honors program
SENIOR PRESENTATIONS

APRIL 18, 2017

5:30 P.M.

CARLSON LIBRARY, LOWER LEVEL,
AND FOUNDERS HALL

CLARION
UNIVERSITY

OPENING CEREMONY *program*

Tuesday, April 18, 2017
Center for Academic Excellence
5:30 p.m.

Welcome and Introductions ..... Joseph Croskey
Interim Honors Program Director

Remarks ..... Rebecca Greenman
Honors Graduate

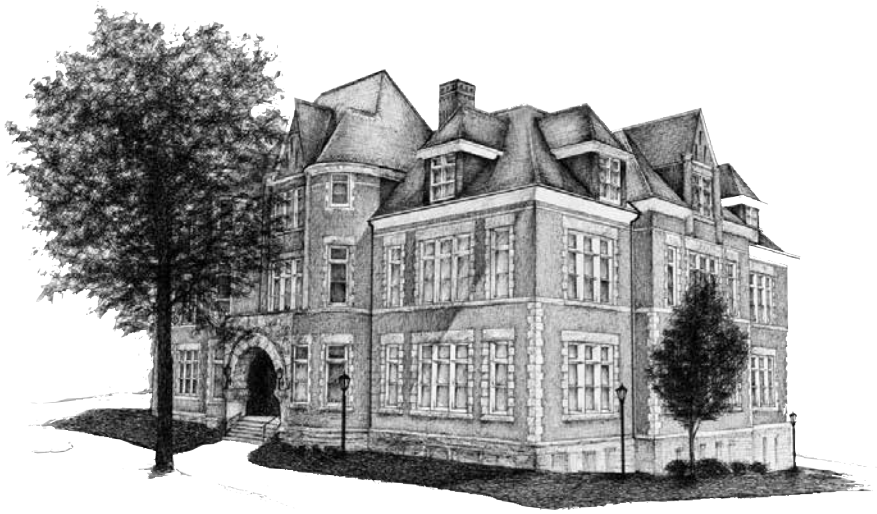
Presentation of Seniors and Faculty Advisors ..... Dr. Todd Pfannestiel
Provost and Vice President for Academic Affairs

Presentation of Honors Stoles ..... Joseph Croskey
Interim Honors Program Director

Closing ..... Megan Blashford
Honors Program Student Director

Students will be dismissed immediately following the ceremony to prepare their presentations. Please remain seated until they have been dismissed.

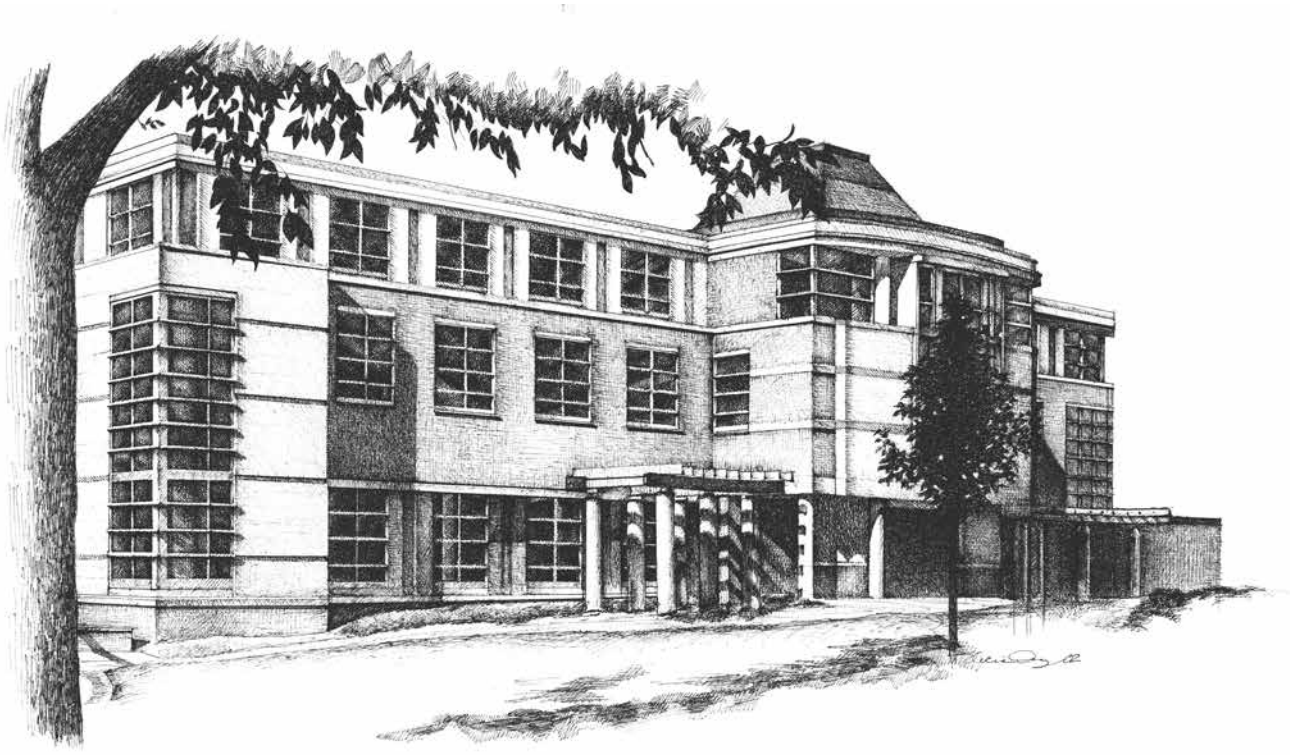
Join us for presentations in Founders Hall immediately following the opening ceremony.



