for a Perfect “Theory of Everything”
Melissa Schmitz, *physics, chemistry*
- 2 – 2:15 p.m. England or Anletār: Elizabethan Diplomacy and the Levant
Steven Casement, *history*
- 2:15 – 2:30 p.m. What Influences College Student Success? A Statistical Analysis of Individual and Institutional Determinants
Hallam Doney, *mathematics, economics*
- 2:30 – 2:45 p.m. Synthesis of NNN Pincer Ligands and Complexation with Alkali and Alkaline Earth Metals
Devon Haugh, *chemistry*;
Janelle Burke, *chemistry*
- 2:45 – 3p.m. The Near Extinction and Resurgence of Scarification in West Africa
Conor McCabe, *criminology, peace and global studies*
- 3 – 3:15 p.m. The Relationship of Temperature to Changes in the Springtime Migration of Birds
Erica Mackey, *environmental science systems*
- 3:15 – 3:30 p.m. The Cherokee and South Carolina: An Evolving Relationship, the Slave Trade, and How it Impacted Cherokee Society
Angelica Clements, *history*
- 3:30 – 3:45 p.m. Plant Installation and Construction in Infrastructure Poor Regions
Travis May, *business analytics, information systems*;
Sam Gangi, *business analytics, information systems*
- Trust, Transparency, and the Role of Culture and Ethics in Technology Acceptance in Safety-Critical Systems
Sadina Mehmedovic, *information systems (M.S.)*;
Irfan Tihic, *information systems (M.S.)*
- 3:45 – 4 p.m. Big Data Analysis of Heterogeneous Large Data Sets for Naval Contracting
Ayuen Gai, *business analytics, finance*;
Anthony Brock, *business analytics, information systems*
- Large Scale Health Data Systems Interoperability
Greg Kelly, *business analytics, information systems*
- Evaluation of Wearable Immersive Augmented Reality for Ship Navigation
Alyssa Crane, *information systems, marketing*

4:15 – 5:30 p.m. POSTER SESSION AND CLOSING RECEPTION

(BEER AND WINE, HORS D’OEUVRES)

- The Deer Tick and its Role in the Transmission of Lyme Disease
Siara Clos, *biology*; Mikaela Rutter, *biology*; Delanie Sweeney, *biology*
- Utilizing Human Food Waste To Support the Food Chain
Sarah Cobb, *biology*; Gabriella Converse, *biology*; Anna Austin, *biology*
- Review and Meta-Analysis of the Association between Disgust and BMI
Kendall Corcoran, *psychology*
- Utilization of DNA Polymerases and their Clamps during DNA Repair in *Drosophila*
Evan Davis, *biology*; Ashleigh Manktelow, *biology*
- Statistical Modeling of a Professional Singles Tennis Match
Hallam Doney, *mathematics, economics*
- The Pattern of Breathing in Young Wild Type and Ts65Dn Mice during the Dark and Light Cycle
Brianna Eassa, *biology*
- CatTracker
Renee Fenzl, *biology*
- Aerobic Dehydrogenation of Nitrogen Heterocycles using Fe-ppm Pd Nanoparticle Catalysis
Shania Hayward, *chemistry*
- Role of Temperature and Moisture in the Rate of Decomposition of Soil Organic Matter
Katherine Markstein, *biology*; Corey Palmer, *environmental science systems*
- Classification of the Freshwater Green Alga Tetraëdron Kützing 1845 (Sphaeropleales, Chlorophyceae)
Eba Mohamed, *biology*
- Prevalence of *Toxoplasma gondii* in the Syracuse Urban Deer Population
Gabriella Oliva, *biology*
- One Stop Shop Recruitment Platform
Evan Pfeiffer, *human resource management, information systems*
- Baseline Minute Ventilation in Mice
Jacob Russell, *biology*
- Terrestrial Locomotion in the Juvenile Intertidal Sculpin, *Oligocottus maculosus*
Lucas Smith, *biology*
- A Comparative Review of Labour Market Outcomes of Refugee Migrants vis-à-vis Economic Migrants
Rithika Vajjiravelu, *economics*
- Examining the Role of Cellular Stress in Reovirus-Induced Oncolysis of Pancreatic Cancer Cells
Megan Worth, *biology*
- Synthesis and Alkylation of Curcumin Analogs
Francine Yanchik, *biochemistry*

ABSTRACTS, FACULTY MENTORS, AND BIOGRAPHIES: STUDENT SCHOLARS ORAL AND POSTER PRESENTATIONS

8:30 – 8:45 a.m.

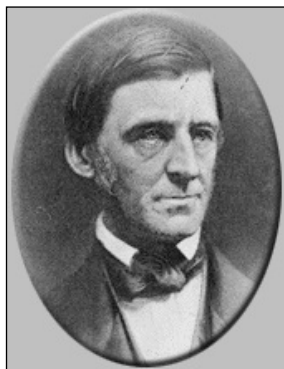
RALPH WALDO EMERSON AND CATHOLICISM: A NEW SACRAMENTALISM

Dominic P. Uliano IV, English

Faculty Mentor: Jennifer Gurley, Ph.D.

Abstract: Ralph Waldo Emerson, one of the 19th century's greatest writers and philosophers, was a Unitarian minister and Protestant idol. However, Emerson's trip through Italy and his observance of nature in his texts makes for an interesting conflict of religious reform and tradition in the 19th century. Emerson's complicated union between image and word makes Catholic tradition and Protestant tradition the basis for his own religious reform through a "New Sacramentalism" in Transcendentalism.

Bio: Dominic Uliano IV is a senior English major with a concentration in creative writing and a minor in classical humanities. He has an abundance of interests and would love to have a conversation about them with you.



8:45 – 9 a.m.

VENTILATION IN CONSCIOUS AND LIGHT ISOFLURANE ANESTHETIZED MICE

Ashley Loeven, biology

Faculty Mentor: Lara DeRuisseau, Ph.D.

Abstract: Our purpose was to investigate if arterial blood sampling with 1 percent isoflurane is a suitable alternative to conscious sampling for monitoring ventilation in a commonly studied mouse strain. This study aimed to test the hypothesis that breathing patterns in conscious and light isoflurane anesthetized B6/C57 mice are similar. One percent isoflurane and conscious breathing patterns were comparable, yet differences emerged upon hypoxia and hypercapnia exposure.

Bio: Ashley Loeven is a senior at Le Moyne College majoring in biology and minoring in chemistry. As a member of the Integral Honors Program, Ashley used this research as the basis for her senior thesis. After graduating in May of 2018, she plans to earn her Ph.D. in biology. She would like to thank Dr. Lara DeRuisseau and Dr. Matthew Fee for their guidance, assistance, and mentorship.



