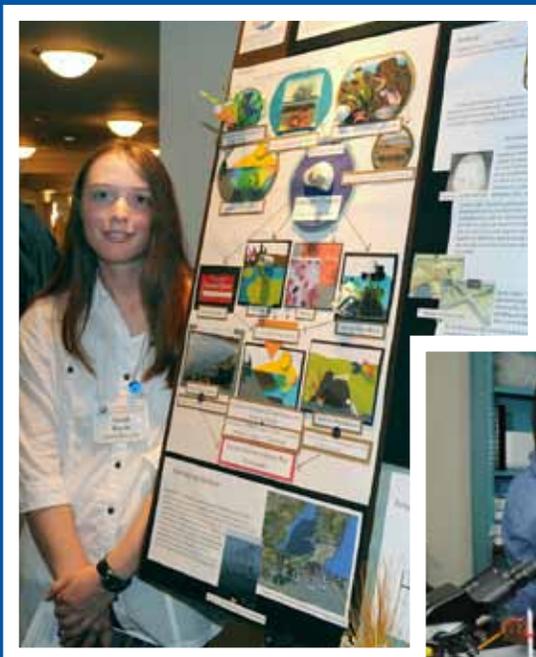




Celebration of Student Research Conference

SHIPPENSBURG
UNIVERSITY



April 19, 2012

Schedule of Events

April 19, 2012

CEDDIA UNION BUILDING (CUB) FIRST FLOOR						
Time-PM.	MPR	Orndorff Theater	103	104	105	119
3:00	poster set up	Honors Symposium BIOLOGY I (Dr. Klein) 3:00 - 4:00 PM	English Panel (Prof. Connelly) <i>"Creative Voices: Satan, Sidekicks, and Strangers"</i> 3:00 - 4:30 PM	History Panel (Dr. Dieterich- Ward) <i>"The Nature of History: Interpreting the American Environment"</i> 3:30 - 5:00 PM	Human Communication Studies Panel (Dr. Ramsey) <i>"Sports, Social, and Professional Organizations: An Exploration of Communication Dynamics"</i> 3:00 - 4:30 PM	Communication/ Journalism & English Student Presentations I (Dr. Cella) 3:30 - 4:30 PM
3:15						
3:30						
3:45	Poster Session I 3:45-5:45 PM	Honors Symposium BIOLOGY II (Dr. Klein) 4:00 - 5:15 PM	English Panel (Prof. Connelly and Peet) <i>"The Rapture Comes to Iowa"</i> 4:30 - 5:45 PM	History Panel (Dr. Senecal) <i>"Incentive in Early Urban History: Sex, God, and Money"</i> 5:00 - 6:30 PM	Human Communication Studies Panel (Dr. Lang) <i>"Understanding Media Communication: Altering Perceptions and Interpretations"</i> 4:30 - 6:00 PM	Communication/ Journalism Student Presentations II (Dr. Borrell) 4:45 - 5:45 PM
4:00						
4:15						
4:30						
4:45						
5:00						
5:15						
5:30	poster removal	Honors Symposium BUSINESS (Dr. Klein) 5:15 - 6:00 PM	English Panel (Dr. Montuori) <i>"Shakespeare Unbound"</i> 5:45 - 7:15 PM	History Student Presentations (Dr. Ulrich) 6:45 - 7:45 PM	Human Communication Studies Panel (Dr. Laskowski) <i>"Interpersonal Communication: Forming and Maintaining Relationships"</i> 6:00 - 7:30 PM	Communication/ Journalism Student Presentations III (Dr. Drager) 6:00 - 7:00 PM
5:45	poster set up	Honors Symposium SOCIAL & COMPUTER SCIENCE (Dr. Klein) 6:00 - 7:00 PM	English Panel (Dr. Crochunis) <i>"Performance as a Learning Medium"</i> 7:15 - 8:15 PM	Student Performance Presentations (Prof. Evans) 7:45 - 9:30 PM	Human Communication Studies Panel (Dr. R. Knight) <i>"Effective Communication Dynamics in Higher Education Contexts"</i> 7:30 - 9:00 PM	Exercise Science Panel (Dr. Braun) <i>"Exercise, Metabolism, and Performance"</i> 7:15 - 8:45 PM
6:00						
6:15						
6:30	Poster Session II 7:00-9:00 PM	Honors Symposium HISTORY (Dr. Klein) 7:00 - 7:45 PM	English Panel (Dr. Crochunis) <i>"Where Do Adolescents' Literacies Come From?"</i> 8:15 - 9:30 PM			
6:45						
7:00						
7:15						
7:30						
7:45						
8:00						
8:15	poster removal					
8:30						
8:45						
9:00						
9:30						

Schedule of Events

April 19, 2012

CEDDIA UNION BUILDING (CUB) SECOND FLOOR					
Time P.M.	226	232	238	239	Time P.M.
3:00					3:00
3:15					3:15
3:30					3:30
3:45	Business/Economics/ Political Science/ Sociology/Social Work Student Presentations (Drs. Banerjee and Siahaan) 3:30 - 4:45 PM	Chemistry Panel (Dr. A. Predecki) <i>"Senior Chemistry Research"</i> 3:30 - 5:45 PM	Teacher Education Panel (Dr. Odhiambo) <i>"Through the Eyes of Minority Students"</i> 3:30 - 5:00 PM	Math/Physics/ Earth Science Student Presentations (Dr. Zume) 3:30 - 5:00 PM	3:45
4:00					4:00
4:15					4:15
4:30					4:30
4:45					4:45
5:00	English Panel (Dr. Carey) <i>"Reclaiming Bodies: Struggles with Racism"</i> 4:45 - 6:00 PM		Learning Center Presentation (Dr. Johnson) 5:00 - 5:45 PM		5:00
5:15					5:15
5:30					5:30
5:45					5:45
6:00					6:00
6:15		Biology Student Presentations (Drs. Delis and Bumbaugh) 6:00 - 7:00 PM	Political Science Panel (Dr. Olejarski) <i>"Organizational Leadership"</i> 6:00 - 7:00 PM		6:15
6:30					6:30
6:45					6:45
7:00	Accounting Panel (Dr. Patrick) <i>"Citizen Centric Reporting for Pennsylvania Local Governments"</i> 6:30 - 8:00 PM				
7:15				7:15	
7:30				7:30	
7:45				7:45	
8:00					8:00
8:15					8:15
8:30					8:30
8:45					8:45
9:00					9:00

Keynote Speaker

William E. Klunk, M.D., Ph.D.

Wednesday, April 18, 2012
7:00 p.m. Old Main Chapel

Alzheimer's Disease: Looking into the Brain

From the first description of the disease in 1906, Alzheimer's disease has been defined by characteristic findings in the brain after death. The inability to definitively diagnose Alzheimer's disease in the living person has hindered early diagnosis and has delayed the development of effective treatments for this devastating neurodegenerative disease. Dr. Klunk, a 1978 graduate of the chemistry program at Shippensburg University, will describe his ground-breaking work on the development of a new technology to visualize the characteristic "amyloid" pathology of Alzheimer's disease in living persons. His talk will include descriptions of the basic biology and anatomy of Alzheimer's disease and the basics of the medicinal chemistry used to develop the brain imaging agent that is known around the world as Pittsburgh Compound-B. The role that "amyloid imaging" is expected to play in the future of research and treatment for Alzheimer's disease also will be discussed. Dr. Klunk will incorporate video excerpts from an Emmy-winning PBS documentary about his work. Dr. Klunk's work forms the basis for brain imaging tests that are expected to be approved by the FDA for routine clinical use this year, so his talk comes in a timely fashion.



**William E. Klunk,
M.D., Ph.D.**

One of the nation's leading experts in the early detection of Alzheimer's disease, William E. Klunk, is co-director of the Alzheimer Disease Research Center at UPMC and professor of psychiatry and neurology at the University of Pittsburgh. Dr. Klunk is a pioneer in the field of in vivo amyloid imaging in

humans. His work spans from basic synthetic chemistry and neuropharmacological evaluation of amyloid imaging tracers to human positron emission tomography (PET) studies of these tracers. His group's paper on imaging the pathology of Alzheimer's disease, published in January 2004, is the most frequently cited research paper on this disease. Dr. Klunk also was a member of the Pitt team that invented the groundbreaking Pittsburgh Compound B (PiB). PiB is a radioactive compound that, when coupled with PET imaging, can be injected into the bloodstream to enable researchers to visualize the brains of people with the memory-stealing illness and see the location and distribution of the beta-amyloid plaque deposits associated with Alzheimer's.

Dr. Klunk received his B.A. in Chemistry from Shippensburg University of Pennsylvania and went on to complete a dual medical and post-doctoral degree at Washington University in St. Louis focusing on neuropharmacology and medicinal chemistry. He then completed a general psychiatry residency at the University of Pittsburgh, followed by a fellowship in geriatric neuropsychopharmacology at the same institution. He is a member of the Medical and Scientific Advisory Council of the National Alzheimer's Association and has published over 100 journal articles and book chapters. He is principal investigator of several National Institutes of Health and foundation grants and has received a MERIT Award from the National Institute on Aging. Dr. Klunk shares the 2004 MetLife Foundation Award, the 2008 Potamkin Prize and the 2009 Ronald and Nancy Reagan Research Institute Awards for research in Alzheimer's disease with his University of Pittsburgh colleague Chester A. Mathis, Ph.D.

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From the President

Welcome to Shippensburg University's annual Celebration of Student Research Conference. The university has a long and proud tradition of providing students with a variety of opportunities to enhance their education — and our continuing focus on student-faculty research is one of those efforts that allow our outstanding faculty to share their wisdom and analytical skills with students.

Today's program highlights an incredible range and diversity of student research projects accomplished with the assistance of devoted faculty members. The program shows that research can be conducted across all disciplines and in each of the university's three colleges: Arts & Sciences; John L. Grove College of Business; and Education and Human Services.

Our world has benefited greatly from the advancements made thanks to research. Communications (from and to anywhere around the world) have become instantaneous with devices that, not too long ago, would have been considered to be more science fiction than science fact. Advances in medicine have enhanced not only our lifespan, but our quality of life. As someone with two artificial hips, I know that my life is immeasurably better thanks to the research that led to this technology.



One of the most exciting aspects of research is that none of us living today know what will be discovered tomorrow. Future advances and technologies will no doubt continue to astound and amaze us as they go from concept to research to reality.

During the past year, our students and faculty have diligently worked on their projects. Today we are pleased to share their efforts with the campus community as well as invited guests and others. Today is a step forward in students' life-long education and their future accomplishments in their respective fields.

Dr. Carl Sagan, noted astronomer, scientist and author, said, "Somewhere, something incredible is waiting to be known." At Shippensburg University, we are helping our students search for that incredible something and we eagerly await what they will discover.

A handwritten signature in black ink that reads "Bill Ruud". The signature is written in a cursive, flowing style.

William N. Ruud, Ph.D.
President

From the Provost and Senior Vice President for Academic Affairs

Opportunity. One of the many assets of Shippensburg University is the quantity and quality of opportunities available to its students to be highly engaged in learning. Be it through entry year programs and activities, collaborative assignments and projects, writing intensive courses, service learning, or internships, opportunities abound for students to personalize and deepen their learning while at Ship. One such opportunity is participating in the joint faculty-student research program. Through the program and in collaboration with faculty, students are encouraged to conduct extensive research on their chosen topics. Judging by the leaps in participation in the Celebration of Student Research Conference, with increases from 120 students and over 50 faculty sponsors in 2009 to over 500 students and 80 faculty sponsors in 2011, the program continues to be a resounding success.

One of the most important ways in which student research adds value to a Shippensburg education is that it promotes an attitude and spirit of inquiry, reduces unquestioning reliance on absolutes, and heightens an appreciation of the case that there are not as many generalizations that hold up under any and all circumstances as the uninitiated and unreflective might think. It is the hallmark of a college education to recognize the limits of generalizability and there may be no educational practice that does more to promote a critical spirit than joint faculty-student research. Not only that, but the research experience deepens student expertise in problem solving and project management thus creating a tremendous competitive advantage for Shippensburg University students when they seek new opportunities, either in advanced studies or employment.



The Celebration of Student Research Conference itself is a wonderful opportunity. It is a showcase of inquiry in action, basic and applied learning, and dedication to creative expression and critical thinking. Students and their faculty mentors have the opportunity to present the results of their collaborative efforts and the university community has the opportunity to marvel at and honor the exciting scholarship taking place at Shippensburg University with students at the center.

On a personal note, I would like to take this opportunity to congratulate all the researchers on their dedication and for the outcomes produced. Joint faculty-student research happens at Ship but not by accident. Student research takes not only enormous effort and time but it is also the result of the very intentional and systematic efforts of the faculty to enhance the quality of a Shippensburg education through this high impact educational practice. To the faculty, I thank you for your expertise and commitment to engaging students in scientific and creative inquiry. To the students, I am pleased that you have seized this particular opportunity among the many other high impact educational experiences that happen at Ship and I remain confident that your student research experience will powerfully affect your future, no matter which opportunity you choose to seize next.

A handwritten signature in cursive script that reads "Barbara G. Lyman".

Barbara G. Lyman, Ph.D.
Provost and Senior Vice President for Academic Affairs

From the Deans

College of Arts and Sciences

Without question, the educational experiences provided to the students enrolled at Shippensburg University are on-par with the best available anywhere. The College of Arts and Sciences plays a central and vital role in the delivery of those experiences. We are deeply engaged with our students and deliver many quality programs across our diverse departments, which is a key component of our mission within the University.



Opportunities to participate in multiple and varied learning activities, both inside and outside of the classroom, are essential to deeply engaged student learning. Undergraduate Research in particular is among the more notable and crucial of these opportunities. Through participation in Undergraduate Research activities, students and faculty work together in expanding the boundaries of knowledge. Students gain insight into the power of guided inquiry and begin making their own unique contributions to the advancement of knowledge.

The College of Arts and Sciences continues to explore the possibilities presented by an active and vital Undergraduate Research Program. As we discovered during our self-study for the visit by the Council for Undergraduate Research consultant team just over one year ago, there continues to be keen interest and significant activity in Undergraduate Research within the College. In many ways, including through the activities of the Dean of Arts and Sciences' Advisory Council for Undergraduate Research, faculty members have continued to explore how to best make these activities a regular part of our students' learning experiences. This is being approached in ways that are integrative and maintain curricular relevance while fostering a deeper understanding and embracing the disciplinary differences in doing Undergraduate Research.

We look forward to continued engagement in Undergraduate Research activities, and to continually improving of the student educational experience in the College of Arts and Sciences and at Shippensburg University.

Dr. James Mike, *Dean*
College of Arts and Sciences

From the Deans

College of Education and Human Services

Every college and university hopes to offer its students a “signature experience.” At Shippensburg University, one of those signature experiences is the Celebration of Student Research Conference.

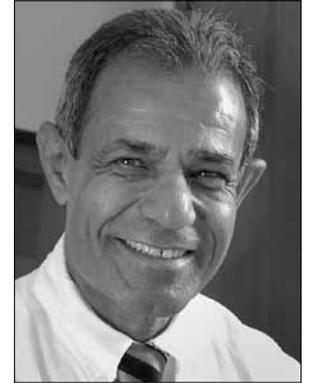
Whether through poster or oral paper presentation, our students are excited at the prospect of genuine participation in a formal, professional conference setting. Faculty across the College of Education and Human Services fully appreciate and recognize that participation in a research project, often working closely with fellow students and a faculty mentor, contributes to our students’ long-term growth as professionals in the fields they seek to join. The research experience channels students’ intellectual development, creativity, problem solving ability and confidence in unique ways unable to be achieved in the regular classroom. Most importantly, the research experience moves our students a giant step forward on their long-term development as professionals, lifelong learners and future leaders in our society.



Dr. James Johnson, *Dean*
College of Education and Human Services

John L. Grove College of Business

After more than one year, I have found Shippensburg University to be the Hallmark of Quality in providing academic programs at an incredible value. Student SUCCESSFUL learning is the central focus of academic programs and activities. At Shippensburg University, classroom learning is supplemented by additional intellectual contributions and experiential learning. The joint student/faculty research is a shining example of the University’s



commitment in developing students’ critical thinking, problem solving, analytical, and communication skills. At SHIP, the faculty continue to collaborate closely with students in conducting numerous and varied joint research projects. These projects further benefit students in that; they incorporate interaction with experts in the fields through presentation and panel discussion in academic conferences, and peer-review journal articles. Finally, these scholarship and research experiences foster intellectual development and help to prepare students to become lifelong learners committed to serving society and their profession.

The John L. Grove College of Business is committed to excellence in teaching and high standards of intellectual contributions by providing faculty professional development and support to joint student/faculty research initiatives. As the John L. Grove College of Business continues to build programs, student experiential learning will continue to be the central focus of our strategic planning.