2016-2017

SENIOR HONORS *presentors*

Shannon Ankney
Tyler Beichner
Megan Blashford
Benjamin Blinn
Shane Burns
Loren Dukate
Kelly Dungan
Tyler Falk
Xavier Garibay
Jon Haycock
Morgan Herold
Catherine Hogg
Therese Holzapfel
Warren Huey
Kristina Kiritchenko
Breanne Kothe
Dylan McGlone
Sarah Minnix
Wade Reichelderfer
Kaitlynn Sass
Bethany Shetler
Rachel Stoltz
Jennifer Stuart



SENIOR PRESENTATIONS 2016-2017

(Early sessions 6:10 p.m.–7:30 p.m.)

Session 1 **104 FOUNDERS**

Faculty Moderator: Dr. Craig Scott
Faculty Moderator (Rehearsal): Dr. Helen Hampikian
Honors Alumni Judge: Danielle Emings '11

Flying with Microbes: The Effects of Microban Disinfectant Spray and UV Light on Opportunistic Pathogens and the Benefits with Regards to Emergency Air Transportation Vehicles
SHANNON ANKNEY

Feeding Ecology of the Eastern Red-backed Salamander (Plethodon cinereus) in Forest Patches Dominated by Fern
DYLAN McGLONE

Application of a qPCR Assay for Monitoring Microbial Pathogens in Amphibians
SARAH MINNIX

Session 2 **105 FOUNDERS**

Faculty Moderator: Dr. Adam Roberts
Faculty Moderator (Rehearsal): Prof. Jim Lyle
Honors Alumni Judge: Joslyn Dechant

Concentric Nano Rings and Rotational Symmetry on Al-Cu-Fe Microspheres
BREANNE KOTHE

Dry Cupping Therapy:
Therapeutic Effects of Gliding Versus Static Methods to Increase Hamstring Flexibility in Division II Collegiate Women's Volleyball Athletics
MORGAN HEROLD

How to Make a Bombe
XAVIER GARIBAY

Session 3 **107 FOUNDERS**

Faculty Moderator: Dr. Herb Luthin
Faculty Moderator (Rehearsal): Dr. Ellen Foster
Honors Alumni Judge: Marissa Dechant

Reading for the Cure: Impacts and Future Implications
KAITLYNN SASS

Auditory Perception of Gestured and Ungestured Singing by Trained and Untrained Listeners
MEGAN BLASHFORD

Comparing the Comfort Level and Knowledge of Undergraduate and Graduate Speech-Language Pathology Students and Practicing Speech-Language Pathology Professionals with Augmentative and Alternative Communication
RACHEL E. STOLTZ

The Journey of the Hero: From Greek Epic to the 21st Century Novel
THERESE HOLZAPFEL

SENIOR PRESENTATIONS 2016-2017

(Late sessions 7:40 p.m.–9 p.m.)