9 – 9:15 a.m.

HAVE YOUR CAKE AND EAT IT TOO?: NONPROFIT ENTERPRISE, THE CONSUMER, AND THE FUTURE OF CAPITALISM

Ella DiGiovanni, sociology, peace and global studies

Faculty Mentor: Frank Ridzi, Ph.D.

Abstract: Social enterprise blurs the line between markets and civil society. The nonprofit enterprise, a typology of social enterprise, is a nonprofit 501c3 organization engaged in mission-supporting commercial activity. This thesis explores the nature and dynamics of this hybrid model, discusses the implications for consumers, and asks what it could all mean for the future of capitalism.

Bio: Ella DiGiovanni stumbled into the Integral Honors Program freshman year, held on for dear life, and is up on this stage today only by the grace of God. Apart from taking classes, she has taken advantage of every opportunity to travel and study internationally. She looks forward to graduating and starting the next chapter of her life working in Syracuse.



9:15 – 9:30 a.m.

TRUMP GAGS GLOBAL DISCUSSION OF ABORTION: A SOCIOLOGICAL LOOK AT THE EFFECTS OF THE GLOBAL GAG RULE IN KENYA

Jessica Rundell, political science

Faculty Mentor: Jonathan Parent, Ph.D.

Abstract: The Global Gag Rule is an American Policy that restricts NGOs from receiving USAID funding for the use of family planning if abortion is even spoken about in their health clinics. This paper explores the effects of this policy on maternal mortality and other demographics in Kenya, then analyzes these effects with a sociological lens. Lastly, this paper discusses the likely effects of the Global Gag Rule in the next four to eight years after it was reinstated by President Donald Trump.

Bio: Jessica Rundell will be going to Northeastern School of Law next year with the intent of pursuing a field in law related to women's health. While at Le Moyne, Jessica majored in political science with minors in gender and women's studies, legal studies, environmental studies, sociology, peace and global studies, and Latin. Jessica would like to thank Dr. Fee, Dr. Parent, and Dr. Ternikar for all their help with her thesis.



9:30 – 9:45 a.m.

INTO THE LIVES OF SERIAL KILLERS: PSYCHOPATHY, ABUSE, AND 'INHERENT EVIL'

Emily Murdock, psychology

Faculty Mentor: Christina Michaelson, Ph.D.

Abstract: The question surrounding serial killing has long been debated in the field of psychology. Scholars argue about the relative contributions of nature and nurture. However, considering nature and nurture as opposite sides of a dichotomy ignores the diversity of life experience. Rather than one factor influencing the making of a serial killer, this study aims to demonstrate that there are a multitude of factors that lead to the development of serial killing.



Bio: Emily Murdock is a senior psychology major, with a minor in both criminology and sociology. She lives in Canandaigua, N.Y. She gratefully acknowledges the help of Dr. Michaelson, Dr. Marganski, and Dr. Fee for their guidance within the thesis process.

9:45 – 10 a.m.

#BLACKLIVESMATTER: THE PLAYLIST- "A MOTHER'S CRY"

Alice Olom, political science

Faculty Mentor: Edward Ruchalski, M.M.

Abstract: This is a creative thesis that is composed of two parts: The written academic piece in which I go into depth about the role of black women and mothers during the Civil Rights movement during the 1950s and '60s and compare and contrast it to the role of black women and mothers during the ongoing #BlackLivesMatter movement that started in 2012. The second part is the creative portion in which I create a story album named #BlackLivesMatter: The Playlist- "A Mother's Cry." The story album parallels the perspective of a black mother who lost her son to acts of police brutality and shares her grief with the same crowd who is moved by the #BlackLivesMatter movement and pays tribute to mothers of the movement through select songs and poems by black women and through original pieces written by me inspired by the movement.



Bio: Alice "Queen" Olom is a senior political science major with a minor in gender and women's studies. She is well known for her involvements on and off campus and her activism in various issues. After graduation she hopes to spend some years in the Peace Corps before going into graduate school and eventually becoming a diplomat and then an ambassador.

10 – 10:15 a.m.

THE SACRED HEART AND THE AGONIZING CHRIST: HOW THE HISTORY OF THE SACRED HEART IMAGE INFLUENCED THE IMAGE OF THE AGONIZING CHRIST

Amanda Camilleri, English

Faculty Mentor: Darius Makuja, Ph.D.

Abstract: This thesis will focus on the devotion to the Sacred Heart of Jesus and its absorption to the occultic practice of the Agonizing Christ. The Sacred Heart of Jesus image developed from St. John's Gospel, and it is an image of sacrificial love. The Sacred Heart became a part of the Agonizing Christ image, which developed from the visions of Barnabas Nwoye.



Bio: Amanda Camilleri is a senior majoring in English and minoring in visual arts and religious studies. She also hopes to become certified in adolescent and special education. She would like to thank Dr. Makuja, Father Dolan, and Dr. Fee for advising and counseling her through her research and thesis.

10:15 – 10:30 a.m.

THE UNION, THE CONFEDERACY AND PARASITES: THE INFLUENCE OF PARASITES ON THE AMERICAN CIVIL WAR

Jeanette Cudney, biology

Faculty Mentor: Sherilyn Smith, Ph.D.

Abstract: Parasites have played a role in countless aspects of human society, and have a wide range of hosts, species, and pathology. A parasite derives nutrients from and causes harm to a host. This thesis evaluates the role of parasites in the United States Civil War, specifically focusing on lice, malaria, and the New World hookworm. There is good evidence that suggests that these parasites did indeed influence the outcome of the Civil War.



Bio: Jeanette Cudney is a senior biology major in the Integral Honors Program. She will attend veterinary school following graduation. She would like to thank Dr. Sherilyn Smith, Dr. Douglas Egerton, Dr. Matthew Fee and everyone who has helped her to achieve her goals throughout this process.

10:30 – 10:45 a.m.

DENTAL DESERTS: INEQUALITY OF ORAL HEALTH IN NEW YORK STATE

Karleigh Volk, biochemistry

Faculty Mentor: Matthew Loveland, Ph.D.

Abstract: Oral health is crucial to one's overall quality of life. This paper explores various oral health indicators and their correlations with other socioeconomic, racial and biological factors. The causes of the divide in the quality of oral health may not be as simple as who is eating the most candy or not brushing well enough. The intricacies of the variables explored may shed some light on the "silent epidemic" of oral health inequality.

Bio: Karleigh Volk would like to thank everyone that has helped her get to this point in her life, especially her family, friends, and mentors at Le Moyne. After graduating Le Moyne in May, Karleigh will be attending the University at Buffalo School of Dental Medicine, where she hopes to further her education and make a difference in the world improving oral health.