Dr. John G. Kooti, *Dean*
John L. Grove College of Business

On Behalf of the Faculty

Undergraduate Research — A Faculty Perspective

Undergraduate student/faculty research offers opportunities for both students and faculty to share the excitement of discovery and learning. No matter what the discipline/profession/major the interactions create new experiences that enrich the lives of all involved. This opportunity can lead to a lifetime of inquiry on a professional and/or personal level for students. Understanding how things work and finding answers to why things are the way they are through the research process opens up a whole realm of possibilities for students to explore.



Faculty in many departments across campus dedicate time and energy to support undergraduate students in their research efforts. These shared moments, in the laboratory or in the field,

are special for both students and faculty. Watching the light bulb go off in a student's knowledge discovery process is one of the most rewarding aspects of the academic life faculty members can have. Sharing that "aha moment" with a faculty member is an opportunity for a student to really experience what higher education is all about—learning to learn—something that will go on for a lifetime.

Faculty at Shippensburg have been providing individualized and group research opportunities to students for many years through many formats. These ongoing opportunities clearly demonstrate the faculty's commitment to our students' growth and the intellectual process of the discovery of knowledge. It is a tradition we should all proudly support.

Deborah F. Jacobs, Ph.D.
Social Work and Gerontology Department
APSCUF/SU President

From the Institute for Public Service and Sponsored Programs

In 1983, Shippensburg University's Institute for Public Service was established under the dual charge of (1) assessing the needs of the region and (2) exploring and developing programs to match resources with those needs. By time-honored tradition, research and public service are intricately woven together as essential components of scholarship. As such, the institute's charge has grown over time to include oversight of the grants and sponsored programs which university faculty and staff secure to fund a wide range of research and public service initiatives.

Today, the Institute for Public Service and Sponsored Programs (IPSSP) plays an active role in making the University's commitment to student research a fully realized endeavor. In addition to helping coordinate this annual Celebration of Student Research, IPSSP oversees the annual Undergraduate and Graduate Research Grant Programs.

For the 2011-12 Academic Year, with funding from the university and the SU Foundation, IPSSP has awarded 110

undergraduate research grants. An additional twenty awards have been made to graduate students for their independent research. The results of most of these research endeavors are included in today's celebration.

Student research brings practical intellectual benefits in the form of improved learning in science, math, logic, expression and performance; enhanced self-confidence and problem-solving capabilities; and fosters the ability to work both independently and collaboratively. None of this could be done well without the mentorship of a dedicated faculty.

To all of those involved, we say "thank you." Please enjoy the conference and appreciate the hard work of those who made it possible.

Christopher Wonders, *Director*
Pamela S. Bucher, *Office Associate*
Diane Musser, *Secretary*

Dean of Arts and Sciences' Advisory Council for Undergraduate Research

Do women have fewer teeth than men? Aristotle said they do. And you believe Aristotle, right. Aristotle was an intellectual giant, and sadly, he was wrong about teeth.

Bertrand Russell wrote, "If the matter is one that can be settled by observation, make the observation yourself. Aristotle could have avoided the mistake of thinking that women have fewer teeth than men, by the simple device of asking Mrs. Aristotle to keep her mouth open while he counted. He did not do so because he thought he knew. Thinking that you know when in fact you don't is a fatal mistake, to which we are all prone."

Aristotle also claimed that heavy objects fall faster than light ones, in direct proportion to their weight. Not until Galileo's experiments 1900 years later (!) were these claims challenged, and found wanting. Why did it take so long? Why did people unquestioningly accept Aristotle's word?

I don't mean to diminish Aristotle's brilliance; truly, his work is foundational to all of western philosophy and science. But if the great Aristotle could be wrong about teeth and falling objects—making claims easily disproved with simple observation—



then how much more likely are we to fall victim to our own assuredness? How much more likely are we to start a sentence with "Well obviously, ..." and end it with something ridiculous because we haven't taken the time to really look?

And this brings me to the matter of research. Research—making the effort to observe keenly, without bias—is the tool that separates supposition from fact. To those students contributing to the conference: your work is important. Thank you for your effort, your interest in research, and your scholarship. To the many faculty mentors, thank you for your investment in these students and your commitment to research experiences for students. Thank you to my colleagues on the Dean's Advisory Council and the Institute for Public Service for fostering an atmosphere of excellence and opportunity in student research. Finally, thank you to the Shippensburg University administration and donors for providing the resources and funding that make this research possible.

Let us keep testing claims, taking nothing for obvious, and seeking answers to questions both big and small. Isaac Asimov said, "The most exciting phrase to hear in science, the one that heralds new discoveries, is not 'Eureka!', but 'That's funny...'"

Dr. Marc Renault
*Chair, Dean of Arts and Sciences'
Advisory Council for Undergraduate Research*

Dean of Arts and Sciences' Advisory Council for Undergraduate Research Committee Members 2011/2012

Dina Banerjee
Wendy Becker
Cynthia Botteron
William (Turi) Braun
Pam Bucher
Laurie Cella
Thomas Crochunis
Allen Dieterich-Ward
Cynthia Drenovsky
Thomas Feeney

Marita Flagler
Karen Johnson
Kim Klein
Eveline Lang
Jeonghwa Lee
Kim Long
James Mike
Blandine Mitaut
Kirk Moll
Gregory Paulson

George Pomeroy
Marc Renault
Ashley Seibert
Freddy Siahaan
Carrie Sipes
Nathan Thomas
Christopher Wonders
Curtis Zaleski

Undergraduate Research Grant Recipients 2011-2012

Ibrahim Abdurrahman	Lynn Economos	Christopher Medykiewicz	Cassandra Shive
Tim Adzima	Mounaim Elalaoui	Kelsey Mengle	Jenna Shurtleff
Michael Allen	Jessica Espenshade	Kurt Messemer	Rachel Sieke
Katherine Baldwin	Brian Ettinger	Ashley Micik-Balog	Eric Simko
Benjamin Balutis	James Evans	Wade Miller	Pam Simons
Dee Barlee	Megan Fick	Karen Mohney	Lavell Simpkins
Nathan Barr	Joshua Fink	Natalie Monroig	Brian Sirovetz
Sean Bealer	Natalie Frey	Abigail Montler	Caleb Smith
Tyler Bellis	Travis Fritz	Heidi Mooney	Evan Smith
Rachael Bevilacqua	Eric Fry	Megan Moore	Kaleigh Smith
Patricia Bianchino	Yael Gau	Waajida Moosa	Nathan Smith
Clifton Bittle	Matthew Good	Cassandra Moyer	Nathan Snyder
Clinton Bittle	Christina Gossart	Marissa Nagle	Nicholas Sones
Taylor Boeve	Erin Habay	Laura Nelson	Alyssa Stefanadis
Megan Breski	Carley Heck	Lisa Nocco	Kyle Stewart
Alicia Briegel	Erica Heebner	Benjamin O'Brien	Luke Strawser
Sarah Brown	Johnathan Hocker	Daniel O'Connor	Brian Suchanick
Blake Burkett	Eric Hofmann	Winnie Okwaare	Ariana Tavakoli
Gregory Campbell	Kaybrea Hood	Christa Pamperien	Kameelah Temple
Laurel Campbell	Lindsay Howard	Marley Parmer	Michael Thomas
Giovanna Carannante	Chad Hoyer	Jordan Paterson	Bryan Torba
Benjamin Carlucci	Taylor Hudson	Karla Peterson	Addalena Virtus
Angelina Castellani	Danielle Hunsinger	Brekan Piper	David Volin
John Catanio	Olivia Hunt	Shawn Piper	Sara Wagner
Adelyn Chambers	Joshua Ide	Lynnsae Powers	Nicole Walters
Xin Xin Cheng	Christopher Jones	Allison Prim	Andrew Ward
Jennifer Cina	Stephen Kaestle	Lauren Redington	Joe Washington
Jenna Clugh	Luther Karper	Kayla Reed	Katie Weaver
Tara Cole	Heather Kerkeslager	Kevin Rezac	Nathan Weber
Alison Coleman	Kacie Kidwell	Michael Ricci	Phillip Wigfield
Whitney Crosby	Amanda Kulbitsky	Shaniya Richardson	Montrell Wilkerson
Chad Crumrine	Heather Kundus	Susana Rios	Darren Williams
Elisabeth Davis	Joe Lahovski	Joy Rothermel	Jada Williams
Michael DiDomenico	Wojciech Latocha	Megan Rowson	Amanda Wise
Felicia D'Innocenzo	Aaron Long	Julia Saintz	Justin Wissler
Dale DiSalvo	Ryan Long	Stephen Schelander	Matthew Young
Olivia Dougherty	Jennifer Loomis	Timothy Schock	Kelcie Zegalia
Chad Drzewiecki	Jordyn Lynch	Joseph Sargent	Nicole Zerr
Chase Duckwall	Stacy McCanuel	Angel Sharma	Veronica Zewdu
Bethany Eberhart	Eric McGilliard	Nicholas Shearer	

**Not all Undergraduate Research Grant Recipients will be presenting their research at this year's conference. Several students are still conducting their research.*

Undergraduate Research Grant Advisory Committee Members 2011/2012

Allen Armstrong	Wan-Jiun (Paul) Chiou	George Pomeroy	Christopher Wonders
Jamonn Campbell	Britt Patterson	Christine Senecal	

Ezra Lehman Memorial Library Research Award 2011-2012

The Library Research Award was developed in 2009 by the faculty and administration of the Ezra Lehman Memorial Library, in conjunction with the Institute for Public Service and Sponsored Programs and the Council on Student Research. The annual award recognizes the best literature review submitted by students who have received grant support for their participation in the Annual Celebration of Student Research. It is made possible by the generous support of Berkley and Carol Laité (SU Classes of 1967 and 1965). The award is presented by the Library Department Chair, Dr. Kirk Moll.

The winners of the 2011 Library Research Award are Yael Y. Gau and Winnie Okwaare. Yael is a biology major with a concentration in the health professions; Winnie is a biology

major. Their advisors for this project are Dr. Lucinda Elliott and Dr. Alyssa Bumbaugh, and the title of their literature review is "The Dueling Triad: *Shigella flexneri*, Autophagy and ATG5 in Glioma Cells as a Potential Cancer Therapy."

Honorable mention will be awarded to Chad Crumrine, a history major. Chad's advisor is Dr. Allen Dietrich-Ward, and his project is titled: "How Ohiopyle Was Saved: The Environmental Regulation of Surface Coal Mining."

Yael and Winnie will win the Library Research Award of \$400.00. As the Honorable Mention winner, Chad will be awarded a \$100.00 prize. Commemorative posters will be made of the winners and the posters will be displayed in the library.

Graduate Research Grant Recipients 2011-2012

James Anderson
Patty Bower
Brandon Duxbury
Rachel Franson
Anne Greenawalt

Brian Hammond
Brittany Harman
Heather Hoffert
Daniel Hughes

William Humbert
Neal Kerrigan
Tessa Lindsay
Kelly Motter

Heather Preece
Christopher Sheipe
Jennifer Wysocki

**Not all Graduate Research Grant Recipients will be presenting at this year's conference. Several will be presenting their research at the PASSHE Graduate Research Symposium on April 19 and several are still conducting their research.*

Graduate Research Grant Advisory Committee 2011/2012

Sherri Bergsten
Barbara Denison
Scott Madey

Robert Setaputra
Todd Whitman
Christopher Wonders

Celebrating the Written Word

A Week-Long Celebration

Reflector/Write the Ship Launch

Shippensburg University will celebrate the publication of both *The Reflector* and *Write the Ship* on Tuesday, April 17, at 3:30 p.m., in the Dauphin Humanities Center Fishbowl.

Reflection from the student editor, Cory Stevens

While working with *The Reflector*, I've learned that writing isn't just mystical—it's hard work. Whether it's reading submissions, laying out pages, or contacting the printer, there is never a dull moment for an editor on the journal's staff. It has become clear to me that while writing always will be an intensely personal labor, the act of getting it to matter is not. As editor, the writing and art must reach the campus community and the larger world outside. My actions make ripples, and my dedication creates a piece of legacy that a student can look at fifty years from now. *The Reflector* has not only taught me discipline within the craft I love so passionately, but it has also taught me how much effect a person can have if they only reach out and try. While I've always been a little shy, I believe that Shippensburg's on-campus journal of the arts has taken me one step closer to being a man.

Reflection from the student editor, Amy Iacono

During my time as senior editor of *Write the Ship*, I learned to trust my own intuition and began to realize what I value most in a piece of academic writing – voice. Without a strong, unique voice an academic paper falls flat and ceases to entertain as it informs the reader; an attribute that I discovered is absolutely necessary for a well written student essay. Point of view is sometimes the most interesting aspect of a paper because it reveals identity, more importantly the identity of a Shippensburg University student. Just as crucial to a successful academic paper is creativity, which goes hand in hand with a strongly articulated voice. I was repeatedly impressed with the fresh, distinctive ideas expressed within the fifty-or-so essays I read during the selection process. I am proud to have been a part of this amazing effort and encourage anyone to partake in the reading experience I was privileged, and to continue to submit to *Write the Ship*. This year's issue of *Write the Ship* launches April 17.

Featured Poetry Events

Award-winning poets Mark Leidner, Anna Moschovakis, and Michelle Taransky are on campus in connection with the Celebration of Student Research.

On Wednesday, April 18, at 5:00 p.m., Mark Leidner will discuss humor in contemporary poetry with Dr. Matthew Ramsey's Human Communication Studies class.

On Thursday, April 19, Leidner, Moschovakis, and Taransky will participate in a panel discussion on poetry and research at 1:30 p.m. in Lehman Library 106. This discussion, moderated by Prof. Zach Savich, will include time for student questions and to meet the poets.

At 8:00 p.m. on April 19, the three poets will read from their most recent books in Old Main Chapel.

These events are sponsored by the College of Arts and Sciences and the Departments of English, Human Communication Studies, and Modern Languages.

Celebrating **Departmental Conference Panels**

Accounting/Management Information Systems/ Information Technology for Business Education

TIME: 6:30 - 8:00 PM

LOCATION: 226

Citizen Centric Reporting for Pennsylvania Local Governments

In this session students will present the citizen centric reports that they have prepared for small Pennsylvania local governments.

Lower Frederick Township, Montgomery County

Michael Aiken

Camp Hill Borough, Cumberland County

Karlee Bosler

Wormleysburg Borough, Cumberland County

Laura Cisco

North Cornwall Township, Lebanon County

Kyle Cooper

Rapho Township, Lancaster County

Derek Geib

Rockhill Borough, Huntingdon County

Jenna Hershey

Bellefonte Borough, Centre County

Robert Hilton

Greencastle Borough, Franklin County

Jennifer Hoover

Danville Borough, Columbia County

Joshua Mastellar

Lemoyne Borough, Cumberland County

Jordan Middleton

Maidencreek Township, Berks County

Matthew Miller

Gettysburg Borough, Adams County

Sara Piper

Mont Alto Borough, Franklin County

Jeremy Rosenberger

Halfmoon Township, Centre County

Janelle Ross

Palmyra Borough, Lebanon County

Katherine Stravinskas

Fleetwood Borough, Berks County

Veronica Tucci

Faculty Sponsor(s): Dr. Patricia Patrick

Discussant: Dr. Patricia Patrick

Chemistry

TIME: 3:30 - 5:45 PM

LOCATION: 232

Senior Chemistry Research

This symposium will focus on the research projects performed by the senior chemistry majors. Research projects will include topics from the disciplines of analytical chemistry, biochemistry, inorganic chemistry, organic chemistry, and physical chemistry.

DNA Binding Studies of 9-methylsulfinylphenanthrene

Alicia Briegel

*Synthesis and DNA Cleavage Studies
of 9-methylsulfinylanthracene*

Alison Coleman

*Examining the Rotational Diffusion of Glassy Systems
in the Potential Energy Landscape Ensemble*

Brian Sirovetz

*Examining Cyclic Invariance within
Correlation Functions*

Chad Hoyer

*Cell Surface Expression and Characterization of
a Human Orphan G protein-coupled Receptor*

Dale DiSalvo

*Protocol Development: Analysis of Blood
Alcohol Content in Human Blood Using Gas
Chromatography with Headspace and Validation*

Nicole Walters

Faculty Sponsor(s): Dr. Allison Predecki, Dr. Curtis Zaleski,
and Dr. Thomas Frielle

Discussant: Dr. Allison Predecki

English

TIME: 5:45 - 7:15 PM

LOCATION: 103

Shakespeare Unbound

This panel represents a variety of approaches to four of Shakespeare's best known plays: *Titus Andronicus*, *The Merchant of Venice*, *Twelfth Night*, and *The Taming of the Shrew*. The participants explore traditional and changing gender roles, sexual identity, social norms and contemporary challenges to them, and the effects of political and economic upheaval on both individuals and the state.