Session 4 **114 FOUNDERS**

Faculty Moderator: Dr. Dan Clark
Faculty Moderator (Rehearsal): Prof. Joseph Croskey
Honors Alumni Judge: Erich Spessard

Synthesis and Structural Determination of the Coordination Complexes of Lanthanides with 4,4'-Trimethyldipyridine Dioxide
WARREN HUEY

Analysis of the Toxicity of Analgesic AI on Primary Neuronal Cell Cultures
SHANE BURNS

The Study of Aromatic Compounds in Wax for Wax Burners
BETHANY SHETLER

Session 5 **104 FOUNDERS**

Faculty Moderator: Dr. Rod Raehsler
Faculty Moderator (Rehearsal): Dr. Paul Woodburne
Honors Alumni Judge: Miranda Mease

Studying the Person-Group Relationship in a High-Wage, Low-Pay Workplace
TYLER BEICHNER

A Study of Content v. Skills Based Knowledge
Using Clarion High School Seniors and College Freshmen as a Representative Example
WADE REICHELDERFER

Perceptions of On-Campus Dining Options at Clarion University
KELLY DUNGAN

Curating & Archiving:
Technology, Techniques, & Challenges
KRISTINA KIRITCHENKO

SHANNON ANKNEY

Flying with Microbes:
The Effects of Microban Disinfectant Spray and UV Light on Opportunistic Pathogens and the Benefits With Regards to Emergency Air Transportation Vehicles

Dr. Helen Hampikian, Faculty Advisor

One in 25 patients that are hospitalized or in long-term health care facilities will contract a nosocomial infection. Billions of dollars are spent annually on these infections and while significant progress has been made to control these infections in hospitals, little research has been conducted when it comes to emergency air transport vehicles.

Although staff clean the helicopters between each patient, products such as alcohols, bleach, peroxide and Quats have many disadvantages. As a potential new way to disinfect the helicopters, Microban Disinfectant spray and UV light were tested against common opportunistic pathogens such as *Escherichia coli*, *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Bacillus cereus* and *Salmonella typhimurium*. The minimum inhibitory concentration and the minimum bactericidal concentration were determined for each of these bacterial types. The maximum height from the pathogen that the UV light could be placed and still inhibit the growth of the bacteria was also determined for each species.

These findings demonstrate that Microban and UV light are effective against these organisms. This method of sanitation could also be applied to the cleaning of other transport vehicles such as ambulances, police cars and school buses.

Shannon Ankey is from Rector, Pa., and is a biology major with a pre-veterinary concentration. Upon graduation, she will receive a Bachelor of Science in Biology. Shannon has achieved a spot of the Dean's List for seven semesters and has plans to attend veterinary school after graduation.

TYLER BEICHNER

Studying the Person-Group Relationship in a High-Wage, Low-Pay Workplace

Dr. Chad Smith, Faculty Advisor

The purpose of this project is to study the relationship between employee turnover in a high-labor, low-paying work setting.

The study ties in the work of Amy L. Kristof-Brown, Amy E. Colbert and Karen J. Jansen, researchers from the University of Iowa and Penn State University, into a real-life work setting. Their findings indicate a person's likelihood of sticking with a new job to be made up of three variables (types of fit): person-job, person-group and person-organization.

The anticipated outcome of this case study is to recognize an increased reliance on the "person-group" relationship when assessing employee turnover and retention in a high-labor, low-paying workplace.

Tyler Beichner, from Shippenville, Pa., is an accounting and management major. He will receive a Bachelor of Science in Business Administration upon graduation. During his undergraduate career, Tyler has been a member of Beta Gamma Sigma. After graduation, he plans to hold an accounting position at Specialty Fabrication and Powder Coating & Specialty Fitness Systems in Franklin.

MEGAN BLASHFORD

Auditory Perception of Gestured and Ungestured Singing by Trained and Untrained Listeners

Mr. Kenneth Staub, Faculty Advisor

Gestures heavily influence human communication and have been proven to be instrumental in both communication therapy and vocal pedagogy. Although there has been extensive research on the comparative acoustic measures of gestured and ungestured singing, fewer studies have prioritized the perceptions of these, especially the comparison of perception in trained and untrained audiences. This research project investigates the perceptual effects of singer gestures on trained listener populations and untrained listener populations.

Trained listeners and untrained listeners (determined by demographic data based on musical experience) will listen to audio samples of a singer with gestured and ungestured iterations of a song and answer survey questions regarding the vocal quality of the singer. Survey data will be analyzed using SPSS Software to determine any correlation between listener type and perception.

This study aims to emphasize the importance of gestures in vocal pedagogy, its role in a singer's vocal quality perception and aid in the discussion of any significant differences in the way different listener populations perceive the singers' vocal quality.

Megan Blashford in from Pittsburgh, Pa., and is a speech-language pathology/audiology major. Upon graduation, she will receive a Bachelor of Science in Speech-Language Pathology/Audiology. During her undergraduate career, Megan was a Dean's List student, student director of the Honors Program, the historian for National Student Speech Language and Hearing Association, a proud member of the Clarion University Chamber Singers, traveled abroad to the United Kingdom where she participated in the 2016 Eistedfodd Choir Festival and is the semesterly commencement vocalist for Clarion University. After graduation, Megan will attend graduate school to pursue a Master of Science in Speech-Language Pathology in hopes of eventually specializing in voice disorders and singing science.