10:45– 11 a.m.

THE MUSLIM BAN: A REVELATION OF BROKEN AMERICAN POLITICS

Veronica Ung-Kono, political science, communications

Faculty Mentor: Matthew Loveland, Ph.D.

Abstract: Immigration is fundamental to the formation of the United States' identity. The Trump administration's establishment of Executive Order 13769 illustrates how the institutionalization of the Trump administration exposes the embedded ideologies of American civil religion, American exceptionalism, and culture wars. The executive order frames the current political time as one of Disjunctive Politics, and marks a notable shift in the United States' role in the international community.

Bio: Veronica Ung-Kono is a senior political science and communications double major with minors in legal studies, advanced writing, and human resource management. In the fall of 2018, she will attend Vermont Law School and earn a JD/Master of Environmental Law and Policy.



11 – 11:15 a.m.

SYRACUSE, NEW YORK: INCIDENTS OF DIABETES IN REGIONS OF POVERTY

Martha Campos, biology

Faculty Mentor: Cinnamon Pace, Ph.D.

Abstract: Diabetes is a growing epidemic of major concern and it appears to be prevalent in the underserved communities of Syracuse. Through methodological data examination and literary review, the correlation between local access to resources and their effect on the progression of diabetes can potentially reveal the cause of this discrepancy. Furthermore, I address the deeper issue of health disparity by analyzing the biological and social components that serve as predictors of type 2 diabetes.

Bio: Martha Campos is a senior majoring in biology and minoring in Spanish. She will be graduating in May and hopes to eventually further her education.



11:15 – 11:30 a.m.

KYODATSU AND KUROSAWA: EXHAUSTION AND DESPAIR IN THE POSTWAR FILMS OF KUROSAWA AKIRA

Alexander Leblond, history, theatre arts

Faculty Mentor: Julie Grossman, Ph.D..

Abstract: Following Japan's surrender at the end of World War II, a melancholic malaise, *kyodatsu*, descended over the Japanese populace. During this nation-wide depression, Kurosawa Akira, a promising young filmmaker, made two genre films now celebrated for capturing the ethos of 1940s Japan: *Drunken Angel* (gangster film) and *Stray Dog* (detective film). Kurosawa's use of genre to explore the complexities of *kyodatsu* has been given less attention, but it was vital to both films' success.

Bio: Alexander Leblond will be pursuing graduate studies in East Asian studies. He would like to thank Julie Grossman, Matthew Fee, and Edward Judge for their support, critique, and patience.



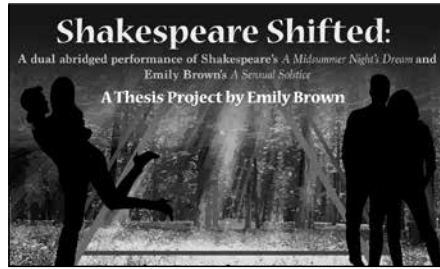
11:30 – 11:45 a.m.

SHAKESPEARE SHIFTED: IS LANGUAGE A BARRIER TO UNDERSTANDING SHAKESPEARE?

Emily Brown, theatre arts, English

Faculty Mentor: Patrick Lawler, M.A.

Abstract: While many people enjoy the plots and poetry of Shakespeare's comedies, they are often either too intimidated to go see a show, or do not understand the colloquials of Shakespeare's times, which consumed his writing. Through a dual abridged staged reading of both *A Midsummer Night's Dream* and a modernized rewrite, this thesis explored the effect of language on audience understanding and enjoyment of the performances.



Bio: Emily Brown is graduating from Le Moyne in May 2018 with a dual major in theatre arts and English, with a concentration in creative writing, a minor in arts administration and an Integral Honors Degree. She would like to thank Patrick Lawler, Lindsey Sikes-Voorhees, Dr. Matthew Fee, and all the Performing Arts Center faculty and staff for helping her throughout this process. She would also like to thank her actors and designers for making her thesis a success.

11:45 – Noon

ARTIFICIALLY POETIC: EXPLORING THE IMPLICATIONS OF POETRY CREATED BY ARTIFICIAL INTELLIGENCE

Grace Babcock, English

Faculty Mentor: Maura Brady, Ph.D.

Abstract: As Artificial Intelligence programs gain the ability to replicate language with growing accuracy, the question of whether what they create can truly be considered poetry arises. This thesis aims to explore this question through both literary theory and a creative piece.

Bio: Grace Babcock is a senior English major and an Integral Honors student. She is a poet, a fiction writer, and a future teacher who is passionate about the impact that creativity can have on the real world.



12:10 – 12:45 p.m.

GUEST SPEAKER

Alicia Zielenski '15

Bio: Alicia graduated from Le Moyne College in 2015 with Bachelor of Science degrees in psychology and management and leadership. While at Le Moyne, Alicia conducted research with Shawn Ward, Ph.D., in the Department of Psychology. She is currently pursuing her doctorate in school psychology in the Department of Psychology at Alfred University and will obtain her master of arts in school psychology this May. Alicia has presented her work at numerous national and state psychology conferences and is a coauthor on a manuscript submitted for publication. During both her time at Le Moyne and since graduating, Alicia has demonstrated her dedication to helping others by serving as a consultant, clinician, and service professional to students with disabilities and their families. Her career interests include both clinic and private settings and she would like to continue her work with children with Autism spectrum disorder.



12:45 - 1 p.m.

NABOKOV'S BEDTIME STORY: SUBVERTING CHILDREN'S LITERATURE IN LOLITA THROUGH LEWIS CARROLL

Kaelin Foody, English

Faculty Mentor: Kathleen Costello-Sullivan, Ph.D.

Abstract: In his controversial novel *Lolita* (1955), Vladimir Nabokov explores the topic of child molestation amid numerous references to children's literature. This thesis explores the frightening implications of this combination, focusing specifically on Nabokov's frequent allusions to notable children's writer—and disputable pedophile—Lewis Carroll, author of *Alice's Adventures in Wonderland*. I argue that Nabokov evokes Carroll and his contested biography as a children's writer to subvert the children's literature genre and render his novel doubly perverse.

Bio: Kaelin Foody is a senior English major with a concentration in literature and minors in advanced writing, Irish literature, and classical humanities. She has a particular interest in modernist literature and aspires to eventually pursue her doctorate in English literature. Kaelin is grateful for everyone who has offered their support and helped her make this project a success.



1 – 1:15 p.m.

BETWEEN CHIARO AND SCURO: RACE, GENDER, AND ITALIAN-AMERICAN IDENTITY

Rachel Scalzetti, history

Faculty Mentor: Douglas Egerton, Ph.D.