Success in Shakespeare's Venice: Marketplace Dominance and Individual Emotion in "The Merchant of Venice"

Andrew Snyder

"Twelfth Night's" Malvolio: What Was Shakespeare Really Saying?

Arlen Saner

Lavinia and Tamora's Transformations in "Titus Andronicus"

Rebecca Starliper

No Homo?

Nathan Blass

"Titus Andronicus": An Identity Crisis in a Revenge Tragedy

Samantha McMullen

Straying From the Path: Women in Shakespeare

Travis Horton

Faculty Sponsor(s): Dr. Deborah Montuori

Discussant: Dr. Deborah Montuori

TIME: 8:15 - 9:30 PM

LOCATION: 103

Where Do Adolescents' Literacies Come From?

In her important 1998 essay in *College Composition and Communication*, "Sponsors of Literacy" (49.2/May 1998), Deborah Brandt describes literacy sponsors as "any agents, local or distant, concrete or abstract, who enable, support, teach, model, as well as recruit, regulate, suppress, or withhold literacy—and gain advantage by it in some way" (166). In the Teaching Adolescent Literature class in Spring 2012 at Shippensburg University, Dr. Thomas Crochunis assigned students to identify a single adolescent and write a case study of his or her literacy practices and their sponsorship. Through interviewing and any other means of data collection appropriate for developing their portraits, students looked closely at the patterns of young people's literacy. What resulted was a wide range of unexpected insight about how the students in our middle and high school classes experience their reading, writing, and other literacies. Our session will share examples of the resulting portraits and talk about the valuable process that the literacy sponsorship profile assignment set in motion amidst our study of how to teach adolescents to read and respond to literature.

The Mystery of Overcoming Reading Struggles

Erin O'Brien

What Affects an Adolescent Male's Literacy?

Kerry Senderling

Socializing with Technology

Kelsey Winton

Mackenzie: Death, Love, and Relationships

Kate Garvick

Literacy, Differences, and Friendship

Samantha VanBuskirk

A Family Tradition

Natasha Clever

Faculty Sponsor(s): Dr. Thomas Crochunis

Discussant: Dr. Thomas Crochunis

TIME: 7:15 - 8:15 PM

LOCATION: 103

Performance as a Learning Medium

In this session, students will present research on how performance-based learning experiences can help to develop educational communities in different ways based on the particular purposes for which—and the particular strategies through which—teachers use them. Four students from two classes at Shippensburg University taught by Dr. Thomas Crochunis will share their investigations of how teachers apply performance-based teaching methods to language learning, literacy development, literary study, social problem solving, and community change. Presenters will share some of their findings about how these various uses of performance can enhance classroom community and influence learning. The projects presented will touch on education from elementary to college level and include some work informed by ongoing teaching experimentation.

Creative Activities Time at Lubrs Elementary

Heather Kerkeslager

Basic Level Entry

Heidi Mooney

*“I’ve Never Had an English Class Like This Before”:
Performance in Community College Writing Class*

Anne Greenawalt

*Performing The Vagina Monologues
and Extracurricular Learning*

Krista Manopello

Faculty Sponsor(s): Dr. Thomas Crochunis

Discussant: Dr. Thomas Crochunis

TIME: 4:45 - 6:00 PM

LOCATION: 226

Reclaiming Bodies: Struggles with Racism

Our panel will explore various aspects of the Black experience as captured in American literature. The papers will uncover the complicated influences that perpetuate racial stereotypes and promote racist ideals of beauty. Multiple psychological perspectives will illuminate the struggles of several African American characters to reclaim their bodies and resist racism.

*When Marigolds Don’t Grow:
A Community Rejecting Its Own*

Katie Benedict

*The Media: Promoting Racism in
Richard Wright’s Native Son*

Owen Ecker

*Viewing Pecola’s Wishes in The Bluest
Eye through a Psychological Lens*

Lindsay Rosen

Black is Beautiful in The Bluest Eye

Sarah Montanari

Faculty Sponsor(s): Dr. Allison Carey, Dr. Kim Klein, and Dr. Mary Stewart

Discussant: Dr. Allison Carey

TIME: 3:00 - 4:30 PM

LOCATION: 103

***Creative Voices: Satan,
Sidekicks, and Strangers***

Students will offer selections from their creative work. Included will be examples of flash fiction, excerpts from short stories, and dramatic monologues in the voices of figures from mythology, history and pop culture.

Spontaneous Recovery

Amy Iacono

Behind the Mask

Cory Stevens

Voices from the Road

Darren Williams

Goldfish Requiem

Kevin Bader

Situational Voices: One Issue, Many Views

Jeb Martin

The Quiet Corner of the Room

Noret Flood

Unexpected Voices

Alyssa Niemeyer

Satan Speaks

Matthew Thompson

Faculty Sponsor(s): Prof. Neil Connelly

Discussant: Prof. Neil Connelly

English and Music/Theatre Arts

TIME: 4:30 - 5:45 PM

LOCATION: 103

The Rapture Comes to Iowa

Collaboratively composed by a group of Ship student creative writers, "The Rapture Comes to Iowa" explores the story of a modern day preacher's prediction of the end of days. The piece examines the narrative through the perspectives of fifteen different characters. Each monologue is brought to life for this event by dramatic actors from SU's theater program.

Hank Harding Ian Kraus

Sheriff Russ Carver Ian Lively

Arnold Kepler Paris Peet

Fr. Gregory Pierce Nick Sentman

Tammy Romero Brianna Blewett

Molly Harrow Laura Leopold

Michael White Tyler Graybeal

Dottie Parker Brittany Torrez-Alvarez

Zachary Rain James Prisby

Mary Ann Barlette Neshaman Crosby

Christopher Keith Ian Kraus

Elizabeth Wake Emily Keen

Joy Wake Kathleen Dickerson

Merle Ash Alyssa Cassidy

Alex Hart Vince Raffaele

Faculty Sponsor(s): Prof. Neil Connelly and Prof. Paris Peet

Discussants: Prof. Neil Connelly and Prof. Paris Peet

Exercise Science

TIME: 7:15 - 8:45 PM

LOCATION: 119

Exercise, Metabolism, and Performance

This symposium investigates a breadth of research questions related to exercise and metabolic control as well as functional responses that may influence exercise performance. The session will open with a study related to exercise influence on hunger, followed by a study investigating the role of anti-inflammatory agents on mitigating responses to muscle damage. These will be followed by a study examining the effects of prophylactic taping on vertical jump performance. The session will close with two studies that explore the influence of music tempo on cardiorespiratory measures during sub-maximal, aerobic exercise and the psychological and performance effects of music choice on running.

The Effects of Varying Exercise Intensities on Post-Exercise Appetite and Glycemic Response

Christa Pamperian, Marley Parmer, Jenna Clugh, Michael Allen

Faculty Sponsor(s): Dr. Sally Paulson and Dr. William Braun

Discussant: Dr. William Braun

Pre-Administration of Acetaminophen and Ibuprofen for the Treatment of DOMS

Brett Radwill, Tyrek Nelson, Corey Baldwin, Chadd Baldwin

Faculty Sponsor(s): Dr. Sally Paulson and Dr. William Braun

Discussant: Dr. William Braun

Effect of Ankle Taping on Joint Displacement and Range of Motion during the Vertical Jump

Erica Heebner, Travis Black, Mark Newton, Ashley Kern, Corey McCleaf

Faculty Sponsor(s): Dr. Sally Paulson

Discussant: Dr. William Braun

The Effects of Music Tempo on Cardiorespiratory Responses During Sub-Maximal Aerobic Exercise

Nathan Barr, Samantha Stratton, Eric Malinak, Diandra Morant

Faculty Sponsor(s): Dr. William Braun and Dr. Joohee Sanders

Discussant: Dr. William Braun

Physiological and Psychological Effects of Preferred vs. Non-Preferred Music on 1.5-mile Run

Corey Baughman, Ryan Maize, Brian Malloy

Faculty Sponsor(s): Dr. Candy Zientek and Dr. Sally Paulson

Discussant: Dr. William Braun

History/Philosophy

TIME: 3:30 - 5:00 PM

LOCATION: 104

The Nature of History: Interpreting the American Environment

This panel deals with the interaction between humans and the natural world in the historical development of the United States. Individual papers will explore environmental history from a wide variety of geographical and thematic standpoints covering topics from the impact of industrialization and urban growth on the American environment, the emergence of ecological consciousness and green politics, and the creation of the idea of “Nature” in American culture. By integrating a dual emphasis on the cultural and material construction of reality, the panel also offers an opportunity to bring interdisciplinary subject matter and methods into the discipline of History. The underlying research for this panel was conducted as part of History 358: American Environmental History.

How Obiopyle Was Saved: The Environmental Regulation of Surface Coal Mining

Chad Crumrine

Greedy Corporate Tree-Huggers: The U.S. Forest Service's Arbitration between Environmental Preservationists and the Timber Industry

Ryan Mowen

Religion's Impact on Environmental Policy in America

Christian Reed

Faculty Sponsor(s): Dr. Allen Dieterich-Ward

Discussant: Dr. Allen Dieterich-Ward

TIME: 5:00 - 6:30 PM

LOCATION: 104

Incentive in Early Urban History: Sex, God, and Money

These three papers highlight some of the very best work of our Honors World History I students, and focuses on incentive in early urban history. We can see a great deal of economic incentive in Mackenzie Riford's paper, as she illustrates how the Mongol-ruled Yüan dynasty caused the inherent value of Chinese jade to decline by promoting the business of jade at the expense of quality. Lauren Wenerd highlights spiritual incentive with her essay on medieval leprosy, showing that ministrations to these “polluted” people served as indicators for their extreme devotion to God. Finally, we notice sexual incentive in Kelsey Mengle's work on Ancient Roman prostitution. While Roman moralists were quick to condemn the use of harlots, they were widely sought-after on account of the sexual appetite of the customers.

Ancient Chinese Jade

Mackenzie Riford

Leprosy Treatment in Medieval Europe

Lauren Wenerd

The Roman Paradox of Prostitution

Kelsey Mengle

Faculty Sponsor(s): Dr. Christine Senecal

Discussant: Dr. Christine Senecal

Human Communication Studies

TIME: 7:30 - 9:00 PM

LOCATION: 105

Effective Communication Dynamics in Higher Education Contexts

Throughout life we learn the importance of communicating effectively in a variety of contexts. The following presentations will focus on the critical communication aspects associated with higher education and the differences in student, peer, athlete, coach, doctor, and faculty interaction. Each study brings knowledge to the audience through data gathered by the researcher. As we interact with the world, the more obvious it becomes that understanding the importance of how the context generates specific needs that must be met by those involved to achieve effective communication and the desired outcome.

Building Interpersonal Connections:

The Faculty-Student Relationship

Nicole Carr

Students in the Military: Service, Struggle, and Success

Sharlene Rodriguez

Communication and Disclosure between

Physicians and Students

Jamie Neiman

Conflict Resolution and College Roommates

Kelsey Verbos

Minority Students and Campus Leadership

Angelina Ruiz

Communication Apprehension and the Minority Student

Jaren Tucker

*Understanding First Year Students' Communication
Anxiety toward Faculty Office Hours*

Jessica Rabuck

Faculty Sponsor(s): Dr. Misty Knight

Discussant: Dr. Richard Knight

TIME: 6:00 - 7:30 PM

LOCATION: 105

***Interpersonal Communication: Forming
and Maintaining Relationships***

The development of interpersonal relationships can be formed and maintained through verbal and nonverbal communication. In today's society, many relationships rely heavily upon the use of technology to sustain consistency with one another. This panel focuses how one maintains a certain image through social networking sites and how the judgments can affect relationships in a positive or negative way. It also focuses on different aspects of family communication, long distance romantic relationships, and how text messaging affects interpersonal communication competency.

*Judgments Made Based on Technology between
First Year Roommates in College*

Kelsey Kichline

*Communication between Genders and
Technology in Romantic Relationships*

Alexandra DiGioia

*Women and the Use of Social Networks Pictures
to Form and Maintain Certain Images*

Mandee Zerby

*Social Networking Sites Conflicting with
Face-to-Face Communication between
Couples in Long Distance Relationships*

Lindsay Oliver

*Different Parenting Styles in Rural Areas
Opposed to Parenting Styles in Urban Areas*

Taimur Harris

*The Turning Point in Romantic Heterosexual Long
Distance Relationships Involving College Students*

Alisse Bailey

Family Communication Challenges

Shalynn Pommerer

*Interpersonal Communication Competency:
Young Adults and Mobile Phones*

Kristi Iman

Faculty Sponsor(s): Dr. Misty Knight

Discussant: Dr. Kara Laskowski

TIME: 4:30 - 6:00 PM

LOCATION: 105

***Understanding Media Communication:
Altering Perceptions and Interpretations***

In today's world, the media plays a tremendous role in affecting our interpretations of public opinions, television shows, and our cultural places. This panel is focusing on the impact the media has on our perceptions and interpretations of reality. This will be done by examining local print media, the television industry, songs, books, and films, which explains how impactful the media can be in our everyday life. The presentations will explore media messages through the use of a unique variety of rhetorical criticism and communication analysis.

The Myth of Broadway

Mark Dadetto

*Is Bad Broken Down? An Ideological Criticism of
AMC's Breaking Bad and Cultivation Theory*

Matt Franzoni

*Framing Analysis: Cumberland County,
Pennsylvania's 2010 Reassessment Project*

John Dyson

*The Portrayal of the African American
Family through Media*

Crystal Cole

*Once Upon an American Dream:
Mythic Criticism Analysis*

Sarah Brunges

*Analysis of the Climate Change: A Narrative Criticism
Exploration of Al Gore's "An Inconvenient Truth"
and Fabricated Discourse from the Mass Media*

Sarah Drozd

Famous Deaths: Fantasies of Celebrity Suicides

Tyler Anderson

Faculty Sponsor(s): Dr. Misty Knight

Discussant: Dr. Eveline Lang

TIME: 3:00 - 4:30 PM

LOCATION: 105

Sports, Social, and Professional Organizations: An Exploration of Communication Dynamics

The diversity of communication in groups can be seen throughout our culture and everyday life. Six students will present their research discoveries in the dynamics of organizations. The presentations will involve a variety of communication groups such as sports, social units, and professional organizations. Among the proposed topics, the research correlates aspects of communication. Within each unique group studied, various areas of communication dynamics will be explained in further detail.

Communication Styles within the Workplace

Pio Mandato

Identity Theory in Starbucks

Jenna King

"I made up my mind to win": Differences in Motivational Speeches between Contact and Non-contact Sports

Lauren Lamon

Sports Teams and Organizational Communication

Roshaan McCain

Nonverbal Immediacy in Organizational Dynamics

Kathleen Dyer

An Analysis of Coaching Styles of the Scotland School Boys Basketball Team

Anthony Penn

Faculty Sponsor(s): Dr. Misty Knight

Discussant: Dr. Matthew Ramsey

Political Science

TIME: 6:00 - 7:00 PM

LOCATION: 238

Organizational Leadership

This panel explores organizational leadership from the perspective of both public and private organizations.

It's Ethics!

Gertrude Farling

Situational Barriers to Decision Making on Organizational Success

Suparna Gope

Faculty Sponsor(s): Dr. Amanda Olejarski

Discussant: Dr. Amanda Olejarski

Teacher Education

TIME: 3:30 - 5:00 PM

LOCATION: 238

Through the Eyes of Minority Students

As the number of minority students increases here at Shippensburg, there is a need to hear their voices as to how Shippensburg University can contribute to their success. The goal for this study was to examine minority students' views about: a) being in the minority in a class; b) how Shippensburg University supports minority students; and c) suggestions for helping minority students succeed at Shippensburg University. Papers prepared by graduate students in education, organizational development and leadership, and psychology will present the findings of their qualitative study on this topic.

Minority Retention: The Issues

Janelle Howell

Being in the Minority in a Class

Francisco Arroyo

Shippensburg University Support for Minority Students

Rachel Diaz

Suggestions for Helping Minority Students Succeed at Shippensburg University

Diego Morales

Faculty Sponsor(s): Dr. Eucabeth Odhiambo, Dr. Marita Flagler, Dr. Gwendolyn Durham, and Dr. Ronnie Tucker

Discussant: Dr. Eucabeth Odhiambo

Celebrating Honors Symposium

The Honors Symposium is the formal forum where Honors Program seniors present their capstone projects. The research, creative, and service-learning projects that our students are presenting today represent the culmination of their academic experience in the Honors Program. Thank you for joining us to learn about their projects and acknowledge their hard work!