SHANE BURNS

Analysis of the Toxicity of Analgesic AI on Primary Neuronal Cell Cultures

Dr. Doug Smith, Faculty Advisor

This project involves testing different doses of the anesthetic, acetaminophen, on different types of mammalian cells to see how they react.

The toxicity of the different dosages of acetaminophen on the cells is quantified using a hemocytometer. Statistical tests are used to support or refute the hypothesis.

This research is important in anesthesiology, more specifically medical procedures, to help increase analgesia, amnesia and immobilization in patients.

Shane Burns, from Warren, Pa., has a major in molecular biology/biotechnology with a concentration in pre-dentistry. He will receive a Bachelor of Science degree in Biology/Biotechnology. During his undergraduate career, Shane has made the Dean's List six of eight semesters and received the Board of Governors Scholarship every year. In addition, he was was inducted into the Phi Eta Sigma Honors Society, Beta Beta Beta Biology Honors Society and Phi Kappa Phi Honors Society. Upon graduation, Shane plans to attend LECOM School of Dental Medicine in Bradenton, Fla. Afterward, he plans to enter the Navy and work as a dentist for four years and attend a residency for oral and maxillofacial surgery.

KELLY DUNGAN

Perceptions of On-Campus Dining Options at Clarion University

Dr. Chad Smith, Faculty Advisor

This study analyzes student, faculty and guest perceptions of on-campus dining options at Clarion University, specifically focusing on Eagle Commons Dining Hall and Gemmell Food Court.

A survey of approximately 750 participants was conducted in each of three semesters (Spring 2016, Fall 2016 and Spring 2017) to help understand guest perceptions on service, food quality, value and other items of importance to visitors. The study also observes student meal plan use with the implementation of focus groups to attain a better understanding of the perception of value students place on meal plans.

The goal is to improve the experiences of guests at these facilities through changes in operations, marketing, and management of the account.

Kelly Dungan is from Warren, Ohio, and is a marketing and management major. Upon graduation, she will receive both a BSBA in Marketing and a BSBA in Management. During her undergraduate career, Kelly has been nominated for the Syed Ali-Zaidi Award for Academic Excellence, a member of Beta Gamma Sigma National Honor Society for Business, a member of Phi Eta Sigma National Honor Society and achieved the Dean's List during all semesters. After graduation, Kelly will be working as the marketing manager for Chartwells Higher Education Dining Services at Clarion University. After she gains marketing experience, Kelly hopes to pursue her MBA and open her own small business.

XAVIER GARIBAY

How to Make a Bombe

Dr. Jeffrey Childs, Faculty Advisor

World War II was a time of change. One top of military strategies and technologies advancing quickly during those few years, the field of cryptography flipped on its head.

With the German's enigma machine producing what appeared as completely random strings of letters, the Allies needed to forgo all the old methods of breaking cyphers. Eventually, with the hard work of men like Alan Turing and Marian Rejewski, the Allies were able to create the Bombe, a book-case sized computer that could break the code of a single message within an hour.

While these machines were destroyed after the war, the work and logic of their creators live on. Using this information, my project recreates and tests the performance of the Bombe on a modern-day computer with both a sequential and parallel algorithm structure to both reevaluate an important time in our history and see how far we have come.

Xavier Garibay, from Brookhaven Pa., is a mathematics and computer science major. Upon graduation, Xavier will receive a Bachelor of Science degree. Xavier plans to join the work-force after graduation.

MORGAN HEROLD

Dry Cupping Therapy:
Therapeutic Effects of Gliding Versus Static Methods to Increase Hamstring Flexibility in Division II Collegiate Women's Volleyball Athletics

Michael Chesterfield and Jeffrey Giovannucci, Faculty Advisors

The purpose of this study is to determine the effects of two types of cupping therapy, static cupping and glide cupping, on hamstring soreness and flexibility.

The subjects studied are 16 female collegiate volleyball athletes between the ages of 18 and 21. Participants were randomly split into two groups with Group A representing the static cupping group and Group B representing the glide cupping group.

Each subject underwent four total treatment sessions over a two-week time period. Soreness was recorded using a visual analog scale and flexibility was determined using a goniometer to measure a supine 90/90 test. These measurements were taken before and after treatment sessions. Treatment sessions consisted of five minutes of four static cups over the muscle bellies of the biceps femoris and semitendinosus for Group A and five minutes of one continuously glided cup over the same muscle bellies for Group B.