Abstract: This thesis examines twentieth-century Italian-American history and Italian-American women's literature as it explores the ways Italian-Americans have negotiated shifting and complex issues of race, gender, and memory.

Bio: Rachel Scalzetti is a senior in the Integral Honors Program with a major in history and minors in English literature and French. She enjoys Italian-American studies, Native-American studies, learning languages, and drawing. In the fall, she plans on attending graduate school for a master's program in history.



1:15 – 1:30 p.m.

MAKE GATSBY GREAT AGAIN

Gabrielle Bruscia, political science

Faculty Mentor: Delia Popescu, Ph.D.

Abstract: Donald Trump's 2016 presidential campaign was full of promises to ultimately "Make America Great Again." I analyze the cultural and economic anxieties that Donald Trump played on during his campaign by reading F. Scott Fitzgerald's *The Great Gatsby* through a lens of whiteness, highlighting immigration and race issues, job and class tensions, and illusions of greatness. The purpose of this project is to comment on the parallels of political culture in the 1920s and the 2010s.

Bio: Gabrielle Bruscia is currently working as a grassroots director for a congressional campaign here in Syracuse. Next spring, she will pursue her Masters in Public Administration at American University in Washington, D.C.



1:30 – 1:45 p.m.

INTERSECTIONALITY AND FACTIONALISM IN THE NEW LEFT: A SOCIAL MOVEMENT CASE STUDY

Isabel Lasch-Quinn, history

Faculty Mentor: Delia Popescu, Ph.D.

Abstract: The New Left of the 1960s was a combination of movements for social change which often involved grassroots activism in the form of community organizing such as writing pamphlets, attending conferences, and leading protests. This paper will examine how five institutions of the New Left, including SNCC, SCLC, SDS, ERAP, and NOW furthered women's rights and civil rights by embracing intersectionality. However, burgeoning factionalism, especially with the introduction of separatist, radical, and even militant resistance hindered the progress of the New Left.

Bio: Isabel Lasch-Quinn is a senior history major, with minors in peace and global studies and Italian and is graduating this May. Her work has been published in a history encyclopedia for ABC-CLIO and she has presented a history paper at an interdisciplinary conference in Albuquerque, N.M. Isabel currently teaches Italian to elementary students. She plans to pursue a master's degree after graduation. She would like to thank Dr. Delia Popescu and Dr. Leigh Fought for their suggestions and support with thesis writing.



1:45 – 2 p.m.

COMPETING IDEAS IN QUANTUM MEASUREMENT: THE SEARCH FOR A PERFECT "THEORY OF EVERYTHING"

Melissa Schmitz, physics, chemistry

Faculty Mentor: Christopher Bass, Ph.D.

Abstract: Since the quantum revolution in the early 20th century, finding the "perfect" theory to completely describe the universe at the subatomic scale drove the greatest minds of modern physics. This project investigates the role of local hidden variables – a quantum compliment to the absolute, predictable nature of classical systems championed by Einstein in 1935 – in understanding foundational theoretical concepts using spin within the Copenhagen and Pilot Wave interpretations of quantum mechanics.

Bio: Melissa Schmitz is a senior physics and chemistry double major who will pursue a career in data science after graduation. She would like to thank David Craig and Christopher Bass of the physics department for help in developing this project as well as Jonathan Needleman of the mathematics department for his support in advanced mathematical topics.



2 – 2:15 p.m.

ENGLAND OR ANLETĀR: ELIZABETHAN DIPLOMACY AND THE LEVANT

Steven Casement, history

Faculty Mentors: Robert Zens, Ph.D. and Robert Scully, S.J.

Abstract: This paper focuses on the burgeoning relationship between Elizabethan England and the sultans of the Levant during the early modern period. Elizabethan policy increasingly emphasized a fervent, diplomatic pragmatism designed to foster friendship and allies, through the end of the Tudor period. This thesis contends, that despite interference by numerous outside influences, it was through Elizabeth and her ambassadors that the English diplomatic relationship with the Levant reached a height never before seen in the history of the British Isles.

Bio: Steven Casement is a senior history major who will be moving on to pursue a Ph.D. in early modern history in the fall. Steven would like to thank project mentors Dr. Bob Zens and Father Bob Scully for their incredible help and guidance in the completion of this research project.



2:15 – 2:30 p.m.

WHAT INFLUENCES COLLEGE STUDENT SUCCESS? A STATISTICAL ANALYSIS OF INDIVIDUAL AND INSTITUTIONAL DETERMINANTS

Hallam Doney, mathematics, economics

Faculty Mentor: Wayne Grove, Ph.D.

Abstract: Attrition is the biggest challenge in higher education. Based on a sample of colleges and universities in the Northeast, I seek to account for variations in student graduation rates with a wide range of individual and institutional variables. My goal is to estimate institutions' contributions to student success by controlling for entering student measures of academic aptitude. In addition, I will estimate the determinants of two other measures of success: average salary and the percentage of alumni that believe they positively impact society. This allows me to estimate which colleges influence student success, with a focus upon Le Moyne College.

Bio: Hallam Doney is a senior majoring in statistical mathematics and economics. He is planning on working in the field of finance after graduating in May in order to best utilize his analytical skills gained from his degrees. During his four years at the College, he has competed on the men's tennis team and is currently the captain.



2:30 – 2:45 p.m.

SYNTHESIS OF NNN Pincer Ligands AND COMPLEXATION WITH ALKALI AND ALKALINE EARTH METALS

Devon Haugh, chemistry; Janelle Burke, chemistry

Faculty Mentor: Anna O'Brien, Ph.D.

Abstract: Inorganic complexes of alkali and alkaline earth metals have been studied as potential Metal Organic Chemical Vapor Deposition (MOCVD) precursors, which are commonly used in the manufacturing of electronics. In an effort to synthesize new MOCVD precursors, two pincer ligands 2,5-bis(3,5- dimethylpyrazolylmethyl) and bis[2-(3,5- dimethyl-1- pyrazolyl)ethyl]amine have been synthesized and extensive coordination studies involving a range of alkali and alkaline earth metals have been conducted.

Bio: Devon Haugh is a senior chemistry major from Binghamton, N.Y., and will be entering graduate school next year for a Ph.D. in chemistry. She would like to thank her advisors and mentors, Dr. Anna O'Brien, Dr. Miriam Gillett-Kunnath, and Dr. Karin Ruhlandt, along with her past and present lab mates, Brian, Rosario, Janelle, and Micayla, for their constant support and for teaching her so much throughout the past few years.