Biology I

TIME: 3:00 - 4:00 PM **LOCATION: ORNDORFF THEATER**

Heart Rate Variability During Roller Coaster Rides

Roller coasters are thrill rides that elicit a wide variety of feelings in riders. Unfortunately, little published research examines the effects of amusement park rides on the human body. The objective of this study was to determine the impact of roller coaster rides on riders with heart conditions and how heart rate, a cardiac-related physiological variable, changes over the course of a ride. A case study of an experienced, male roller coaster rider was used in the experiment. Data was collected on multiple roller coasters at popular amusement parks using a heart rate monitor and altitude sensor. Heart rate data was compared to the altitude in order to determine where each data point was on the ride. Results showed changes in heart rate over the ride varied based upon the layout of the ride without eliciting extreme cardiac stress. In conclusion, heart rate varies with different elements on roller coasters and the limiting riders may be necessary in relatively few cases.

Nathan Barr

Faculty Sponsor(s): Dr. Mike Long, Dr. William Braun, and Dr. Joohee Sanders

Discussant: Dr. Kim Klein



The Identification and Characterization of Antimicrobial Resistant Xanthomonas and Related Species

Copper-based compounds can be used as alternatives to standard microbial control methods to manage bacterial diseases such as bacterial spot. However, the long-term use of such compounds has selectively pressured bacteria such as *Xanthomonas* to develop plasmid-encoded, copper-resistant genes, allowing them to withstand high concentrations of copper. This research investigated the prevalence of copper-resistant *Xanthomonas* sp. recovered from various Pennsylvania fruit-tree orchards treated with copper-based compounds. The effect of frequent copper treatments on overall bacterial resistance and diversity was also examined.

Joshua Fink

Faculty Sponsor(s): Dr. David Long and Dr. Marcie Lehman

Discussant: Dr. Kim Klein



Elucidating the Role of Atg5 and Autophagy of Shigella Flexneri from Infected Cells

My research studied the effects of autophagy on clearing a microbial infection utilizing glioma cells. Two cell lines were used, one where SNB19 was defective with autophagy and the other which had an SNB19/Atg5 inserted gene that encoded for normal gene Atg5 function. Killing assays were used to determine if there were any differences between the two lines in clearing the infection.

Michael Myett, Yael Gau

Faculty Sponsor(s): Dr. Lucinda Elliott

Discussant: Dr. Kim Klein

Biology II

TIME: 4:00 - 5:15 PM **LOCATION: ORNDORFF THEATER**

Projected Health of White-Tailed Fawn at Letterkenny Army Depot

The growth of white-tailed deer populations (*Odocoileus virginianus*) has been closely monitored for generations. They were nearly hunted to extinction in the early 20th century until wildlife managers rejuvenated their population levels through habitat management. The restoration project was very successful and resulted in a massive burst in deer density nationwide. In fact, *O. virginianus* populations have risen so high that ecological problems such as decreased food availability and diminished plant diversity have arisen. Plant divergence declined when palatable plants were heavily consumed while less delectable species came to dominate wooded areas. My research continued an assessment of white-tailed deer health at Letterkenny Army Depot. By evaluating their health, appropriate game regulations can be enacted to reduce their population and allow future forest regeneration attempts.

Benjamin Carlucci

Faculty Sponsor(s): Dr. Richard Stewart

Discussant: Dr. Kim Klein



The Presence of *Strongyloides robustus* in Sciurids in South-central Pennsylvania

Strongyloides robustus is a unique parasite that has ecological impacts in all Sciurid populations in North America. To some squirrel species, like the southern flying squirrel (*Glaucomys volans*) and the common gray squirrel (*Sciurus carolinensis*), its pathology is relatively benign. However, in the northern flying squirrel (*Glaucomys sabrinus*), *S. robustus* infestation can result in high mortality. The objective of my project was to survey the presence of *S. robustus* in south-central Pennsylvania. Samples of common gray and southern flying squirrels were obtained through field trappings, nest boxes, road kills, and hunting. Parasite presence was evaluated using fecal flotation. Thus far, 3 out of 20 nest boxes checked had flying squirrel evidence. *S. robustus* was present in 1 out of 3 of the samples. In the gray squirrel, *S. robustus* was present in 9 out of 13 samples. This study is important on a generalist survey level and also in the field of conservation biology.

Jessica Espenshade

Faculty Sponsor(s): Dr. Richard Stewart

Discussant: Dr. Kim Klein



The Prevalence of *Arcanobacterium pyogenes* in the White-Tailed Deer Population at Letterkenny Army Depot

Arcanobacterium pyogenes is a bacterium that causes intracranial abscessation in white-tailed deer by gaining access to an open wound, generally near the pedicle or from an exposed antler with damaged velvet. The symptoms associated with *A. pyogenes* infection are similar to those of chronic wasting disease, a non-treatable condition which has the potential to decimate the affected deer population. It is important to differentiate between cases of chronic wasting disease and *A. pyogenes* infections in order to monitor and track the prevalence of chronic wasting disease. For this study, pus samples were collected from one hundred deer at Letterkenny Army Depot in Chambersburg, Pennsylvania during October–December 2011. All samples were screened for the presence of *A. pyogenes* specific genes using PCR.

Megan Moore, Laura Nelson, Patricia Bianchino

Faculty Sponsor(s): Dr. Alyssa Bumbaugh and Dr. Richard Stewart

Discussant: Dr. Kim Klein



Business

TIME: 5:15 - 6:00 PM

LOCATION: ORNDORFF THEATER

The Influence of Company Culture on Self-Insurance

Many companies in the United States elect to self-insure for workers' compensation to reduce costs. However, self-insurance is not an appropriate model for all businesses. Current research in this field focuses on quantitative factors such as company size and industry. My research intends to bridge the gap between literature and practice by identifying company culture as a key determinant of an effective self-insurance program. Companies may use this research to determine if their firm is suitable for self-insurance or to implement a cultural shift necessary for a successful self-insurance program. This research could also be utilized by companies wishing to build stronger safety cultures.

Jennifer Hoover

Faculty Sponsor(s): Dr. Wendy Becker

Discussant: Dr. Kim Klein



The Role of Mark-to-Market Accounting in the Great Depression and the Panic of 2008

The financial impact of the Great Depressions of the 1930s was vast. An economic downturn that rivals this widespread devastation began in 2008. Many factors led to the escalation of both economic downturns; however, both shared at least one cause—the accounting standard of mark-to-market accounting. This policy was instituted during the Great Depression and once Milton Friedman recognized its effects, he wrote about its link to the Great Depression. President Franklin Delano Roosevelt suspended the rule, and the end of the Great Depression soon followed. In late 2007, this policy was once again reinstated by FASB for the first time since 1938. In June 2009, the mark-to-market rules were lightened and the Panic of 2008 was soon over. Coincidence or not? This paper will delve into this and attempt to answer this question.

Jordan Middleton

Faculty Sponsor(s): Dr. Wendy Becker

Discussant: Dr. Kim Klein



The Importance of Audits, Regulation, and Ethics in Today's World of Business

In today's fast-paced and ever-changing world of business, it is necessary to ensure that current business practices are regulated and reviewed to protect the common good. The recent financial crisis and the infamous Bernie Madoff scandal act as case studies to illustrate the importance of regulation on both a macro and micro level. Regulation must be proactive instead of reactive, and the acts of whistle blowers must be protected and respected by the business community and government. Auditors also play an important role ensuring the accuracy of vital financial information that the public can use to make informed decisions. Finally, business ethics must be stressed and encouraged not only in business education, but throughout the business community in order to promote a safer and more just business environment.

Matthew Miller

Faculty Sponsor(s): Dr. Wendy Becker

Discussant: Dr. Kim Klein

Education

TIME: 7:45 - 9:00 PM

LOCATION: ORNDORFF THEATER

The Design and Evaluation of a Forensic Science Classroom Activity Using the Methodologies of Project-Based, Cooperative, and Inquiry-Based Learning

This research project examined the impact of engaging young students in learning by using topics from television shows. Many TV shows are focused on forensic science. In this project, students were introduced to the real-life art of spatter analysis typically seen in these shows. Through the use of scientific reasoning and methodologies, students used the concepts of spatter analysis to formulate hypotheses and reach conclusions about artificially created crime scenes. Student interest was recorded from a variety of grade levels and processed to determine what age group is most impacted by the use of techniques from this field of science.

Eric Hofmann

Faculty Sponsor(s): Dr. Marcie Lehman, Dr. Alyssa Bumbaugh, and Dr. Richard Stewart

Discussant: Dr. Kim Klein



Using Manipulatives to Enhance Mathematical Learning

The study examined the learning of subtraction through the use of manipulatives. The project focused on measuring the potential improvement of methods for teaching lower-achieving students. Manipulatives give students the opportunity to visualize concepts and gain hands-on learning experience. In this study, kindergarten students were divided into two groups. One group was taught subtraction using math manipulatives, and the other group was taught using a method that did not utilize these tools. The students were given a pre- and post- test to analyze the impact of using manipulatives when teaching subtraction.

Kelsie Irons

Faculty Sponsor(s): Dr. George Vaites

Discussant: Dr. Kim Klein



Classroom Management: Training Pre-Service Teachers from Theory to Practice

According to Rancifer (1993), teachers who have poor control over student behavior and lack instruction in classroom management strategies become "increasingly ineffective at their jobs" and "experience little job satisfaction. These conditions negatively affect students' ability to learn. My study evaluated the effectiveness of various classroom management strategies. After reviewing the literature and testing the strategies, I synthesized my research findings into a handbook, which was made available to pre-service teachers at Shippensburg University and teachers at the Paths of Learning School in Santo Domingo, the Dominican Republic.

Abigail Montler

Faculty Sponsor(s): Dr. Lynn Baynum

Discussant: Dr. Kim Klein



The Effects of Book Talks on Children's Book Selection

A book talk is an engaging introduction to a story that leaves the audience with the desire to read more. Book talks reveal enough to be enticing, but not enough to give away too much. In elementary schools, librarians often start library time with several book talks to offer students new selections to read. Classroom teachers have approximately two hours a day for reading and language instruction, while students may only see the librarian once a week or even every other week. Reading levels and reading interest in many schools in the United States is below state standards. My research project evaluated the impact of book talks on sparking student interest in reading.

Stephanie Savarese

Faculty Sponsor(s): Dr. Beth Byers

Discussant: Dr. Kim Klein



The Analysis of U.S. Instructional Methods on International Education through Service-Learning

This presentation will highlight a variety of instructional strategies used to increase student literacy rates while analyzing the important role effective lesson planning plays in student academic success, both domestically and internationally. Furthermore, the impact of service-learning programs available at the collegiate level will be discussed, with a focus on design, resources, and the potential to create change and make a difference in the surrounding communities.

Kady Taylor

Faculty Sponsor(s): Dr. Cheryl Slattery

Discussant: Dr. Kim Klein

History

TIME: 7:00 - 7:45 PM

LOCATION: ORNDORFF THEATER

The Great and Venerable Woman

It is easy to assume from official Church literature that women in the early Middle Ages held no power outside of the household. Officially, the Church recommended that women remain fully submissive to their husbands' authority. They were not supposed to hold political or public power independently of their husbands. Yet, between the 6th and 9th centuries, the Church canonized three women who broke this mold by holding incredible public power. This presented a paradox for the writers of their vitae, who still promoted the ideal of submission but who could not deny the worldly power of these women. This project studies the religious vitae of three early medieval queens, in order to understand how the authors attempted to reconcile this paradox of these earthly queens-saints. In doing so, this project seeks to add to the greater knowledge of gender studies in Medieval and Church history.

Elisabeth Davis

Faculty Sponsor(s): Dr. Christine Senecal

Discussant: Dr. Kim Klein



Torpid and Forgetful of War: The Evolution of the Roman Aristocracy

It seems unlikely—if not completely ridiculous—that every generation of Romans was systematically more prone to debauchery than that which birthed it, yet such claims appear throughout ancient sources. This paper seeks to answer the question of if and how tempus changed mores. Using poetry to explore aristocratic culture, it examines the influence of morality and culture on political developments, as well as the degree to which the latter affected the former. Since morality and mores

are and always have been integral parts of the human psyche, defining them and the manner in which they were perceived by Romans does much to explain the transition from the Principatus of Augustus, to the “Year of the Four Emperors,” and finally to the ascent of Gibbon’s supposed “Five Good Emperors,” the first of which—Nerva—was praised by Tacitus as a man who had “brought together things once incompatible: a principate and liberty.”

Luther Karper

Faculty Sponsor(s): Dr. Christine Senecal

Discussant: Dr. Kim Klein



Through the Eyes of a Woman: The Impact of Nature on a Pioneer Woman’s Life

Many scholars have focused on the history of the western United States, specifically the period of westward expansion. The works of these scholars is extensive but also gender-specific. Not only has this field of history been monopolized by men but the sources used by male scholars have also been mostly from the male perspective. Through the use of diaries and letters written by women traveling along the Overland Trails, this project seeks to broaden the perspective of the history of the westward expansion to include women. By incorporating the existing scholarly work with primary source material concerning women, this project will fill a gap in the research on women traveling on the Overland Trails and critically evaluate how women interacted with nature and how nature and the environment affected their daily lives on the trail.

Kayla Reed

Faculty Sponsor(s): Dr. Allen Dieterich-Ward

Discussant: Dr. Kim Klein



The Blizzard of 1888 in New York City

This research project examines the Blizzard of 1888 as a force that changed the lives of hundreds and perhaps thousands of people. The largest impact of this historic blizzard was centered in the city of New York. The storm’s aftermath created a gradual power shift between the established elites and the disenfranchised poor. Under the weight of the snow, the previously unrepresented poor became a driving force in the monumental changes of the city’s infrastructure, including the transportation and communication systems that are still in use today.

Alexa Sleeper

Faculty Sponsor(s): Dr. David Godshalk

Discussant: Dr. Kim Klein



Social & Computer Science

TIME: 6:00 - 7:00 PM

LOCATION: ORNDORFF THEATER

The Application of Support Vector Machines to the Classification of Galaxy Morphologies

Classifying galaxies into categories based on their structure is necessary for studying the large-scale development of the universe. However, one of the premier data sources in astronomy, the Sloan Digital Sky Survey, does not provide classification information for the 50 million galaxy images it contains. Because there are too many objects to classify manually, machine-learning and classification algorithms are required to automate this process. This research applies the Support Vector Machine to classify galaxy morphologies from the Sloan Survey. The SVM algorithm builds a model based on training data with known classifications and uses this model to predict the category of future objects. The accuracy of the classification is measured on the categories of spiral, elliptical, and irregular.

Matthew Freed

Faculty Sponsor(s): Dr. Jeonghwa Lee

Discussant: Dr. Kim Klein



Assessment of Self-Efficacy and Recovery in Peer Specialists

With the movement toward recovery-oriented mental health services, peer support specialist positions are growing in number. This study investigated the effects of a weekly group supervision sessions on peer specialist self-efficacy. Five participants completed measures of peer specialist self-efficacy and mental health recovery on a weekly basis during a baseline phase and an intervention phase. Results showed significant increases in self-efficacy among four of the five participants and increases in recovery for two of the five participants.

Rachel Sieke

Faculty Sponsor(s): Dr. Kim Weikel

Discussant: Dr. Kim Klein



The Influence of Jealousy on Interpersonal Communication

Numerous studies have focused on priming and attraction. However, the effect of priming and attraction on interpersonal communication has not been extensively researched. The study focused on the interpersonal communication that occurs when a monogamous relationship is threatened by an outside entity. In order to distort communication, the study introduced a jealousy threat component by unconsciously priming individuals with attractive faces of the same sex. The study evaluated whether those who are primed with an attractive face will communicate more indirectly than those who are primed with unattractive faces.

Addalena Virtus

Faculty Sponsor(s): Dr. Angela Bartoli

Discussant: Dr. Kim Klein

Celebrating **Individual Oral Presentations**

Biology Student Presentations

TIME: 6:00-7:00 PM

LOCATION: 232

Virulence Gene Expression and Tracking of GFP Labeled Shigella in the House Fly (Musca domestica)

Shigellosis is a form of dysentery caused by the bacterium *Shigella*. This disease affects many people throughout the world, especially those in third world countries. The common house fly (*Musca domestica*) has been implicated as a mechanical vector in the transmission of *Shigella* and other enteric pathogens. This project utilizes a Green Fluorescent Protein (GFP) labeled strain of *Shigella sonnei* allowing for the bacteria harboring the protein to fluoresce. By tracking the bacterial isolate in experimental infections, we can explore both internal and external carriage rates during the different stages of the fly life cycle (larvae through adult). The results of these experiments can confirm our earlier suggestions that house flies serve as both mechanical and biological vectors in the spread of shigellosis. Knowledge of this is instrumental to the control of the vector and as a step in the prevention of enteric disease.