Data was recorded via Excel to show the relationship between cupping treatment and flexibility, along with a comparison of the results of the two different forms of cupping. This study is the first of its kind as glide cupping is fairly new to the clinical setting.

Morgan Herold is from Carlisle, Pa., and is an athletic training major. Upon graduation, she wil receive a Bachelor of Arts in Liberal Studies with a concentration in athletic training. During her undergraduate career, Morgan was a scholar athlete, Varsity Letter, Volleyball Captain, Deans List student and has completed over 1,000 hours of clinical experience with her academic program. After graduate, Morgan plans to attend Temple University to study kinesiology and psychology of movement.

THERESE HOLZAPFEL

The Journey of the Hero: From Greek Epic to the 21st Century Novel

Dr. Ralph Leary, Faculty Advisor

For this project, I am analyzing the literary archetype of the hero across different cultures and time periods, using one example each from ancient Greek mythology, Elizabethan drama and 21st century American young adult literature.

The three characters I have chosen to focus on for this investigation are Odysseus from Homer's *The Iliad and The Odyssey*; King Henry V from William Shakespeare's *Henry IV*, Parts One and Two and *Henry V*; and Katniss Everdeen from Suzanne Collins's *The Hunger Games* trilogy.

I am studying these characters in order to better understand how they challenge or support the traits of the archetypal hero. Furthermore, in this project I will investigate how Western societies' concept of the hero in literature has evolved over time and across cultures, as well as how the Western perspective of the hero reflects on our society.

Therese Holzapfel is from Latrobe, Pa., and is an English major with a concentration in writing and a minor in Spanish. Upon graduation, she will receive a Bachelor of Arts in English degree. During her undergraduate career, Therese has been a member of Phi Kappa Phi Honor Society, a member of Sigma Tau Delta English International Honor Society and has received the E. Nelson James Junior Scholarship, the English Alumni Endowed Junior Scholarship, the EAPSU Outstanding English Major Award and was published in the 2017 edition of *Mind Murals*, the Sigma Tau Delta Eastern Region literary journal. After graduation, Therese plans to work in the editing and publication field before pursing further education in graduate school.

WARREN HUEY

Synthesis and Structural Determination of the Coordination Complexes of Lanthanides With 4,4'-Trimethyldipyridine Dioxide

Dr. Jacqueline Knaust, Faculty Advisor

The crystallization of lanthanides with various ligands has been done; however, the ligand 4,4'-trimethylebedipyridine dioxide (bppydo) has not been studied.

Complexes of praseodymium, neodymium and samarium perchlorate and bppydo were synthesized. The crystalline structure and solvent interactions of the praseodymium complex were determined by X-ray crystallography.

In the praseodymium compound, the metal had a coordination number of eight. It was coordinated to two water molecules and six bppydo ligands. Five of the bppydo ligands were bridging to other praseodymium cations and one was terminal. One of the bridging ligands was disordered over two positions. There was also extensive disorder involving the solvent water and perchlorate anions. The synthesis and coordination network of the other lanthanides with bppydo will be studied in the future.

Warren Huey, from Westover, Pa., is a chemistry major. Upon graduation, he will have a Bachelor of Science in Chemistry. During his undergraduate career, Warren received numerous awards, including Undergraduate Award for Achievement in Organic Chemistry, ACS Undergraduate Award for Inorganic Chemistry, Clarion University Chemistry Scholarship, Phi Kappa Phi, Spring 2016 – Present Phi Eta Sigma, National Honor Society, Board of Governors Scholarship, Heagy Memorial Scholarship and achieved Dean's List status during all semesters. After graduation, Warren plans to earn a Ph.D. in chemistry with a focus on inorganic chemistry.

KRISTINA KIRITCHENKO

Curating & Archiving: Technology, Techniques, & Challenges

Dr. Kathleen McIntyre, Faculty Advisor

This project seeks to provide deeper insight into the tasks and challenges of curating, promoting, and archiving at historical museums in 21st Century America. My research includes an analysis of museum audiences, curatorial design, overcoming controversies within public history and museum promotion from interviews and museum studies.

In order to apply my research into practice, I seek to update the Fulmer House Antiques & Collectibles social media page, work as an artifact researcher, assist in event planning and study artifact maintenance and authentication.

By examining the various aspects of museum work, a clearer understanding of the changing field of museum work and role within society can be understood. My project illuminates the pros and cons of the present technological transition in museums, shifting role of public history within American society, and how the next generation of curators can work through these difficulties.