Janelle is a junior chemistry major with a concentration in pre-engineering. She would like to thank Dr. O'Brien, Devon, Rosario, and Micayla for their help and guidance.



2:45 – 3 p.m.

THE NEAR EXTINCTION AND RESURGENCE OF SCARIFICATION IN WEST AFRICA

Conor McCabe, criminology, peace and global studies

Faculty Mentor: Deborah Tooker, Ph.D.

Abstract: The purpose of this study is to explore why in some regions of West Africa the prevalence of scarification has diminished, whereas in others it has increased. I theorize that the reason for this may be a counter to the values imposed by Western colonial and post-colonial overlords. Through my research, I hope to confirm this theory or come to an alternate conclusion.

Bio: Conor McCabe's interest in scarification began during a Le Moyne College supported and scholarship funded Department of State internship in fall 2017 in Ouagadougou, Burkina Faso. He aspires to work in Africa in the future after participating in internships on the continent in 2016 to Gabon and in 2017 to Burkina Faso. Conor will commission as a second lieutenant and infantry officer in the U.S. Army in May 2018.



3 – 3:15 p.m.

THE RELATIONSHIP OF TEMPERATURE TO CHANGES IN THE SPRINGTIME MIGRATION OF BIRDS

Erica Mackey, environmental science systems

Faculty Mentor: Donald McCrimmon, Ph.D.

Abstract: Biologists speculate that the timing of bird migration is shifting due to global climate change, with change in temperature an important variable. I evaluated relationships between first springtime recorded dates of bird species in Massachusetts with temperatures. Species were regressed against year and average winter and spring temperatures of seven eastern U.S. locations. Thirty of 52 species that showed significantly earlier first recorded dates also demonstrated a statistically significant relationship with temperature change.

Bio: Erica Mackey is graduating in May with a bachelor's degree in environmental science systems and plans to continue her education in a master's degree program in environmental science. She wishes to thank Dr. Don McCrimmon, Dr. Jason Lusier, and Dr. Caitlin Cunningham for teaching her a lot and being wonderful research mentors throughout the past two years.



3:15 – 3:30 p.m.

THE CHEROKEE AND SOUTH CAROLINA: AN EVOLVING RELATIONSHIP, THE SLAVE TRADE, AND HOW IT IMPACTED CHEROKEE SOCIETY

Angelica Clements, history

Faculty Mentor: Holly Rine, Ph.D.

Abstract: South Carolina and the Cherokee developed a mutually beneficial trading relationship revolved around slavery which altered gender roles in Cherokee society. It peaked during the Yamasee War when the Cherokee captured members of other tribes to sell to settlers, but it fell apart when Indian slave trade became less viable and South Carolina made promises it never intended to keep. Their relationship continued to deteriorate until the Panic of 1751, never fully repairing after that.

Bio: Angelica Clements is a junior history major with minors in arts administration and medieval studies. Hardworking and dedicated to her studies, Angelica is secretary of art club, vice president of French Club, and a member of Tau Sigma and Phi Alpha Theta honor societies. She would like to thank her family and friends for all the support.



3:30 – 3:45 p.m.

PLANT INSTALLATION AND CONSTRUCTION IN INFRASTRUCTURE POOR REGIONS

Travis May, business analytics, information systems;

Sam Gangi, business analytics, information systems

Faculty Mentor: Martha Grabowski, Ph.D.

Abstract: My research will focus on emerging technologies such as real time location system enabled visualization technologies and how they can assist GE Power Plant employees. It is astounding that a global supply chain organization like GE has difficulty tracking where their shipments are placed. I will be exploring technologies that could track and locate shipments inside the gate of their project sites. My partner and I will develop a conceptual architecture as well as a technological demonstration architecture. This will be evaluated based on supply chain metrics such as installation part requests and liquidated damages.

Bio: Travis May is the Le Moyne College swim team captain. He will be graduating in May 2018 and going to work at National Grid as an associate analyst.



Chris Burton, Sam Gangi, Ian McDonnell, Ryan Colasurdo, Travis May

Sam is an information systems and business analytics dual-major at Le Moyne College. He will be working at BNY Mellon after graduation. They would like to thank to the McDevitt Center for supporting their work. They would also like to thank Ian McDonnell, Chris Burton and Ryan Colasurdo from GE for their expertise and Doug Hill and Dr. Martha Grabowski for their insights and guidance throughout the entire process.

TRUST, TRANSPARENCY, AND THE ROLE OF CULTURE AND ETHICS IN TECHNOLOGY ACCEPTANCE IN SAFETY-CRITICAL SYSTEMS

Sadina Mehmedovic, information systems (M.S.);

Irfan Tihic, information systems (M.S.)

Faculty Mentor: Martha Grabowski, Ph.D.

Abstract: Technological innovation plays an important role in furthering visions of the future. However, it should be noted that individuals with diverse backgrounds respond to advanced technology in different ways. As such, this study is focused on exploring how advanced technologies, such as automated safety-critical systems, impact user trust. At the same time, an emphasis is placed on measuring the influences that culture and ethics have on user trust in advanced technology.

Bio: After graduation, Sadina Mehmedovic will be moving to New York City to work as an auditor at EY. She would like to thank Dr. Martha Grabowski, the McDevitt Center, Betsy DaRin, Dr. Greg Lepak, Dr. Yue Han, and Mr. Joe Viscomi whom have all aided her in her research process. After graduating, Irfan Tihic will be moving to McLean, Va. to work as a technology consultant for PwC's advisory division. He would like to take a moment to thank the McDevitt Center for all of their support throughout the research process. He would also like to extend a very warm thank you to Dr. Martha Grabowski for serving as his mentor and guiding him. Dr. Lepak and Mr. Viscomi both aided him during the data analysis phase, and he cannot say thank you enough to either of these two gentlemen. Furthermore, he would like to add that he appreciated all of the help that he received from Dr. Han, Betsy DaRin, Shane Stockhauser, Lisa Melara, Laila Kobrossy Audi, and Jean-Philippe Rancy. Finally, he would like to thank his fellow McDevitt IS Researchers – these individuals aided him in generating ideas and he appreciates their input!



3:45 – 4 p.m

BIG DATA ANALYSIS OF HETEROGENEOUS LARGE DATA SETS FOR NAVAL CONTRACTING

Ayuen Gai, business analytics, finance;

Anthony Brock, business analytics, information systems

Faculty Mentor: Martha Grabowski, Ph.D.

Abstract: This is a congressionally mandated project with the purpose of creating an architecture that can be used to develop dashboards to improve government contracting processes.