Joseph Sergent, Sarah Brown

Faculty Sponsor(s): Dr. Alyssa Bumbaugh

Department: Biology



Investigation of the Causative Agent of Rose Rosette Disease

The causative agent of Rose Rosette Disease, a fatal pathology of garden-variety and wild roses, was not characterized until recently. Initial efforts by our group to determine the pathogen focused on identifying genes expressed only in infected plants. During our investigation another group discovered the virus responsible, which caused us to shift our focus to examining the pathology of infection. Using molecular techniques we have been exploring localization of the virus in infected plants. Our efforts have also focused on using electron microscopy to confirm that the eriophyid mite *Phyllocoptes fructiphilus*, which other groups have reported to be the transmission vector, is the same mite that we have observed on our samples. Horticulturalists, who seek new options for treatment and prevention of the disease, as well as ecologists, who hope to use the disease as a means to control invasive species of wild rose, may benefit from advances in our understanding of Rose Rosette Disease.

Eric Simko, Michael Ricci, Matthew Good, Arthur Eick, James Reddington

Faculty Sponsor(s): Dr. William Patrie and Dr. Gregory Paulson

Department: Biology



Ecology of the American Toad (Anaxyrus americanus) in a Northern Allegheny Forest in Pennsylvania

Reproductive characteristics of the American Toad (*Anaxyrus americanus*) vary geographically across its broad eastern North American range. Northern populations breed for a shorter period (April-May) than southern populations that could begin in winter and last until April. Delayed maturity and larger minimum body size are also associated with northern populations. Specimens collected during two-years of systematic trapping at the Powdermill Nature Reserve were examined to test predictions of geographic patterns associated with reproduction and growth of a Pennsylvania population. Our results indicate that western Pennsylvanian populations exhibit a short breeding season in May and delays maturity to a large minimum adult body size, requiring three and four years to reach maturity at 60 and 70 mm for males and females, respectively. An apparent response to northern Allegheny climate, the ecological aspects of this population were similar to those of other northern regions.

William Humbert

Faculty Sponsor(s): Dr. Pablo Delis and Dr. Walter Meshaka

Department: Biology and State Museum of Pennsylvania

Communication/Journalism & English Student Presentations I

TIME: 3:30 - 4:30 PM

LOCATION: 119

Creating an Oral History Publication

In this paper, I will discuss my experiences as a student editor of the *Community Connection* publication. I will discuss the process of compiling oral histories of the Franklin County Literacy Council.

Megan Fick

Faculty Sponsor(s): Dr. Laurie Cella

Department: English



Photographic Research in Diversity Awareness

The focus of this project is to delve into the emotional joys and difficulties of being a diverse student at Shippensburg University. Through a series of interviews of students of various diverse groups (gender, race, age, sexual orientation, etc.), I plan to collaborate the emotional impact of photographs with sound clips, text, and other digital means to create an organized slideshow that accurately represents the university's diversity.

Erin Collins

Faculty Sponsor(s): Prof. Margaret Evans

Department: Communication/Journalism

New Time of Single Mothers Defying Stereotypes in Appalachia

Negative stereotypes can wound or even destroy a person psychologically. Single mothers in the fifty-two Pennsylvania Appalachia counties are often viewed as substandard and inadequate caregivers. It is common for people to judge single mothers, since they do not fit the traditional nuclear family. This kind of stereotyping is not only unjust but scientifically unsound. Since nearly three-quarters of Pennsylvania is considered part of Appalachia Territory, it must be recognized that many single mothers in the Pennsylvania Appalachia Territory do not live in rural, under-educated, and poverty-stricken areas. Single mothers range in education, marital status, and economic stability. Some mothers even choose to be single and are “self-determined professional women who suspend their quest for a suitable life partner and become mothers through donor insemination or adoption” (Juffer). Therefore, it is clear that not all single mothers fit the stereotype of the inadequate single mother.

Olivia Hunt

Faculty Sponsor(s): Dr. Laurie Cella

Department: English



Understanding the Fair Labor Association

Outsourcing is becoming increasingly popular and competitive. Prices for consumers are driven lower, therefore large corporations gain the power to demand lower production costs from suppliers. Then the chain continues with competition becoming so harsh between suppliers, that the workers and the environment suffer injustices. The conditions that the workers are under are widely known, but the means to which they can be solved is not. Schools, businesses, and organizations across the Appalachia area have been taking steps to limit, if not eliminate their participation in supporting inhumane as well as harmful environmental practices. My paper discusses this hot topic of what we as consumers in our area can do to support anti-sweatshop and healthy environmental efforts from organizations and companies.

Julia Saintz

Faculty Sponsor(s): Dr. Laurie Cella

Department: English

Communication/Journalism Student Presentations II

TIME: 4:45 - 5:45 PM

LOCATION: 119

Fundraising for Men's Soccer

For my senior project I will create fundraising opportunities for the Shippensburg University men's soccer team, as well as helping out and promoting existing ones. My plan is to create two to three fundraisers to give the program monetary support, which can either be used for scholarship money, upgrading equipment or be used for travel expenses.

Simon Neubauer

Faculty Sponsor(s): Dr. Joseph Borrell

Department: Communication/Journalism



Kid's Cafe Campaign for PRSSA

Every year PRSSA chapters from universities nation-wide are assigned a real life client and create a team to design a personal public relations campaign for that client. After implementing the campaign, students submit the campaign to the Bateman Competition where it is judged amongst its peer chapters. This year, the Bateman Team consists of underclassmen that haven't yet required the knowledge throughout their classes to successfully create a public relations campaign. Shippensburg's PRSSA president and faculty advisor have asked me to come on board with this group and lead the way to a successful, detailed campaign. As a senior I've already taken "Campaigns and Research" and produced a successful campaign for my client Children's Miracle Network. I will be partnering with the group to help create a campaign by leading the group in designing and editing a campaign that will be formed for an event that PRSSA will be holding for Kid's Café to create awareness for childhood obesity.

Rachel Flynn

Faculty Sponsor(s): Dr. Carrie Sipes

Department: Communication/Journalism



New Day Yoga Promotional Campaign

The creation and implementation of promotional material for New Day Yoga and Wellness, LLC of Shippensburg helped generate increased awareness and willingness to try multiple services my client provides. Special promotions and events were executed to have repeat customers for the client.

Danielle Roxby

Faculty Sponsor(s): Dr. Joseph Borrell

Department: Communication/Journalism



Development of a PSA Highlighting Arts in Our Community

This project will be a look into music and the arts in Central Pennsylvania and the many opportunities for involvement that lie therein. Taking the form of an extended PSA that will range from 4-6 minutes, this project will highlight the organizations and departments that our community is composed of. This project will be a resource for people wishing to involve themselves in the artistic community. The focus will be how the arts can enrich our lives and communities.

Vincent McClendon

Faculty Sponsor(s): Prof. Paris Peet

Department: Music/Theater Arts

Communication/Journalism Student Presentations III

TIME: 6:00 - 7:00 PM

LOCATION: 119

Up All Night with WSYC

I have chosen my project to be a complete public relations overhaul for the campus radio station, WSYC. The focal point of the project will be a twenty-four hour broadcast marathon with the intent purpose of raising general awareness amongst the students and surrounding community. In order to build interest, prizes and promotional materials will be given away at intervals during smaller events throughout the semester.

Matthew Kanzler

Faculty Sponsor(s): Dr. Ted Carlin

Department: Communication/Journalism



Promotional Campaign for Karen's Cakery

For my project, I will plan and execute the promotion of Karen's Cakery through social media, a website with a blog, promotional materials like business cards, flyers, and brochures, and use other creative methods appropriate to my client. Karen's Cakery is a small business owned by Karen Gyuris of Winchester, Virginia. She bakes a variety of treats in her own home and does many special order cakes. The business is just starting and is mainly used by family and close friends now. Currently, the only promotion being done is through a Facebook fan page.

Lauren Gyuris

Faculty Sponsor(s): Prof. Margaret Evans

Department: Communication/Journalism



Dress for Interview Success Seminar

As a current member of *The Slate*, I know that several students are unaware of what constitutes professional attire during an interview. A large majority of *The Slate's* staff is graduating this semester and I feel that this seminar would benefit those on the path to a professional career. The goal of this seminar is to promote professionalism by providing students with guidance, resources, and support. I will be planning and conducting a "dress for interview success" seminar for members of *The Slate*. I will give members the opportunity to sign-up for a seminar that will teach them the basics of how to dress for an interview. For this project, I will also create and distribute before and after surveys for the members. This survey will enable me to assess their baseline knowledge of how to properly dress for an interview and how helpful they found the seminar.

Ashley Jones

Faculty Sponsor(s): Prof. Margaret Evans

Department: Communication/Journalism



PASSHE News Network

The Pennsylvania State System of Higher Education consists of fourteen universities. Over half of these schools have a media program. The PASSHE News Network unifies these media programs to create one collaborative newscast. The show is produced by PASSHE journalism students for an audience as wide as the PASSHE region. The broadcast informs, entertains, and links a school system that has consistently produced professionals since its inception.

Brandon Smith

Faculty Sponsor(s): Dr. Joseph Borrell

Department: Communication/Journalism

History Student Presentations

TIME: 6:45 - 7:45 PM

LOCATION: 104

Christian Syrian/Lebanese Immigration during WWI

My Undergraduate Research Project will focus on Christian Syrian and Lebanese immigration from the Ottoman Empire to the United States during World War I. I will be researching why the Christians of this region left, what happened when they reached the United States, and what types of jobs they found. My research will help Americans understand more recent causes of immigration, as opposed to immigration during the colonial period of American History.

Allison Prim

Faculty Sponsor(s): Dr. Brian Ulrich

Department: History/Philosophy

The Impact of the G.I. Bill

My presentation will introduce the audience to the G.I. Bill and the repercussions of the bill on a national level in the United States and then use Shippensburg University as a regional comprehensive university. I will then produce various examples from both national and local levels and explain their significance. This information will come from multiple sources including some secondary sources and many primary sources from Shippensburg University's own archives. The presentation will raise awareness for the audience of the significance of the G.I. Bill and how the creation of this bill impacts them even to this day.

Matthew Jansen

Faculty Sponsor(s): Dr. Brian Ulrich

Department: History/Philosophy



Race on the Rails: Irish Discrimination on the Pennsylvania Railroad

In 1846 the Pennsylvania Railroad (PRR) was created and would eventually become the largest employer of any corporation on earth, employing over 250,000 people at its peak. Among these employees were average blue collar Americans, but there was also an influx of immigrant workers from all corners of Europe ranging from the Eastern countries from Russia to Ireland. Everything from temporary living conditions, wages, and benefits were considered on a basis of race and ethnicity. Ordinary blue collar American workers were treated significantly better than their ethnic coworkers whose jobs were often dirtier, longer, and more dangerous. These issues escalated throughout the decades, leaving many immigrant workers dead, and thousands underfed, underpaid, and on the bottom of the socioeconomic ladder. The purpose of this paper will be to address the influx of Irish workers on the PRR, their working conditions, and the travel conditions for Irish immigrant passengers.

Wesley Gingrich

Faculty Sponsor(s): Dr. Brian Ulrich

Department: History/Philosophy



Recognizing Bias in the News

This project looks at recognizing bias in the news of Shippensburg University students. We looked at two issues: Palestinian Statehood and Health Care Reform.

Nicholas Sones, Lavell Simpkins, Mike Thomas, Jennifer Cina, Kevin Rezac

Faculty Sponsor(s): Dr. Catherine Clay and Dr. Sara Grove

Department: History/Philosophy and Political Science

Learning Center Presentation

TIME: 5:00 - 5:45 PM

LOCATION: 238

Writing Studios as Places of Change: Measuring Changes in Perceptions and Writing Skills of Basic Writers

I conducted a mixed-methods study to measure satisfaction and writing performance in basic writers, all of whom participated in regular Writing Studio meetings. The study consisted of a qualitative analysis of performance as well as tutor-developed survey to quantify the level of participant satisfaction in both their writing experience and their sessions with their tutor. Finally, a quantitative analysis of students' improvement in writing was conducted, which measured significant improvement in their writing skills. This session will discuss the results of this research.

Matthew Thompson

Faculty Sponsor(s): Dr. Karen Johnson

Department: Learning Center

Math/Physics/Earth Science Student Presentations

TIME: 3:30 - 5:00 PM

LOCATION: 239

Examining the Response of the Susquehanna River to Tropical Storm Lee

Tropical Storm Lee dumped 13 inches of rainfall on Central Pennsylvania over a period of 7 days causing record breaking floods along the Susquehanna River. How rivers respond to storm inputs depends on a number of factors such as land use/land cover, storm size and duration, and geology and soils. Thus even along the same river channel response to storm water input can vary from segment to segment. This study examines the variability in response along different segments of the Lower Susquehanna River during Tropical Storm Lee. Hourly precipitation data is compared alongside stream discharge records from US Geologic Survey (USGS) gauging stations. The research is the preliminary observation of the response USGS stations had endured given the atmospheric and geological conditions coupled with the changes in land use within the Susquehanna River basin.

Kameelah Temple

Faculty Sponsor(s): Dr. Joseph Zume

Department: Geography/Earth Science



Enumerating Invariant Subspaces of R^n

Let T be a linear operator defined over R^n . In this talk, we explore for what positive integers m does there exist exactly m T -invariant subspaces of R^n .

Joshua Ide

Faculty Sponsor(s): Dr. Lenny Jones

Department: Mathematics



Physics and Religion

This presentation will be a paper based off of a survey distributed to over 650 physics professors state-wide. The survey focuses on the effects that religion plays on the way people understand their work in physics, and vice versa. I have been working with Dr. Abdurrahman (Physics) as well as undergraduate chemistry major Carley Heck on this project.

Stephen Kaestle, Carley Heck

Faculty Sponsor(s): Dr. Majeed Abdurrahman

Department: Physics

Business/Economics/Political Science/Sociology/Social Work Student Presentations

TIME: 3:30 - 4:45 PM

LOCATION: 226

Commercial IT Project Management Certification Training

Having a good project manager is an essential part to a successful project. Good project managers however are not easily or reliably found. Due to this a common trend among prospective project managers is to undergo certification training. The purpose of this training is to demonstrate to a future employer that the individual has undergone training specifically for project management and has received accreditation by an institute as an effective project manager. The purpose of this paper is to identify how much this training actually improves project results.

John Catanio

Faculty Sponsor(s): Dr. Joseph Catanio

Department: Accounting/Management Information Systems



Crime in the Big City: An Analysis of Metropolitan Crime Rates

The objective of this study is to determine whether poverty, unemployment, police budget, and racial distribution affect crime rate in the seventy-six largest cities in the United States. This analysis uses the databases of 2008 from the Bureau of Justice Statistics. Based on models that have been developed in previous studies, we attempt to address the crime rate issues by using the relevant data and variables that are available to us. Two separate regressions were done to look for a distinctive difference in the causes of violent and property crime. In the case of violent crimes, poverty level, unemployment rate, and population of blacks were found to be significant. In the case of property crimes, budget of the police force, poverty level, unemployment rate, and population of Asians were found to be significant. In both cases, increasing the budget of the police force decreased the crime rate, while an increase in either poverty level or unemployment rate increased the crime rate.

Shawn Piper

Faculty Sponsor(s): Dr. Freddy Siahaan

Department: Economics



The Vast Media Attention of Stephen Colbert

After his request to the Federal Election Commission for the formation the SuperPAC, media have been following the actions of Stephen Colbert. He pushes the boundaries of the Supreme Court ruling that corporations may have unlimited spending amount to political campaigns. While Colbert uses satire to expose the fallacies in the financial election process, he gains media coverage from all points on the political spectrum. Media are taking Colbert's new act of running for the President of the United States of South Carolina seriously. This research delves into the treatment of Stephen Colbert, his popularity in media, and their assessment of his actions. Looking at editorials written in popular newspapers and journals, we assess the way in which the article is framed in reference to Colbert's actions and why the media are viewing him in such a way, as well as look at the ramifications of this framing and how the public is then viewing Colbert's SuperPAC and exploratory election committee.

Emily Troupe, Owen Ecker, Brandon Engle

Faculty Sponsor(s): Dr. Alison Dagnes

Department: Political Science



Coping with Relational Aggression

Relational aggression (RA) is a topic that has, until recently, been overshadowed by acts of physical aggression. RA involves psychological abuses such as verbal harassment, initiation of rumors, exclusion by peers, etc. Due to highly publicized cases of suicide resulting from relational bullying situations, more people have been turning their attention to this phenomenon. RA has been linked to suicide, social maladjustment, early dropout, violence, anxiety, depression and low self-esteem. RA can be seen across all ages, genders, and races; therefore, we must seek out ways to help our clients deal with these traumatic events. The intent of this study was to interview people who have already faced acts of RA in order to gain a better understanding of how those individuals dealt with the aggression and what coping mechanisms they found most useful. Once these mechanisms can be identified we can then teach them to our clients who are experiencing similar situations.