Kristina Kiritchenko is from Moon Township, Pa., and is a history major with a minor in German. Upon graduation, she will receive a Bachelor of Arts in History degree. During her undergraduate career, Kristina was a Phi Alpha Theta Member, studied aboard at Otto-Friedrich Universität Bamberg, completed an additional undergraduate research project *The Mobilization of Clarion: A Case Study of World War I's Effects on American Civilians*, and was History Club president. After graduation, Kristina plans to earn certifications in ESL and teach English in South Korea. She then wishes to pursue graduate studies in Germanic, Eastern European and Museum studies and work for a museum.

BREANNE KOTHE

Concentric Nano Rings and Rotational Symmetry on Al-Cu-Fe Microspheres

Dr. Chunfei Li, Dr. Sharon Montgomery, Faculty Advisors

It has been observed that Al65Cu20Fe15, when fractured by arc melting, produces two types of microstructures, one of which are microspheres.

These microspheres have been shown to create concentric rings on the surface, which a side-view shows to have a step-like structure. Through these spheres, the possibility of having the rings perpendicular to the axes of rotational symmetry has been investigated and have shown the spheres to have two fold and three fold symmetric axes.

Breanna Kothe is from Harrisburg, Pa., and has a double-major in physics and mathematics. Upon graduation, Breanne will receive Bachelor of Science in Physics and Bachelor of Science in Mathematics degrees. During her undergraduate career, she has been a member of Clarion University Women's Swim Team, president of Pi Mu Epsilon National Honorary Mathematics Society, Phi Eta Sigma Honors Society, recipient of Outstanding First Year Physics Award, recipient of Majorie Tippin Leadership Award, recipient of William and Elizabeth Hart Scholarship, recipient of Helen and Lawrence Smith Scholarship and Bob Carlson Scholar Athlete Academic Achievement Award winner. After graduation Breanne plans on attending medical schools and pursue a career in nuclear medicine.

SARAH MINNIX

Application of a qPCR Assay for Monitoring Microbial Pathogens in Amphibians

Dr. Helen Hampikian, Faculty Advisor

Amphibians are experiencing a significant drop in population which is linked to several causes, including infection with the fungus *Batrochochytrium dendrobatidis* (*Bd*) and the DNA virus *Ranavirus* (*RV*). Disease surveillance is crucial if we are to understand how these microbial pathogens are spreading among amphibian populations, and the factors which underlie this spread.

In collaboration with Dr. Kurt Regester's lab and the Pennsylvania Amphibian and Reptile Survey (PARS), we are working to evaluate the presence of these pathogens in the adult red spotted newt (*Notophthalmus viridescens*) across Pennsylvania. We have developed conventional polymerase chain reaction (PCR) and quantitative PCR assays to detect genes specific to *Bd* and *RV* in DNA extracted from swabs and tail clips. We are currently applying our assays to the screening of 200 samples collected from a variety of different eco regions across the state.

Our study is the first-ever statewide surveillance project undertaken to assess levels of these significant microbial pathogens among amphibians. By detecting and quantifying the presence of these disease-causing organisms, we will gain important insights into how *Bd* and *RV* are contributing to the amphibian population crisis in Pennsylvania.

Sarah Minnix is from Pittsburgh, Pa., and a biology major. Upon graduation, she will receive a Bachelor of Science in Biology degree. During her undergraduate career, Sarah was on the Dean's List for all semesters, a member of Phi Eta Sigma National Honor Society, a recipient of the Board of Governor's Scholarship and a recipient of the W.E.B. Dubois Award. After graduation, Sarah plans to attend the Lake Erie College of Osteopathic Medicine in the fall to become a doctor of osteopathic medicine.

DYLAN McGLONE

Feeding Ecology of the Eastern Red-backed Salamander (*Plethodon cinereus*) in Forest Patches Dominated by Fern

Dr. Kurt Regester, Faculty Advisor

In many Pennsylvania forests, the dominance of ferns in extensive areas is associated with high densities of White-tailed Deer and changes in forest structure. Although the Red-backed Salamander (*Plethodon cinereus*) is an abundant predator in the leaf litter and plays an important role in the forest food web, no previous studies have examined effects of fern on salamander feeding ecology.