Bio: Ayuen Gai is a junior business analytics and finance major who plans to continue his education here at Le Moyne by getting his master's degree in information systems beginning in the fall of 2019. He would like to thank all of the people who helped him during his time as a McDevitt research Fellow: Dr. Martha Grabowski, Eric Sharpsten, Andy Tremblay, Jeffrey Vittone, Shauve Jackson, and all of his fellow McDevitt Research Scholars: Anthony Brock, Travis May, Sam Gangi, Alyssa Crane, Greg Kelly, Irfan Tihic, and Sedina Mehmedovic.

Anthony is a senior business analytics and information systems major who plans on pursuing a career in the analytics field upon graduation.



LARGE SCALE HEALTH DATA SYSTEMS INTEROPERABILITY

Greg Kelly, information systems, business analytics

Faculty Mentor: Martha Grabowski, Ph.D.

Abstract: This research project has focused on suggesting interoperability standards that define protocols and metrics for electronic medical records at each layer of the International Standards Organization's Open Systems Interconnectivity (OSI) Model. This set of standards has been developed by surveying and applying existing and emerging technology to a clinical setting and explaining how it fits within government defined constraints.

Bio: Greg Kelly is a senior from Saratoga Springs, N.Y. He will be graduating in May 2018 and will be spending a year in Quito, Ecuador, teaching English. He would like to thank the McDevitt Center for funding his project as well as Dr. Martha Grabowski and Chuck Fennell for supporting his research.



EVALUATION OF WEARABLE IMMERSIVE AUGMENTED REALITY FOR SHIP NAVIGATION

Alyssa Crane, information systems, marketing

Faculty Mentor: Martha Grabowski, Ph.D.

Abstract: Bringing together wearable immersive augmented reality (WIAR), with the use of Google Glass and the application GlassNav™, could allow operators of the Staten Island Ferry to view critical information without altering their focus from the area they are navigating. Safety is a top priority, therefore it is crucial to answer the questions of how WIAR could change and impact operator communications, in order to ensure that GlassNav™ works the way it is intended.



Bio: Alyssa Crane plans on graduating in May 2018 with a dual major in information systems and marketing, and a minor in entrepreneurship. She would like to thank Dr. Martha Grabowski, J.P. Rancy, Aaron Rowan, Dr. Greg Lepak, the McDevitt Center, the Le Moyne College IRB, the Maritime Institute of Technology and Graduate Studies, the Staten Island Ferry, and the rest of the McDevitt Information Systems researchers for their help and support throughout this research project.

4:15 – 5:30 P.M. POSTER SESSION

THE DEER TICK AND ITS ROLE IN THE TRANSMISSION OF LYME DISEASE

Siara Clos, biology; Mikaela Rutter, biology; Delanie Sweeney, biology

Faculty Mentor: Patrick Yurco, Ph.D.

Abstract: Lyme disease is frequently overlooked in the medical field; however, cases of Lyme infection have steadily risen over the past decade. The Blacklegged Deer Tick (*Ixodes scapularis*) is the vector that transmits the bacteria that causes Lyme disease. We have collected ticks across Central New York and tested them for the presence of the Lyme-causing bacteria. The goal of our study is to bring about greater public awareness regarding the risks of Lyme infection.

Bio: Mikaela Rutter and Delanie Sweeney will graduate in May 2018 and Siara Clos will graduate in May 2019. Mikaela plans on utilizing her skills acquired through research to further her education as a physician assistant. Delanie Sweeney has enjoyed being a part of this very important research topic and will be pursuing further education to become an occupational therapist. Siara Clos emphasizes the clinical importance in this study and plans to pursue medical school. Mikaela, Delanie, and Siara would like to extend their greatest appreciation to Dr. Patrick Yurco for mentoring this research as well as Dr. Sherilyn Smith for all of her help through this process.



UTILIZING HUMAN FOOD WASTE TO SUPPORT THE FOOD CHAIN

Sarah Cobb, biology; Gabriella Converse, biology; Anna Austin, biology

Faculty Mentor: Blair Page, Ph.D.

Abstract: As the world develops and the population grows, the demand for food grows along with it. With this increasing demand for food comes consequently the issue of increased production of food waste. We set out to research if reintroducing this food waste back into the food chain could be a sustainable way to increase biomass production at multiple trophic levels. This was done by studying the growth of plants, aquatic invertebrates, and terrestrial invertebrates being fed food waste from the Le Moyne dining hall. The purpose of this research is to see if it is plausible to use food waste as a resource to help produce human food and/or animal feed.



Bio: Sarah Cobb came to Le Moyne with the Trustee Scholarship majoring in biology and minoring in chemistry. Upon graduation, Sarah plans on pursuing her Ph.D. in biology and becoming a university professor. Sarah would like to thank Dr. Blair Page for all of his inspiration and guidance with this research. Gabriella Converse came to Le Moyne with the Trustee Scholarship majoring in biology and minoring in chemistry. Following graduation Gabriella is planning on attending medical school and specializing in emergency medicine. Gabriella would like to thank Dr. Page for the encouragement and opportunity to be able to perform this research. Anna Austin came to Le Moyne with a Leadership Scholarship majoring in biology and minoring in chemistry. After graduating Anna plans to attend medical school and specialize in pediatrics. Anna would like to thank Dr. Page for all of his help and support with this research.

REVIEW AND META-ANALYSIS OF THE ASSOCIATION BETWEEN DISGUST AND BMI

Kendall Corcoran, psychology

Faculty Mentor: Theresa White, Ph.D.

Abstract: Obesity is epidemic, but descriptions of the obese population's attitudes toward food vary. This meta-analysis intended to characterize the relationship between BMI and disgust sensitivity, with the view that individual differences may contribute to distorted eating patterns. PubMed, PsycINFO, and ProQuest databases were searched for relevant articles. A variability of results were found with five positive and five negative correlations of BMI and disgust sensitivity. The results



were limited due to missing data from selected articles, inhibiting further analysis and creating a problem for future research in this area of study.

Bio: Kendall Corcoran is a senior psychology major with a Spanish minor at Le Moyne College. After receiving her bachelor's degree in psychology at the conclusion of this semester, she will continue her education in the clinical psychology doctoral program at Loyola University Maryland. She would like to thank Dr. Theresa White for this research opportunity as well as Dr. Caitlin Cunningham for providing the statistical analysis on this study.

UTILIZATION OF DNA POLYMERASES AND THEIR CLAMPS DURING DNA REPAIR IN *DROSOPHILA*

Evan Davis, biology; Ashleigh Manktelow, biology

Faculty Mentor: Daniel Kane, Ph.D.