Heather Preece

Faculty Sponsor(s): Dr. Marita Flagler

Department: Social Work/Gerontology



Gender and Race: Use of the Word "Rape" as Slang

The purpose of this study is to examine the impacts of gender and race on use of the word "rape" as slang. This study is important because the word has increasingly become a part of American slang to describe things such as losing a game ("They got raped on the basketball court last night."). Based on the sociological scholarship on gender and race, we hypothesize that the word is most commonly used by males than females, and by whites than non-whites. This is because women and minority people are more likely (than men and whites respectively) to be exposed to the traumatic experience of rape or sexual assault. Therefore, they are more sensitive to the offense it can bring to those who have been victimized or fear being victimized. Deriving the data from a web survey among the undergraduate and graduate students Shippensburg University, we will conduct both qualitative and quantitative studies.

Brittany Dougherty

Faculty Sponsor(s): Dr. Dina Banerjee

Department: Sociology/Anthropology

Student Performance Presentations

TIME: 7:45 - 9:30 PM

LOCATION: 104

Resident Assistant Training Video

Becoming a resident assistant is a task that is not to be taken lightly. Despite what many residents think, RAs work very hard to build and maintain a community while performing administrative and creative tasks under a deadline. With the help of this video, RAs will be given a crash course on how to perform health and safety checks, write documentations and anecdotes, use the machines in the resource room and perform more routine operations that are found as an RA. In addition to the more simple tasks that fall on a resident assistant, this video will demonstrate some examples of helping skills that can be applied to interpersonal interactions with residents that can be depressed, worried, angered, etc.

Kevin Battersby

Faculty Sponsor(s): Prof. Margaret Evans

Department: Communication/Journalism



Promotional Campaign for The Thought Lot Art Gallery

A series of PSA's and liners for both television and radio to promote The Thought Lot art gallery, its programs, and the Post Now PA art and culture organization.

Lucas Martin

Faculty Sponsor(s): Prof. Margaret Evans

Department: Communication/Journalism



Who "I am": A Discovery of Identity through Language

"Who 'I am': A Discovery of Identity Through Language" is a study of the connections between identity and language through a process developed by actress and playwright, Anna Deavere Smith. The process entails interviewing subjects, re-constructing monologues from the recorded interview and creating character studies through live or recorded performance. It is an attempt to embody a character spiritually, emotionally, and physically by using their ideas, language and delivery style to give insight into who they are. The project consists of twenty-one interviews.

Emily Hall

Faculty Sponsor(s): Prof. Paris Peet

Department: Music/Theater Arts

Celebrating Poster Session I

Biology

TIME: 3:45 - 5:45 PM LOCATION: MULTI-PURPOSE ROOM

Phenology of the Anuran Community in Four Wetlands in South-central Pennsylvania Using Automated Acoustic Systems

Wetlands are important habitats for many organisms, including amphibians. In Pennsylvania, wetlands are critical to the reproduction of all anurans (frogs and toads). Male anurans form choruses in wetlands, producing unique vocalizations to attract females during the breeding season. From March to November 2012, we will record anuran calls using automated recording systems (Song Meters, Wildlife Acoustic Inc.) in four different wetlands in south-central Pennsylvania. One system will be placed in Shippensburg University and three others will be installed in Letterkenny Army Depot. Daily recordings will target morning, mid-day, late evening, and night periods. The recorded digital files will be analyzed using Song Scope computer software to identify individual species sonographic patterns. The data collected will identify the species calling in these wetlands and their calling activity patterns, providing the sort of information necessary to make sound wetland management decisions.

Jaclyn Adams

Faculty Sponsor(s): Dr. Pablo Delis and Dr. Brad Armen



Habitat Availability, Growth Rate and Survival of Reintroduced Northern Bobwhite in South-central Pennsylvania

The Northern Bobwhite population of Pennsylvania has decreased in size by an estimated 90 percent since the 1970s. The overall reduction in population size has been attributed mainly to the degradation of acceptable habitat and food sources. Pennsylvania is at the northern fringe of the Bobwhite range. This is due to the harshness and duration of winters, which have a great impact on survivorship. In this study the quality of release habitat was assessed based on several criteria including nesting habitat, available cover, and food sources. Chicks were placed in an enclosure near the release site to acclimate them to their new habitat. A soft release helps to increase survivorship in the first weeks following release. While in the enclosure birds were equally divided and given different food sources. During this time growth measurements were taken to illustrate nutritional differences. Released birds will continue to be monitored to determine survivorship and dispersal patterns.

Tyler Bellis

Faculty Sponsor(s): Dr. Nathan Thomas



Identification of Genes Important in Courtship Behavior of Drosophila Melanogaster

In order to characterize the role of pheromone binding proteins in courtship behavior of *Drosophila melanogaster*, transgenic flies were produced carrying inverted repeats of the OBP56d gene which should activate the RNA interference (RNAi) pathway and reduce production of this putative pheromone binding protein. The effects of losing OBP56d protein were evaluated in mating assays that measure progress through the highly choreographed steps of the *Drosophila* mating ritual with results contradictory to original expectations. The results of RNAi must therefore be confirmed by measuring the levels of OBP56d RNA in transgenic flies. RT-PCR (Reverse Transcriptase Polymerase Chain Reaction) is used for the detection of RNA expression levels. The presence of the inverted repeats of OBP56d DNA in the genome of transgenic flies is also being verified using PCR. In order to expand our analysis, two more potential pheromone binding proteins, OBP57b and OBP57c, are being cloned.

Megan Breski, Angel Sharma, Sativa Volcy, Veronica Zewdu

Faculty Sponsor(s): Dr. Sherri Bergsten



Engineering an EGFP/LC3 Expression Vector to Visualize Autophagy in Cloned Cell Lines

Engineering an expression vector to visualize autophagy in cloned cell lines. Autophagy is a fundamental cellular process where cells digest and recycle portions of their own cytoplasm. Autophagy has also been implicated in innate immunity as an alternative pathway for clearance of intracellular pathogens. LC3 is the mammalian homolog of yeast Atg8 and is the only known membrane marker for autophagosomes. The goal of this project was to engineer a vector to express protein containing enhanced green fluorescent protein (EGFP) fused to human LC3. Insertion of this expression vector into cloned cells can be used to visualize and quantify autophagy by the accumulation of fluorescent autophagosomes as bright green spots (punta) in the cell cytoplasm. The resulting transfected cell lines will be used in subsequent experiments to further investigate the role of autophagy in growth of cancer cells and clearance of intracellular pathogens.

Tara Cole, Elaloui Mounaim, Beth Ann Grega, Jessica Rauchut, Kaira Grove

Faculty Sponsor(s): Dr. Lucinda Elliott



Rose Rosette Virus Localization in Rosa multiflora

Rose Rosette Virus is the causal agent of Rose Rosette Disease, a fatal pathology of both garden and wild rose varieties. It has been hypothesized, based on horticultural observations, that the virus is present in both symptomatic and healthy sections of infected plants. To test this prediction, the presence of viral genome in various parts of infected plants is being investigated using RT-PCR. Supporting the hypothesis, viral genome has been detected in non-symptomatic root sections. Further tests are currently underway to validate and expand upon these results. If systemic infection is confirmed, the characterization of genes differentially expressed in symptomatic versus healthy tissue may provide insight into the mechanisms by which plant viruses induce disease. Increasing our knowledge about this pathology may impact a number of fields, as horticulturalists seek options for treatment and prevention while ecologists hope to use the disease for controlling invasive species of rose.

Matthew Good, Arthur Eick, Eric Simko, Michael Ricci

Faculty Sponsor(s): Dr. William Patrie



Antimicrobial Properties of Raw Honey and Propolis on Microbial Growth

Propolis and raw honey are natural bee products that are sometimes used as homeopathic remedies. In a natural setting, bees use propolis to seal off and protect the hive from fungal, viral, and bacterial infections. Raw honey, which is known to contain beneficial antioxidants and digestive enzymes, also contains propolis. This study explored the antimicrobial properties of both raw honey and propolis supplements against a range of bacteria that could be implicated in human disease. The results of this study can be used to determine if raw honey and propolis inhibit microbial growth serving as an effective means of bacterial control.

Kaybrea Hood

Faculty Sponsor(s): Dr. Alyssa Bumbaugh and Dr. Marcie Lehman



Expression of HERV-K LTR Transcripts in SNB19 Glioblastoma Cells

In our genome are retrovirus sequences called Human Endogenous Retro Viruses (HERVs). HERVs have with them an LTR sequence (Long Terminal Repeats) which act as promoters for the associated sequences. The research is targeting the LTR sequences that are associated with HERV subclass K. This subclass has been shown to have the ability to suppress the promyelocytic leukemia zinc finger. The method that was used was to take mRNA from the glioblastoma cells, convert them to cDNA and from there sequence them to locate any of the HERV-K LTR sequences. The procedure used

resembles the AFLP method. The results indicated LTRs present but upon sequencing we were unsure if there was contamination of genomic DNA with the generated cDNA. The procedure has been altered due to results to see if there was genomic contamination. The relevance of this research is that if a promoter is inserted where there isn't normally one it could cause over-production of a protein(s).

Chris Jones

Faculty Sponsor(s): Dr. William Patrie



Identification of Bacterial Isolates Using rRNA Sequence Analysis

Bacteria can be classified into families and genera based on sequence homology in the rRNA gene. Differences in highly diverse regions of rRNA gene sequence can aid in differentiating between bacterial genera. In this study, complementary primers to conserved sequences of the bacterial rRNA gene were used to amplify genomic DNA extracted from fourteen bacterial isolates tentatively characterized based on colony and cell morphology as well as biochemical characteristics. The PCR samples were sequenced using a Licor Sequencer and compared to the rRNA gene database at Michigan State University to identify the isolates and confirm or disprove the tentative classifications based on morphological and biochemical characteristics.

Shannon Lee, Luke Perry

Faculty Sponsor(s): Dr. Lucinda Elliott and Dr. William Patrie



Regulation of PPAR γ Agonists in Transcriptional Activation of PRDM16 to Induce Myoblast to Brown Adipose Tissue Differentiation

With the recent explosion of research on the metabolic role of brown adipose tissue (BAT) activation, numerous pathways have been reported on differentiation of BAT from myoblasts. BAT is a multi-ocular triglyceride storing adipose tissue rich in mitochondria resulting in its reddish-brown tint. The primary function of BAT is heat production through non-shivering thermogenesis facilitated by UCP-1 which causes cell respiration to be inefficient. In this study, we explored the promotion of BAT differentiation from C2C12 myoblasts through activation of nuclear receptors in the enhancer region of the UCP-1 gene, of which is characteristic to BAT. Ligands including rosiglitazone and bexarotene were used to enhance activity of the nuclear receptors peroxisome proliferator-activated receptor- γ (PPAR γ) and retinoic X receptor (RXR) respectively. Association of key differentiation gene PRDM16 with these DNA binding sites should induce expression of UCP-1 and thus BAT differentiation.

Jennifer Loomis

Faculty Sponsor(s): Dr. William Patrie



Stable Isotope Determination of Whitetail Deer Diet in Adjacent Agricultural and Forested Habitats of Pennsylvania

Management of deer populations is influenced by differing views on population size in preferred habitats, where deer browse forests or crops. We are estimating the proportion of crop vs. natural vegetation in deer diet to show habitat preference. Twenty-nine samples of deer tissues, 21 samples of forest plants, and 16 crop samples were collected to trace diet with C and N isotopes. We assumed that deer had access to both forested land and farmland. The deer tissues and plant matter were oven-dried, homogenized and analyzed for d13C and d15N. These stable isotopes may be used for tracing diet sources as long as statistical difference exists between endpoints. Crop contribution to diet will be evident if isotopic values of deer tissues fall between those of crop and natural vegetation. Diet fractions will then be quantified with mixing models, using one or more isotopic tracers. Results will provide understanding of deer movement and aid in formation of future deer management plans.

Stacy McCanuel

Faculty Sponsor(s): Dr. Todd Hurd



Inhibition and Promotion of Streptococcus mutans Biofilms Using Mouthwash and Sugars

Streptococcus mutans is a bacterium found in the human oral cavity and is associated with dental caries. This organism is responsible for the formation of biofilm layers that lead to plaque buildup on the surface of the tooth. Carbohydrates can increase the formation of biofilms while mouthwash ingredients can reduce biofilms. This study explored the growth of S. mutans in the presence of several of carbohydrates at varying concentrations and the reduction of biofilm layers by several brands of mouthwashes. Although chewing gum companies have claimed that xylitol prevents cavities, our study found that S. mutans is able to grow well in the presence of this sugar. The best preventative mouthwash of S. mutans biofilms in non-carbohydrate supplemented growth media was Crest® Pro-Health Anti-Cavity Fluoride Rinse for adults. The overall results can be used to determine if different diets should require different dental hygiene practices.

Lauren Redington, Chase Duckwall

Faculty Sponsor(s): Dr. Alyssa Bumbaugh



Prevalence of Baylisascaris Procyonis in Shippensburg, Pennsylvania

Baylisascaris procyonis is a parasitic roundworm that uses raccoons as its definitive host. It is transmitted through the ingestion of infective eggs passed in fecal matter. Eggs can remain viable in the environment for several months to years. B. procyonis poses a serious health risk for humans and other domestic and wild animals due to migration of the parasite into visceral, ocular and nervous tissue. This study was conducted to determine the prevalence rate of B. procyonis in Shippensburg, Pennsylvania. The Modified Wisconsin's Fecal Float method was used to aid in the identification of B. procyonis eggs. Results show that over half of the raccoons tested for B. procyonis were positive for the parasite. The data collected indicates that B. procyonis is present within the local Shippensburg raccoon population. To reduce transmission to humans and domestic animals, it is important that the community is educated on exposure risk and preventative measures.

Susana Rios

Faculty Sponsor(s): Dr. Richard Stewart



Seed Dispersal by the Eastern Box Turtle (Terrapene carolina carolina) in South-central Pennsylvania

The Eastern Box Turtle (Terrapene carolina carolina) is the most common terrestrial turtle in the eastern United States, yet little is known about their role in seed dispersal. We quantified the diet of box turtles in south-central Pennsylvania by identifying materials found in the scat of 12 individuals from Letterkenny Army Depot. The samples were sieved to separate seeds and other components of their diet, and seed count and dry mass of each dietary component was obtained. A total of 833 seeds were found in the scat samples, and 92% of the samples contained seeds. Other components of the box turtle diets consisted of insects, vegetation, rocks, and molluscs. Seed mass made up the greatest proportion of biotic matter found in their scat, comprising about half of the total dry weight. Our results suggest fruits make up a substantial portion of box turtle diet in south-central Pennsylvania, and indicate that box turtles are potential seed dispersers of a variety of plant species.

Pamela Simons, Danielle Hunsinger

Faculty Sponsor(s): Dr. Heather Sahli and Dr. Pablo Delis



Characterization of Epidermal Growth Factor Receptor Gene in Glioblastoma Cells

The epidermal growth factor receptor (EGFR) is often oncogenic due to mutation or amplification. In this ongoing study we are attempting to characterize the EGFR gene in glioma cells using a modified amplified fragment length polymorphisms (AFLP) assay and fluorescence in situ hybridization (FISH). DNA isolated from the glioma cell line SNB19 was digested with MseI restriction enzyme. Ligation of modified MseI adapters to the DNA allows amplification of the 5' and 3' ends of the EGFR gene and the flanking sequences using the appropriate primers. Sequencing the products should allow detection of distinct EGFR gene copies. Fluorescent probes to EGFR are being produced to observe the copy number and location of the EGFR gene in the chromosomes of mitotic glioma cells through FISH. The results of these tests will allow us to discern alterations in the glioma cell line that result in a change in the copy number or chromosomal location of the EGFR gene that may contribute to malignancy.

Nathan Snyder

Faculty Sponsor(s): Dr. William Patrie



Developing an In-house PCR to Test for the Presence of Batrachochytrium Dendrobatidis

Batrachochytrium dendrobatidis (Bd), a pathogenic fungus, is the causative agent of the infectious disease chytridiomycosis. Bd is a leading contributor to the worldwide amphibian decline and is spread directly through amphibian contact as well as by contact with fungal spores in water. The fungus affects the cutaneous respiration of the amphibians by attacking keratin in the skin. The Bd fungus has been discovered in Pennsylvania on native amphibians and previous studies confirmed the presence of the fungus in local waters. In order to survey the distribution of this pathogen in local waters, samples were collected from amphibians at 20 local wetland areas. Bd specific PCR protocols were used to confirm the presence of the pathogen from these sampling locations. Acquiring this in-house test will promote sampling in other institutions and increase the knowledge of this pathogen in the commonwealth. The sample sites continue to be monitored for the presence of Bd.