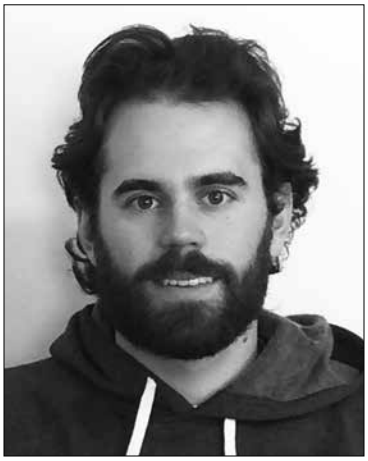
We conducted a field experiment to compare salamander feeding in dense fern patches and in adjacent areas dominated by leaf litter. We captured adult salamanders (n = 17) at a different location, held them in the lab to clear gut contents (48 hrs) and then randomly placed each in a "foraging bucket" located within dense fern or within adjacent leaf litter for 24 hours. In addition, we opportunistically collected adult salamanders (n = 20) actively foraging in areas dominated by fern and in adjacent areas of leaf litter. Individual prey items were removed from the stomachs of all individuals retrieved from the field, identified to taxonomic order and then photographed and measured for total length using a microscope and digital image processing software.

Our results will include statistical comparisons of diet composition and feeding rates, along with quantitative food webs associated with salamanders foraging in fern or leaf litter. Findings from our study will be valuable for clarifying the roles of amphibians in forest food webs and assessing the various impacts of changes in forest structure.

Dylan McGlone is from Stewartsown, Pa., and is a biology pre-veterinary major with a chemistry minor. Upon graduation, he will receive a Bachelor of Science in Biology degree. During his undergraduate career, Dylan was named to the Dean's List for all semesters, recognized on the Clarion University website and alumni magazine for his experiences in South Africa, was member of Phi Kappa Phi Honor society, was a member of Phi Eta Sigma Honor Society and was selected for the Sigma Phi Epsilon "Balanced Man" Scholarship. After graduation, Dylan plans on attending Kansas State College of Veterinary Medicine.

WADE REICHELDERFER

A Study of Content v. Skills Based Knowledge
Using Clarion High School Seniors and College Freshmen as a Representative Example



Dr. Paul Woodburne, Faculty Advisor

The purpose of this study is to test whether college courses focus on teaching content or skills based knowledge using Clarion as a representative example.

Mock Principles of Economics exams were given to Clarion Area High School Students and Clarion University Students with the stipulation that they may use any Internet resource available to them in a week's time to complete the exam. Exams were then graded and analyzed, as they would have been were the course taken as a regular Clarion University of Pennsylvania course.

Based upon the scores achieved, we hope to shed light on whether colleges are teaching content based knowledge, which should be relatively easy to find on the Internet, or skills based knowledge which is much more difficult to find online. From this information, we hope to show there is something special about college instruction that cannot be imitated by self-taught Internet learning.

Wade Reichelderfer is from Shippensburg, Pa., and is a management and finance major. Upon graduation, he will receive a Bachelor of Science degree. During his undergraduate career, Wade has received the Honor Foundation Scholarship, has received the Outstanding Management Student award, has been the Who's Who Among Students Honoree, Beta Gamma Sigma Inductee and has received the Dr. Leonard and Sally Ann Ackerman Scholarship in Academics. After graduation, Wade plans to move to Pittsburgh and work as a tax specialist at PNC Bank.

KAITLYNN SASS

Reading for the Cure: Impacts and Future Implications

Dr. Ellen Foster, Faculty Advisor

For 20 years, Reading for the Cure raised money at Clarion University for the Susan G. Komen Race for the Cure in Pittsburgh. This project examines the implementation of this service project at the university level, including the advantages and disadvantages of university students participating in extensive volunteer work.

It also explores the possibilities of Reading for the Cure continuing off campus, in other venues and through other organizations. Established foundations, such as the Susan G. Komen foundation, were looked at to discover the possibility of an event such as Reading for the Cure continuing under their organization.

Conclusions are drawn regarding the future of Reading for the Cure and the impact that it had while being held at Clarion University.

Kaitlynn Sass is from Grampian, Pa., and is an English major with a concentration in creative writing. Upon graduation, she will receive a Bachelor of Arts in English degree. During her undergraduate career, Kaitlynn served as Sigma Tau Delta Eastern Region student representative, was published in Sigma Tau Delta's *The Rectangle*, was named the 2016 Outstanding English Major and was recipient of several scholarships including the Foundation Honors Scholarship, the Gilbert Neiman Scholarship Recipient, the Sigma Tau Gamma Scholarship, the Class of 1953 Scholarship and the Sigma Tau Delta Regent Scholarship. After graduation, Kaitlynn plans to pursue a position in public relations or editing.

BETHANY SHETLER

The Study of Aromatic Compounds in Wax for Wax Burners

Dr. Amanda Lockwood, Faculty Advisor

Wax burners can be used to replace the traditional candle and mimic natural smells, but how natural is the smell? The purpose of this study was to separate and determine if alpha- and beta- pinene is present in the vapor emitted by the scented wax after melting.