Abstract: Cells encounter thousands of DNA damaging events a day that may be detrimental to genomic integrity. DNA double-stranded breaks (DSBs) can give rise to increased mutations causing diseases such as cancer. We hope to understand how a cell repairs DSBs accurately by coordinating new DNA synthesis. Multiple DNA polymerases and their processivity clamps may be involved. We will determine the role of DNA polymerase Rev1 and clamps Hus1 and PCNA2 in *Drosophila* using genetic assays.

Bio: Evan Davis is a senior biology major from Oswego, N.Y., with minors in chemistry and Spanish. After graduation, he is hoping to begin medical school. Evan would like to thank Dr. Daniel Kane for his guidance and support in this project along with all of the biological sciences faculty for their support over the past four years. Ashleigh Manktelow is a junior biology major from Kingsbridge, England, with a minor in chemistry. She plans to attend medical school in the U.S. following graduation.



STATISTICAL MODELING OF A PROFESSIONAL SINGLES TENNIS MATCH

Hallam Doney, mathematics, economics

Faculty Mentor: Caitlin Cunningham, Ph.D.

Abstract: In this paper, we evaluate professional singles tennis matches to: predict results; find the most important variable; check for variation depending on surface and gender; and, factor for nonrandomness. We conclude that unforced errors, winners and first serve points won are the most significant variables, and around 90 percent of matches can be predicted. Also, gender affects serving statistics, surface only affects aces, and models have more distinct significant variables once non-randomness is factored for.



Bio: Hallam Doney is a senior majoring in statistical mathematics and economics. He is planning on working in the field of finance after graduating in May in order to best utilize the analytical skills gained from his degrees. During his four years at the College, he has competed on the men's tennis team and is currently the captain.

THE PATTERN OF BREATHING IN YOUNG WILD TYPE AND Ts65Dn MICE DURING THE DARK AND LIGHT CYCLE

Brianna Eassa, biology

Faculty Mentor: Lara DeRuisseau, Ph.D.

Abstract: People with Down syndrome (Ds) exhibit disordered breathing, including sleep apnea in the night. The purpose of this study is to lay groundwork for understanding the ventilation deficits associated with Ds by studying Ts65Dn mice, or trisomic mice, a model of Ds. We aimed to identify the age (starting at 3 months as reported here) and circadian cycle when pattern of breathing alterations emerge in Ts65Dn mice compared to controls.

Bio: Brianna Eassa is a junior biology major with a minor in chemistry. After graduation she hopes to attend graduate school and work towards a PhD. She would like to thank Dr. Lara DeRuisseau and Dr. Receno for all their help and support with this project.



CATTRACKER

Renee Fenzl, biology

Faculty Mentor: Jason Lusier, Ph.D.

Abstract: The domestic house cat (*Felis catus*) is one of the world's worst invasive species, with high population densities which pose a threat both to humans and to native wildlife. The goal of this study is to establish a baseline on the cat population in Syracuse, New York, using a newly developed smartphone app called *CatTracker* to collect citizen science data for informing future management strategies and to raise awareness about this conservation issue.



Bio: Renee Fenzl is a senior biology major at Le Moyne College. When she graduates, she plans on attending SUNY Upstate Medical University to study radiation therapy.

AEROBIC DEHYDROGENATION OF NITROGEN HETEROCYCLES USING FE-PPM Pd NANOPARTICLE CATALYSIS

Shania Hayward, chemistry

Faculty Mentor: Joseph Mullins, Ph.D.

Abstract: Nitrogen heterocycles are ubiquitous in pharmaceuticals and other biologically active molecules. A greener and more efficient catalytic aerobic dehydrogenation method to afford hetero(aromatic) compounds was evaluated. The dehydrogenation of 1,2,3,4-tetrahydroquinoline to afford the corresponding quinolone utilized both Fe-ppm nanoparticle and micellar catalysis.



Bio: From upstate New York, Shania Hayward is a senior chemistry major at Le Moyne College. After Le Moyne, she will attend graduate school to pursue a Ph.D. in chemistry. She thanks Dr. Joseph Mullins for his mentorship and support. She also thanks the McDevitt Center and the Student Research Committee for funding this research project.

ROLE OF TEMPERATURE AND MOISTURE IN THE RATE OF DECOMPOSITION OF SOIL ORGANIC MATTER

Katherine Markstein, biology; Corey Palmer, environmental science systems

Faculty Mentor: Lawrence Tanner, Ph.D.

Abstract: This study examines the impact of changing soil moisture and temperature on the rate of soil organic matter (SOM) decomposition, a process that releases CO₂ from soil to atmosphere. Soil was excavated from Le Moyne campus to a depth of 20cm. The top 10cm are being studied separately from the bottom 10cm. Soils are held in 12 pots at all possible combinations of 2 moisture and 3 temperature treatments. CO₂ flux is measured weekly.



Bio: Katherine Markstein is a senior biology major and environmental science systems minor. After completing her undergraduate degree, she plans to pursue environmental research at the graduate level. She would like to thank the McDevitt Center, the Student Research Committee, her family, Dr. Lawrence Tanner, and the many other professors who have helped her excel over the last four years. Corey is a senior environmental science systems major with a minor in Chemistry. After Le Moyne, she plans on going to graduate school for biogeochemistry, continuing work with soils. She would like to acknowledge her family, the McDevitt Center and Student Research Committee, as well as her advisor Dr. Tanner, for all the help they have given her throughout her time at Le Moyne.

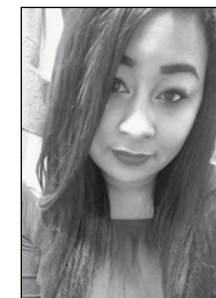


CLASSIFICATION OF THE FRESHWATER GREEN ALGA TETRAEDRON KÜTZING 1845 (SPHAEROPLEALES, CHLOROPHYCEAE)

Eba Mohamed, biology

Faculty Mentor: Hilary McManus, Ph.D.

Abstract: Tetraëdron Kützinger 1845 is a genus of green algae placed in the class Chlorophyceae, order Sphaeropleales, and family Hydrodictyaceae. Recent analyses of DNA sequence data of the species relationships within the family Hydrodictyaceae excludes representatives of Tetraëdron, and other studies of the order Sphaeropleales have indicated it might belong to the family Neochloridaceae (Sphaeropleales, Chlorophyceae). This study aims to sequence nuclear genes of Tetraëdron to re-evaluate its evolutionary relationship to members of Hydrodictyaceae and Neochloridaceae.



Bio: Eba Mohamed is a junior biology major and psychology minor. She hopes to do research in personalized and genomic medicine and earn her Ph.D. after completing her undergraduate degree.

PREVALENCE OF *TOXOPLASMA GONDII* IN THE SYRACUSE URBAN DEER POPULATION

Gabriella Oliva, biology

Faculty Mentor: Emily Ledgerwood, Ph.D.