Katie Weaver, Evan Smith

Faculty Sponsor(s): Dr. Tim Maret, Dr. Marcie Lehman and Dr. Alyssa Bumbaugh



Long Term Survey of Snakes in an Urban and Agricultural Landscape Adjoining Shippensburg University

Shippensburg University is an urban environment surrounded by islands of natural habitats. This site provides an excellent opportunity for studies on urban ecology. Snakes are a valuable ecological resource, serving both as predators and prey in ecosystems. However, disturbed urban and agricultural settings pose distinct threats to snakes from human activities and human structures. In Pennsylvania, little is known about the snake assemblage in natural habitats, even less yet about the snake community inhabiting disturbed lands. A fourteen-month study has determined the presence of four species of snakes in and around Shippensburg University. Continuing this research, I will use coverboards and opportunistic searches to further quantify the snake community in areas within and surrounding Shippensburg University campus. Findings from this study will add more strength to the understanding the snake community in disturbed urban/agricultural habitats in south-central Pennsylvania.

Montrell Wilkerson

Faculty Sponsor(s): Dr. Pablo Delis

Chemistry

TIME: 3:45 - 5:45 PM

LOCATION: MULTI-PURPOSE ROOM

Determination of Three Dimensional Molecular Structures of Garcinia Acid Derivatives Using Chiroptical Spectroscopic Methods

Electronic circular dichroism, optical rotatory dispersion, and vibrational circular dichroism spectra of two garcinia acid derivatives have been measured and analyzed in combination with quantum chemical calculations at multiple levels of theory. The absolute configurations of both GTMBA and GAABA are already noted. The objective of this investigation is to determine the predominant conformations of these compounds. Using the quantum chemical predictions of chiroptical spectra, GAABA was found to have two predominant conformations. The population weighted predicted chiroptical spectra are in good agreement with the corresponding experimental spectra indicating that the identified conformations are correct. The same calculation methods revealed GTMBA to have four conformations. The predicted population weighted ECD and VCD spectra for GTMBA are in good agreement with the corresponding experimental spectra, the same is not true for the ORD spectra.

Matt Fritz

Faculty Sponsor(s): Dr. Dan Predecki and Dr. Prasad Polavarapu



A More Efficient Synthesis of Diphenylacetylene for Instructional Use

The synthesis of diphenylacetylene, involving the double elimination of stilbene dibromide with potassium hydroxide, has been utilized as an instructional laboratory experiment without much success. While practical to the laboratory setting, potassium hydroxide does not produce a lot of product during a typical lab period. Two alternate methods will be presented and will incorporate microscale techniques for use in most organic instructional laboratories.

Jordyn Lynch

Faculty Sponsor(s): Dr. Dan Predecki



Synthesis of Novel Nickel(II) 15-Metallacrown-5 Complexes

Metallacrowns form large rings of [M-N-O] repeat units, which allow for a high density of metal atoms to be in a centralized area. Thus, these coordination complexes potentially have very interesting magnetic properties. Nickel(II) metallacrowns are desirable due to their unique catalytic and magnetic properties. Ligands that form two fused five-membered rings space the metals 108° apart, which allows for the five hydroximate oxygen atoms to be in one plane. This ligand arrangement leads to the formation of a planar 15-MC-5 complex. These metallacrowns can then bind lanthanide ions in the central cavity. Since no extreme conditions are needed for syntheses, metallacrowns are ideal for the facile production of magnetic complexes. The synthesis of novel nickel(II) 15-metallacrown-5 complexes using various hydroxamic acid ligands will be reported.

Kelcie Zegalia

Faculty Sponsor(s): Dr. Curtis Zaleski

Communication/Journalism

TIME: 3:45 - 5:45 PM LOCATION: MULTI-PURPOSE ROOM

Boosting Student Renters for Sterling Property Management Inc.

James Farrell

Faculty Sponsor(s): Prof. Margaret Evans



Kappa Delta Phi NAS Recruitment Video Research Project

My project is the creation of a recruitment video for the Kappa Alpha Iota Chapter of Kappa Delta Phi National Affiliated Sorority to be used to attract potential new members. This video would be created in order to provide a visible audio of what the chapter does here in the Shippensburg community. The video would be used during recruitment and year round; it could be on the chapter's website, Facebook page, and on the Rush page for Facebook.

Katherine Alexander

Faculty Sponsor(s): Prof. Margaret Evans



Independently Recording and Producing a Song and a Music Video for the Band Redwud

My proposal is to record, produce, and edit one of the band Redwud's songs then record, produce, edit, direct, and act in a music video for said song. The problem being addressed is the lack of video web presence the band Redwud is able to display to the public. The song and video will be recorded and edited in my home studio using Pro Tools and Adobe Premiere Pro. Research elements include shooting, lighting, framing, and editing techniques used to accomplish clarity and the desired feel or flow of the audio and video. The video will be uploaded to www.youtube.com where other sites can use the web address as a link to make the video available to as many people as possible.

Jarrad Arnold

Faculty Sponsor(s): Prof. Margaret Evans



New Day Yoga and Wellness

I will present a poster of informative materials for New Day Yoga and Wellness, which will consist of a feature article of the owner Jean Vargas, press releases, and handouts for the Wellness Fair.

Carolyn Blasek

Faculty Sponsor(s): Prof. Margaret Evans



Charity Poker Tournament

I put together a charity poker tournament at Ship, with all proceeds to benefit the Model Citizen Fund. A charity focused on doing good deeds for others, as well as handing out backpacks of supplies to the homeless.

David Brown

Faculty Sponsor(s): Prof. Margaret Evans



JDRF to Cure Diabetes

I am going to work with JDRF (Juvenile Diabetes Research Foundation) based on my knowledge on a more personal level; I have a friend with type 1 diabetes. My goal is to build bonds; I want to make bonds among those personally affected by type 1 diabetes. I plan to work with the Development Director, Rachel Hykel of JDRF, to help further build strong bonds and carry out the message that JDRF wants to get across to people. I want to help advertise through social media, such as advertise in weekly newsletters, emails, make posts on Facebook and Twitter, form promotional publications, and overall create more awareness in communities. I plan to also attend a "Type 1 Talk" event to make a connection with people to help me understand the needs and wants of people.

Heather Clark

Faculty Sponsor(s): Prof. Margaret Evans



Food Service Newsletter to Help Understand Nutrition in Meals

For my capstone project, I will be planning, conducting and preparing a newsletter for implementation for Great Valley Food Service. They have been having problems with parents and them understanding exactly what the food service does and how nutritious their meals actually are. By creating this newsletter that will be sent out once a month, the goal is that it will not only provide information to the parents about the meals their children will be eating, but also what new and exciting things that the food service is working on for the future. We are hoping this will help them with their PR problem. They also want to use this newsletter to generate feedback from the parents. They also would like to have more interaction with them and hear more ideas. Our goal would be to have this ready to go by April and look to implement next fall.

Justin Decker

Faculty Sponsor(s): Prof. Margaret Evans and Dr. Joseph Borrell



Organizing a Bi-Monthly Virtual Photography Group Facebook Page and E-Newsletter for PostNowPA

For my Capstone Project I plan to start a bi-monthly E-newsletter with corresponding Facebook fan page, which could be hosted and sent out by Post Now PA. This e-newsletter would serve as a virtual photo group, which is always open and allows members to share their own ideas with a like-minded group. It could potentially improve the participation rates of photographers at The Though Lot and attendance to their galley events.

Leslie Douglas

Faculty Sponsor(s): Prof. Margaret Evans



Finding a Kidney for Vera

I will be working with a family who has a two-year-old daughter named Vera who is in need of a kidney. I will be researching information on kidney transplants, writing articles, press releases, creating flyers and other promotional materials, as well as working on other projects in order to find a donor for this little girl as well as raising awareness for the need for kidney donors.

Meaghan Ellis

Faculty Sponsor(s): Prof. Margaret Evans



Promoting the Women's Center and REACT

I will work with the Women's Center and REACT to increase awareness about the different counseling options and programs offered. I will create flyers, brochures, and write a series of pieces for *The Slate* to broadcast the events. I will do research and compile some statistics about how students have been using the programs now and after I do the PR work.

Melissa Fellecer

Faculty Sponsor(s): Prof. Margaret Evans and Dr. Joseph Borrell



Shippensburg ROTC Audio Interview

This project will contain six ten-minute interviews with contracted Cadets in Shippensburg's ROTC program to give more information about the program and to help garner interest.

Christopher Field

Faculty Sponsor(s): Prof. Margaret Evans



Promoting the University Grille

Danielle Halteman

Faculty Sponsor(s): Prof. Margaret Evans and Dr. Joseph Borrell



Raising Awareness and Action about Recycling on Campus

With this project I will be raising awareness and action about recycling on the Shippensburg University campus. I will be targeting Shippensburg students, specifically freshmen, about the importance of recycling and how they can effectively recycle on campus.

Leah Haugh

Faculty Sponsor(s): Prof. Margaret Evans



Phi Sigma Sigma Social Sorority Promotional Plan

I plan to create a promotional campaign for Phi Sigma Sigma Social Sorority. This plan and all its components can be reused every semester and can help this chapter grow. Phi Sigma Sigma raises money for many different organizations such as The National Kidney Foundation, Autism Awareness, Relay for Life, and many more. This on-campus organization promotes sisterhood through community service, leadership, and building relationships. I plan to build a promotional website/blog for individuals interested in learning about the organization. I will also create a newsletter for this group to hand out to potential members. I will create advertisements to place around campus so that students can become aware of the upcoming events. Also, I will write articles for *The Slate* and other surrounding newspapers, allowing the community to become aware of events to benefit the causes listed above.

With all of the promotional aid and the potential support of the community, this organization can improve its recognition on and off campus. While working with new students and members of the community, the members hope to generate more funds for these foundations.

Sara Hess

Faculty Sponsor(s): Prof. Margaret Evans and Dr. Joseph Borrell



East Meets West Campaign

I am doing a campaign project for a little shop in downtown Shippensburg. I am going to do a campaign project for their store to help them get better business and hopefully get more students from the university to shop there. I plan on doing some ads to be published in the paper and even hold an event for them to sell products.

Allie Hogman

Faculty Sponsor(s): Prof. Margaret Evans



Senior Capstone Project

This project is a reflection on my communication/journalism print media emphasis. This website has allowed me to provide examples to future employers of my ability to write articles, advertise, and promote a baseball team.

Chad Jones

Faculty Sponsor(s): Prof. Margaret Evans



SHIP Sports, Streamed— Analysis and Improvements

This project will focus on examination of online streaming coverage of college sports events, as well as strategies and implementations that will increase the number of listeners/watchers over online streaming.

Tom Kane

Faculty Sponsor(s): Mr. Michael Gardner



Promotion Materials Made for Mosaic Coffee Company

I will present my senior project I did for Mosaic Coffee Company, which is a small coffee roaster in Shippensburg, Pennsylvania.

Kelly Kozakowski

Faculty Sponsor(s): Prof. Margaret Evans



Redesign and Promotional Package for Moore Music DJs

My poster will feature a complete promotional package for Moore Music DJs in Harrisburg, Pennsylvania. The package will include a brochure, a radio commercial script and a press release. I will also be redesigning the information packet and business cards that clients will receive.

Brittany Leonhard

Faculty Sponsor(s): Prof. Margaret Evans



Strategic Marketing Plan for Kappa Delta Phi Fraternity

My plan is to create an all-encompassing marketing/awareness plan for Kappa Delta Phi Fraternity that can be reused every semester. I will create and manage a Facebook group about the fraternity's activities; create a stable rush schedule with proper advertisements provided; build a brand around Kappa Delta Phi for better campus awareness. I will also create and manage a chapter website, something the fraternity has needed for many years.

Grant MacKenzie

Faculty Sponsor(s): Prof. Margaret Evans



Promotion of the State Intramural Basketball Championship

On March 23, Shippensburg hosted the State Intramural Basketball Championship. I worked with the assistant director of the rec center, Melissa Hazzard, to promote and organize the event. I wanted to expose the event to more media outlets than was done in the past.

Lauren Mease

Faculty Sponsor(s): Dr. Joseph Borrell



Promotional Material for Calvaresi's Barber Shop

My project is to help Calvaresi's Barber Shop create and implement different types of advertisements. The barber shop just opened in January and is still trying to target and create a customer base. The advertisements will help establish the company and gain recognition within the community. The focus of the advertisements are to help inform customers while also being easily accessible as well as easy to distribute. The owner, John Calvaresi, also has a website and Facebook page but needs a structure for updating these mediums when necessary.

Aurora Miller

Faculty Sponsor(s): Dr. Joseph Borrell

Computer Science

TIME: 3:45 - 5:45 PM LOCATION: MULTI-PURPOSE ROOM

Infrastructure Monitoring with Wireless Mesh Networks

Wireless Sensor Networks are frequently used to monitor environmental conditions in remote or hazardous locations. In this project, a Wireless Sensor Network will be developed and implemented at a 1,200 acre Scout Camp to remotely monitor freshwater and greywater systems. Due to the varied experience of employees and volunteers at the camp, this network must be self-configuring and self-maintaining. For this reason and its reliability, a mesh network design will be used. The network will be implementing the ZigBee protocol stack for communications. The network will be built from wireless motes using XBee Pro S2B transceivers. The nodes in the network will have one or more attached transducers including temperature sensors, current sensors, and ultrasonic sensors. The nodes will use these transducers to monitor physical properties of the physical plant for the camps, including the water tank level, well pumps, or three stage floats and pumps. Data gathered from the motes will be transmitted to the server, which will store the status in a database and be used to alert camp staff of failures.

Mike DiDomenico

Faculty Sponsor(s): Dr. Tom Briggs



Determining a Feature Set to Find Defects in Mortar

This project uses JavALISA, an image processing engine, to determine an appropriate feature set to determine the structural integrity of mortar between bricks. JavALISA supplies users with a multitude of built-in features, but this project explores how to choose the most effective ones to seek out defects. This project is currently in progress, but will be completed by the time of the conference.

Evania Mans

Faculty Sponsor(s): Dr. Alice Armstrong

Economics

TIME: 3:45 - 5:45 PM LOCATION: MULTI-PURPOSE ROOM

Why Vanguard is the Vanguard of Mutual Funds

The research project's purpose is to determine what economic factors have the greatest effect on the changes in stock prices for certain Vanguard mutual funds; as well as the individual stocks that are part of the mutual funds. The all variables are in monthly intervals. The variables are dated back ten years. The independent variables include such economic variables as GDP, oil prices, CPI index, unemployment, etc. This project will show which variables are most responsible for fluctuations in the mutual fund portfolios and the stocks that are in them.

Gregory Campbell

Faculty Sponsor(s): Dr. Freddy Siahaan



The Talking Generation

The average American's cellular bill is nearly \$600 annually. In the twelve-month period ending June 2006, the industry posted total revenues of \$118 billion. Furthermore, seventy-one percent of teenagers in the U.S. owned a cell phone in 2008. In recent years the use of cell phones has been dominated by teenagers. This study focuses on the number of hours teenagers in the U.S. spend on mobile devices, i.e. the number of calls made/received in a day and the number of texts sent/received in a day. By using the cell phone use data from the Pew Research Center, we are able to incorporate personal, family, and socioeconomic variables to address the use of mobile devices among teenagers. We find that the type of cell phone plan a teenage has statistically determines the number of hours a teenager spends on his/her cell phone. We also find that the type of plan and race also determine the number of calls made/received in a day.

Giovanna Carannante

Faculty Sponsor(s): Dr. Freddy Siahaan



Who is the Better “Money Manager”?

The objective of this study is to investigate the determination of bank stock price as the indicator of bank performance and to investigate the relationship of bank stock price with varying economic, market and financial factors. Since many banks exist around the world, the study only examines quarterly performance of the ten largest banks in United States from January 2005 to December 2010. The data used in this study comes from various resources. Due to multiple phenomena observed over multiple time periods of the observations, panel data analysis is used. Earnings per share, market sentiment, Consumer Price Index and oil price are found to be a significant variable in determining price of bank stock. The results of this study show that banks perform better when earnings per share, market sentiment, and Consumer Price Index increase, as well as oil price decrease.

Xin Xin Cheng

Faculty Sponsor(s): Dr. Freddy Siahaan



Stock Prices and Natural Disasters

The hypothesis of this research is that the stock prices of insurance companies would fall prior to, and following, the occurrence of a natural disaster. Previous research clearly indicates that the unexpected element of the announcement is somewhat responsible for the change in stock prices. Our results, however, show that natural disaster occurrences do not statistically affect the stock prices of insurance companies.