A gas chromatograph with a flame ionization detector was used during the research to separate and determine as well as a gas chromatograph-mass spectrometer to identify the components in the sample.

Bethany Shetler is from Winber, Pa., and is a chemistry major. Upon graduation, she will receive a Bachelor of Science in Chemistry degree. During her undergraduate career, Bethany was the drum major for the 2016 Clarion University Golden Eagle Marching Band, president of the Epsilon Phi chapter of Kappa Kappa Psi, recipient of the Chemistry Department Scholarship for two years, recipient of the Department of Service Award for two years and recipient of the 2016-2017 College Chemistry Award from the Society for Analytical Chemists of Pittsburgh. After graduation, Bethany plans to attend graduate school at University of Maine or University of Montana for her doctorate degree in analytical chemistry.

RACHEL E. STOLTZ

Comparing the Comfort Level and Knowledge of Undergraduate and Graduate Speech-Language Pathology Students and Practicing Speech-Language Pathology Professionals with Augmentative and Alternative Communication

Mrs. Bethany Wilson, Faculty Advisor

Augmentative and Alternative Communication (AAC) is used by individuals with speech and language difficulties to either supplement or replace oral speech. Speech-language pathologists will often find individuals on their caseload who may need fitted with some form of AAC.

It appears that practicing professionals with years of experience are more hesitant to implement AAC with individuals on their caseload either due to a lack of knowledge/education or limited exposure to those students who may need AAC. Current students seem to feel more confident with their knowledge and skills to implement AAC as they prepare to enter the field.

This study compares the comfort level and knowledge of speech-language pathology students to practicing speech-language pathologists with AAC. Eighty-three Clarion University speech-language pathology students who recently completed an AAC course at Clarion University and 50 practicing speech-language pathologists from the Riverview Intermediate Unit #6 region (comprised of 17 school districts) were asked to participate in an anonymous, online survey. Responses were organized through an online survey generator and trends were analyzed. Results positively correlated with initial hypothesis.

Rachel Stoltz is from DuBois, Pa., and is a speech-language pathology/audiology major and business administration minor. Upon graduation, she will receive a Bachelor of Science in Speech-Language Pathology and Audiology degree. During her undergraduate career, Rachel earned a spot on the Dean's List every semester, was initiated into Phi Eta Sigma, was fundraising chair of National Student Speech Language Hearing Association, and was outreach chair of Club Smile. After graduation, Rachel plans to attend graduate schools to obtain her Master of Science in Speech-Language Pathology.

CLARION UNIVERSITY ADMINISTRATION
2016-2017

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Dr. Phillip Frese, Dean, College of Business Administration and Information Sciences

Dr. Roxanne Gonzales, Executive Dean Venango College

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2016-2017

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The Honorable Donna Oberlander
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Randy Seitz
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New Bethlehem, Pa.

Edward Green
Student Trustee Nominee

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Professor James R. Lyle, Interim Honors Program Assistant Director, Communication Department

Dr. Ralph Leary, English & Modern Languages Department

Dr. Herbert Luthin, English & Modern Languages Department

Dr. Daniel Shifflet, Mathematics Department

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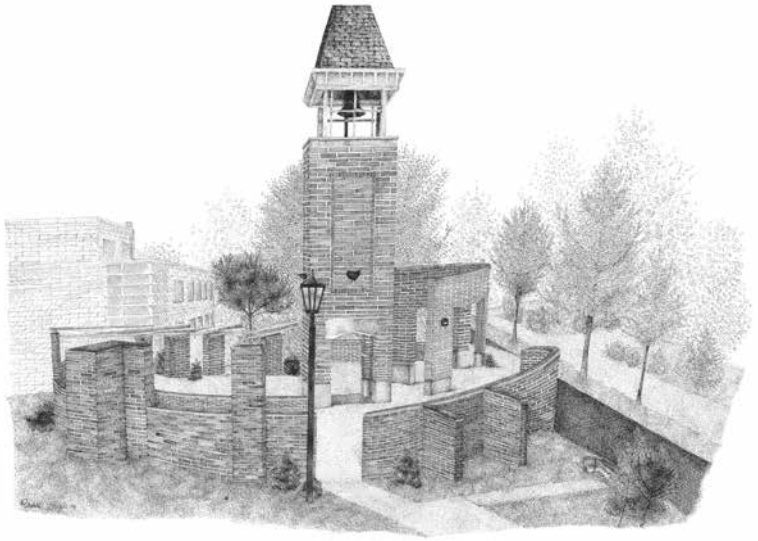

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