Abstract: *Toxoplasma gondii* is a parasitic protozoan that causes the disease toxoplasmosis in its host and is capable of infecting any warm-blooded animal. Amplification and analysis of *T. gondii* DNA from white-tailed deer fecal samples collected in city parks across Syracuse will provide data on its prevalence in the Syracuse urban deer population. This research aims to assess the health risk that deer pose in transmitting this parasite to the human population of Syracuse.

Bio: Gabriella Oliva is a junior majoring in biology and minoring in chemistry and music. She is currently exploring the possibility of attending medical school after graduation. She would like to thank Dr. Emily Ledgerwood, Dr. Jason Luscier, and the Student Research Committee for their support.



ONE STOP SHOP RECRUITMENT PLATFORM

Evan Pfeiffer, human resource management, information systems

Faculty Mentor: Renee Downey-Hart, Ph.D.

Abstract: Roughly sixty percent of job seekers quit in the middle of filling out online job applications due to the complexity and length according to CareerBuilder. By building an infrastructure to support a multi-organizational recruitment platform, applicants will no longer be expected to complete numerous applications that ask archaic questions. Applicants will have the opportunity to streamline their applications to a variety of organizations in one simple click.

Bio: Evan Pfeiffer would like to thank Renee Downey-Hart, Ph.D., Martha Grabowski, Ph.D. and all other faculty members for their continuous support. He plans to enter the workforce and pursue his master's degree following graduation in May.



BASELINE MINUTE VENTILATION IN MICE

Jacob Russell, biology

Faculty Mentor: Lara DeRuisseau, Ph.D.

Abstract: This experiment tested the hypothesis that metabolic activity in mice is higher in the active, or dark period. We used oxygen and carbon dioxide sensors to quantify VO₂ and VCO₂ in two groups of mice in the light and dark cycle. This measure is important to normalize baseline minute ventilation to metabolic activity to determine differences across groups and interventions.

Bio: Jacob Russell is a biology major at Le Moyne College. This is his first research project. Jacob hopes to apply what he learns to advance in a career towards medical research.



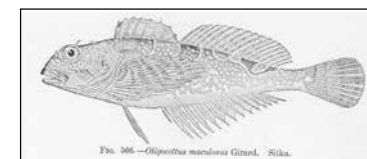
TERRESTRIAL LOCOMOTION IN THE JUVENILE INTERTIDAL SCULPIN, *OLIGOCOTTUS MACULOSUS*

Lucas Smith, biology

Faculty Mentor: Cinnamon Pace, Ph.D.

Abstract: The intertidal sculpin, *Oligocottus maculosus*, is a fish that inhabits the intertidal zone. At low tide juveniles are found in the upper intertidal zone, putting them at risk of exposure and potentially forcing them to move across land. Our research investigates how different substrates may affect the terrestrial movements of this fish. To address our question, several individuals were filmed moving across three different substrates, and their kinematic variables were calculated for each substrate.

Bio: After graduating this May with a bachelor's in Biology, Lucas Smith plans on taking a gap year with hopes of going on to become a physician assistant. He would like to thank and acknowledge all of the biology department staff who have inspired him over the past four years, especially Dr. Pace for the opportunity to work in the research field.



A COMPARATIVE REVIEW OF LABOUR MARKET OUTCOMES OF REFUGEE MIGRANTS VIS-À-VIS ECONOMIC MIGRANTS

Rithika Vajjiravelu, economics

Faculty Mentor: Wayne Grove, Ph.D.

Abstract: According to a report published by the Pew Research Center, about 70 percent of the registered voters in the US said that immigration was “very important” to their vote in the 2016 presidential election. This statistic quantifies how importantly the recent US presidential election focused on the immigration policy of refugee-Syrians in particular and economic immigrants in general. This review surveys existing theoretical and empirical evidence on the labour market effects of refugee immigrants and economic immigrants on the native economy. Since most previous literature has traditionally homogenized all immigrants, this review makes allowances for the unique circumstances under which people migrate and differentiates the labour market outcomes of refugee migrants forced to leave their countries due to political unrest or persecution from economic migrants who arrived in the United States to pursue economic opportunities. This paper thus presents a comparative review of labour market outcomes of refugee migrants vis-à-vis economic migrants. It discusses and compares different theories put forth on the subject and focuses on the methodology and outcomes of the studies presented.

Bio: Rithika Vajjiravelu is a senior economics major and a member of the women’s tennis team. Upon graduation, she hopes to pursue an economic development internship with the Poverty Action Lab in India. Rithika would like to thank Dr. Wayne Grove for his guidance and support in the development and completion of this project.



EXAMINING THE ROLE OF CELLULAR STRESS IN REOVIRUS-INDUCED ONCOLYSIS OF PANCREATIC CANCER CELLS

Megan Worth, biology

Faculty Mentor: Emily Ledgerwood, Ph.D.

Abstract: Reovirus has shown potential as a cancer therapeutic due to its ability to selectively infect and lyse cancer cells, but the mechanism behind this ability remains unclear. Pancreatic cancer has demonstrated susceptibility to reovirus infection in the clinical trial setting. The virus is administered in combination with chemotherapeutics, which are known to induce cellular stress. Western blot and immunofluorescent microscopy were used to determine the impact of cellular stress on the efficiency of reovirus oncolysis.

Bio: Megan Worth is a senior biology major. She plans on pursuing a Ph.D. in microbiology following her graduation from Le Moyne in the spring of 2018. Megan would like to thank Dr. Emily Ledgerwood for her continued mentorship and support. She would also like to thank the Department of Biological and Environmental Sciences as well as the McDevitt Center.



SYNTHESIS AND ALKYLATION OF CURCUMIN ANALOGS

Francine Yanchik, biochemistry

Faculty Mentor: Joseph Mullins, Ph.D.

Abstract: Curcumin is a compound from turmeric, a spice used commonly in Indian cooking. This compound has been shown to have various medicinal effects. The bioavailability of curcumin has been an issue within recent studies; to address this issue different analogs were synthesized that contained additional hydrogen bond acceptors to increase solubility. Previously synthesized curcumin analogs were alkylated to create a stereocenter. Compounds were analyzed using NMR and IR spectroscopy to confirm identity.

Bio: Francine Yanchik would like thank Dr. Joseph Mullins for his continual support while doing research. Francine will be going on to pursue a Ph.D. in chemistry.



This Scholars Day celebration is sponsored by the Student Research Committee, the Office of the Dean of the College of Arts and Sciences, and the Office of the Provost and Academic Vice President of Le Moyne College.