Bethany Eberhart

Faculty Sponsor(s): Dr. Freddy Siahaan



Whose Child Gets Left Behind? A Study on Educational Attainment

The purpose of this study is to look at different variables and see how strongly they affect the educational achievement of an individual. The No Child Left Behind Act attempted to set a standard of achievement for students in reading, writing, and math, but failed to produce a quality result. The persons used in this study are from the National Longitudinal Survey of Youth beginning in the year 1979 (NLSY-79), originally collected by the Bureau of Labor Statistics. The survey includes 12,686 individuals from various walks of life. The results are shown that the highest grade completed of parents, and the oldest siblings are statistically significant, adding a significant amount of additional education for the participant for every year a sibling spent in education. Other statistically significant variables include urban or rural residence, and gender of the individual.

Eric Fry

Faculty Sponsor(s): Dr. Freddy Siahaan



What’s the Value of Your Backyard?

The objective of this study is to investigate the economic impacts of the natural gas drilling on its surrounding community. My preliminary results show that the natural gas drilling has a huge economic impact for the surrounding community for the first four years of production and then begins to decline dramatically. Once the surveying is completed, roads are paved, wells are drilled, and pipelines are laid there is limited room for employment.

Daniel O’Connor

Faculty Sponsor(s): Dr. Freddy Siahaan



We Didn’t Start the Fire: An Investigation of Homeowners Insurance

The objective of this research is to determine factors that affect homeowner insurance and insurance rate in the United States. The data used is from 2004 Bureau of Labor Statistics’ Consumer Expenditure Survey. This research utilizes the ordinary least squares (OLS) analysis. The main variables of importance to the analysis are where the person lives meaning region of the United States, what other type of insurance is owned, whether a mortgage is owned or not, and the education of the person. The results of this regression shows that people living in the Midwest, South, and West are more likely to own homeowner insurance than people in the northeast. Also if they own life insurance and auto insurance they are more likely to have homeowner insurance. Literature reviews show some support for what affects homeowner’s insurance has on the insurer-insure relationship and there are very good questions raised on the rate making of insurance companies.

Jordan Paterson

Faculty Sponsor(s): Dr. Freddy Siahaan

Exercise Science

TIME: 3:45 - 5:45 PM LOCATION: MULTI-PURPOSE ROOM

Effects of Caffeine on Anaerobic Endurance of Intermittent Handgrip Contractions under Vascular Occlusion

The use of caffeine as an ergogenic aid has been studied as its potential stimulatory effect. The purpose of this study was to examine the effects of caffeine on anaerobic performance. Four highly active college aged males (Age: 20±2 yrs, Activity: 7 hrs/week) completed handgrip exercise under two conditions, placebo and caffeine. Thirty minutes after administration of placebo or caffeinated gum, subjects performed handgrip contractions at 60% of their MVC to exhaustion under ischemic condition. Blood pressure, heart rate, blood lactate, rate of perceived exertion, exercise time and O₂ recovery were measured throughout the exercise. An increase in exercise time (146.3 vs. 122.0 sec; $p = 0.33$) and O₂ recovery (11.4 vs. 6.3 sec; $p = 0.15$) were observed during caffeine condition. However, there were no significant differences in any of the variables between two conditions. Based on the results of the study, it does not appear that caffeine has significant effects on anaerobic performance.

Christina Gossart, Alyssa Stefanadis, Erica Heebner, Lindsay Howard, Wade Miller

Faculty Sponsor(s): Dr. Joohee Sanders and Dr. Sally Paulson



Running Economy and Biomechanical Observations between Barefoot and Shod Running Conditions

The purpose was to investigate running economy and qualitative biomechanical differences during three different running conditions. Methods: Eight female collegiate cross-country runners ran on a treadmill with one of the three conditions: barefoot, shod or five-finger shoes. Biomechanical data were qualitatively analyzed by observing joint angles. Results: The results of the repeated measures ANOVA showed a significant difference in VO₂ ($F = 4.32$, $p = .04$). Paired t tests revealed a significant difference between the barefoot and shod condition ($p = .02$). The average VO₂ for the barefoot condition was 5.5% less than the shod condition. There was no significant difference metabolically between the barefoot and the five-finger conditions ($t = -1.27$, $p = .25$) or the five-finger and shod conditions ($t = -1.60$, $p = .15$). Biomechanical data varied between all subjects. Conclusion: This study supported previous findings that running barefoot decreased VO₂ when compared to shod running.

Amanda Kulbitsky

Faculty Sponsor(s): Dr. Sally Paulson

Finance/Supply Chain Management

TIME: 3:45 - 5:45 PM LOCATION: MULTI-PURPOSE ROOM

Comparison of Traditional and Alternative Investments

I plan to compare the long-term risk and performance of both traditional and alternative investments. In the recent past, impressive sums of money have been spent on alternative investments. From the late 1970s and the early 1980s, the economic climate was arguably more and more uncertain than the previous, there was an increased investor attention for tangible but easily storable assets, such as gold, stamps, art collection, diamond, and gemstones. The alternative investments provide investors a chance to diversify their portfolios due to their cash-flows differ from traditional assets, such as stocks and bonds. The alternative investments have two special properties. First, the dynamic demand for these investing targets that is the only meaningful driver of investment returns. The valuation of traditional investments is determined by their cash flows and implied risk. However, the alternative assets do not yield revenues until they are traded. Second, the demand may primarily be driven by a savings motive and also by changes in income. Higher incomes can be expected to lead to higher consumption in these alternative investments, and thus to a higher price level. In this project, I will collect the data of the following alternative investments by the listed papers: (Diamonds and gemstones) "Hard Assets: The Returns on Rare Diamonds and Gems, by Drs. Luc Renneboog and Christophe Spaenjers; (Stamp collection) "Portfolio Diversification Benefits of Investing in Stamps," by Dr. Chris Veld; (Art Collection)" Art and Money," by Drs. William Goetzmann, Luc Renneboog, and Christophe Spaenjers; (Gold) London Gold Price (GBP/Oz.) Silver-London Silver Price (Pence/Ounce). I will analyze the performance and risk of the above assets. The methods include raw return, total risk, systemic risk, and risk-adjusted performance of each asset. This is very important to academia and Wall Street.

Nicholas Shearer

Faculty Sponsor(s): Dr. Wan-Jiun Paul Chiou



Using VIX to Hedge Risk in International Diversification

I collected VIX and international stock indexes and performed the optimal portfolio analysis. I found that adding VIX in the portfolio can effectively reduce volatility and enhance mean-variance efficiency. This diversification benefits are significant during the period of market downturn.

Bryan Torba

Faculty Sponsor(s): Dr. Wan-Jiun Paul Chiou

Geography/Earth Science

TIME: 3:45 - 5:45 PM LOCATION: MULTI-PURPOSE ROOM

Speleothem Formation in a Flooded Pennsylvania Cave System

Cleversburg Sink cave includes more than 3,000 feet of mapped passage in the highly deformed limestones of the Cumberland Valley. Access to the cave is restricted because water levels can rise quickly, flooding most passages. Water levels can remain high for months, if not years, during flooded conditions, frustrating avid cavers. These spelunkers also come to see the cave's formations: the stalactites and ribbons of minerals that decorate the cave's walls and ceilings. The occurrence of formations in Cleversburg Sink is an anomaly in cave science as cave formations do not form under water; speleothems require air-filled passages and time to form. In fact, water would dissolve formations, leaving Cleversburg void of speleothems. Study of the potential for mineral dissolution in Cleversburg was based upon collection of water samples within the cave and nearby Burd Run and analysis to determine whether the water is chemically saturated with respect to the minerals decorating the cave.

Chad Drzewiecki

Faculty Sponsor(s): Dr. Tom Feeney



High Resolution GIS Mapping of Shoreline Change at Wallops Island, Virginia: An Investigation of the Impact of Hurricane Irene

Hurricane Irene occurred during late August, 2011. The storm produced significant wind and wave damage along the eastern seaboard of the U.S., including the Delmarva Peninsula. This storm, although not as large as predicted, still had an impact on the redistribution of shoreline sediments on barrier islands like Wallops Island. Field based survey data collected before and after Hurricane Irene, including over 800 elevation points, precision GPS plots of shoreline positions, and sediment analysis help to evaluate the extent of Irene's impact on shoreline morphology. The specific questions being addressed by this research include: 1) calculating the change in shoreline position as a result of Irene, and other processes, 2) assessing the volume of sediment moved during the hurricane, and by other processes, and 3) evaluating the impact of Irene relative to historic shoreline changes as identified by historic aerial photo analysis.

Eric McGilliard

Faculty Sponsor(s): Dr. Sean Cornell



*Mortality and Deformity Rates in *Limulus polyphemus* after Hurricane Irene*

Ongoing monitoring of horseshoe crab (HSC) death assemblages has allowed for a detailed look at the impact of Hurricane Irene on *Limulus polyphemus* at Wallops Island, Virginia. Assemblages containing both entire molts and carcasses have demonstrated high proportion of juvenile/young adult molts in late summer assemblages compared to other times of the year. The presence of entire molts in storm assemblages indicates that molting episodes were clustered near storm events. Thus, if HSC's were actively molting prior to or during Hurricane Irene, then surviving individuals may have been subject to storm-influenced deformities as their carapaces hardened. Compared to previous investigations where deformity rates were relatively low, trips in October and December 2011 have shown an increase of deformities in HSC assemblages. Although premature to draw conclusions, this study suggests some deformities may be result of storm-influenced deformation on living, molting populations of arthropods.

Lisa Nocco

Faculty Sponsor(s): Dr. Sean Cornell



Ground Penetrating Radar Investigation of a Barrier Island Aquifer at Wallops Island, Virginia

Ground Penetrating Radar (GPR) is a geophysical tool used to investigate subsurface features including barrier islands. Studies have demonstrated the effectiveness of this tool to image properties of coastal aquifers. This research is being conducted at NASA's Wallops Island Flight Facility (WIFF) in eastern Virginia. We have collected GPR profiles to investigate sedimentation as well as properties of the aquifer. Post-processing of data is ongoing, yet analysis has revealed heterogeneities in the profiles. Excavated pits, monitoring wells outfitted with data recorders, and field surveys enable qualitative and quantitative assessment of aquifer properties when considered with GPR data. It is apparent that variations in morphologic features strongly control the position of the saltwater interface and discharge points of the freshwater surface aquifer. This suggests the concept of a simple freshwater lens in these settings is in need of additional characterization and detailed mapping.

Jada Williams

Faculty Sponsor(s): Dr. Sean Cornell

Mathematics

TIME: 3:45 - 5:45 PM LOCATION: MULTI-PURPOSE ROOM

A Mathematical Approach to the Future of the Cavendish Banana

Using a system of Differential Equations, the delicate balance between banana plant and fungus is explored. The research follows the long term impact, and economic impact, of having this particular fungus, fusarium oxysporum, exposed to a plantation of bananas and if more drastic measure should be explored to protect our precious fruit.

Blake Burkett

Faculty Sponsor(s): Dr. Luis Melara



Wallops Island Shoreline Change

The NASA Wallops Island Flight Facility is currently NASA's principal suborbital research facility. Since 1938, the shoreline close to the facility has suffered from severe erosion. There is currently no source of protection for the facility from the damaging effects of the ocean. We have researched different methods for modeling/predicting sediment transport. These methods include Hjulstrom's Model and Queens Formula. We have also developed our own interpretation of what causes drastic shoreline changes. Through comparison of these different methods, and observations made on site, we have attempted to solidify a relevant solution to the issue of shoreline change at Wallops Island.

Brian Ettinger, Tim Adzima, Jada Williams

Faculty Sponsor(s): Dr. Ben Galluzzo



Roller Coaster Efficiency

The purpose of this research is to analyze the efficiency of amusement parks with loading roller coasters. Real-time data, which measured the intervals of times between trains, for multiple roller coasters was taken at the amusement parks and later analyzed using linear models. This line was extended and compared to the hypothetical values for the riders per hour of each roller coaster. The graphs of the different rides were then compared.

Grant Innerst

Faculty Sponsor(s): Dr. Mike Long



Monitoring Shoreline Change on Wallops Island

Each year miles of shoreline property is either lost or moved up and down coasts throughout the world. There exist models that monitor shoreline change but collecting data to verify the accuracy of those models is not a simple task. Through this project, we have developed a new device to precisely model the frequency and amount of sediment being moved at points near the coast. The data from this monitoring device is being used to check the accuracy of old models and help create new models for detecting sand movement.

Ashley Micik-Balog

Faculty Sponsor(s): Dr. Ben Galluzzo

Physics

TIME: 3:45 - 5:45 PM LOCATION: MULTI-PURPOSE ROOM

A New Apparatus for Measuring Plastral Adduction Forces in the Eastern Box Turtle

The Eastern Box Turtles, *Terrapene c. carolina*, is capable of completely closing up into their shell. These turtles possess a domed carapace, hinged plastron, and thoracic/abdominal muscles acting as a biological lever system. We built an apparatus to measure the force produced by these turtles when adducting the plastron. The apparatus consists of three mechanical and electrical elements: (1) a mechanical component involving two levered rods [fits between carapace and plastron], (2) a commercial load cell [converts force exerted on the rods into an electrical signal], and (3) an electronic module [processes the load cell's signal and provides calibrated reading of maximum plastral force exerted]. The apparatus is able of measuring a maximum of about 25 kg of force (KgF), with precision of 0.01 KgF, and accuracy of near 3%. This apparatus has been effective in field trials and we expect that future data collected will help us study the plastral biomechanics in the Eastern Box Turtle.

Alexander Delis

Faculty Sponsor(s): Dr. Brad Armen and Dr. Pablo Delis

Psychology

TIME: 3:45 - 5:45 PM LOCATION: MULTI-PURPOSE ROOM

Comparing High School and College Introductory Psychology Courses

The purpose of this study was to determine the discrepancies between the course content in high school psychology courses and introductory university psychology courses for incoming majors. The sample consisted of 14 of the 18 high schools most represented in the incoming class of 2010. The researchers contacted the high schools to identify the individuals teaching psychology, and then went to their campuses to perform a structured interview with them about their course content and structure, as well as their academic background. Alternatively, if preferred, the interview questions were sent via email. Preliminary data analysis suggests that there are differences in the content between high school and introductory university psychology courses, especially where the coverage of research methods and statistics is concerned. Knowledge of these differences may be utilized to more appropriately tailor the introductory university courses to the needs of these incoming students.

Angela Baker, Sarah Shepard, Alyssa Gibson, Chasity Reeder

Faculty Sponsor(s): Dr. Kathryn Potoczak



Maternal Influence on Disordered Eating and Perceived Physical Appearance of Female Adolescents

The current study examined the relations between maternal warmth/support, hostility, and involvement in schooling and disordered eating and body dissatisfaction in female adolescents. Girls who perceived their mothers as warm, supportive, and involved in their schooling were less likely to report disordered eating and were more satisfied with their physical appearance. In contrast, girls who perceived greater maternal hostility were more likely to report disordered eating and were less satisfied with their physical appearance.

Rachael Bevilacqua, Nicole Zerr, Jenna Shurtleff

Faculty Sponsor(s): Dr. Ashley Seibert



Dating and Communication Patterns of Adolescents

The focus of this study is to investigate the differences between male and female patterns when it comes to dating and communication. Results revealed similarities and differences in dating patterns of adolescents. Both genders began to date at the approximate age of 16.8, and females were more likely to communicate about their dating with their parents. Future research should explore the role of family structure and peer influence on adolescents and their dating patterns.

Erin Habay, Adelyn Chambers

Faculty Sponsor(s): Dr. Suzanne Morin



Adolescents Views on How to Prepare for Dating and When to Begin

There are research studies devoted to studying romantic relationships in specific family structures in early adolescence. 53 undergraduate students participated in this pilot research. Our findings indicate that individuals may interpret the term dating differently. Most female adolescents view it as an exclusive relationship. Males perceive it as two people who have feelings for one another. More females felt that adolescents should begin dating between the ages of 15-16 while 15 was the dominant age for males.

Waajida Moosa, Taylor Boeve

Faculty Sponsor(s): Dr. Suzanne Morin



Heart Rate Variability, Emotion Regulation, and Behavioral Flexibility in College Binge Drinkers

Heart rate variability is a valid indicator of emotion regulation, but may also reflect an individual's degree of behavioral flexibility. In the current study college student binge drinkers' baseline heart rate variability and self-reported emotion regulation and behavioral flexibility were measured. Binge drinkers were not significantly different from non-binge drinkers on measures of heart rate variability or emotion regulation, but did differ significantly on self-reported behavioral flexibility. Implications for understanding this high-risk behavior are discussed.

Sara Wagner, David Volin

Faculty Sponsor(s): Dr. Robert Hale

Social Work/Gerontology

TIME: 3:45 - 5:45 PM LOCATION: MULTI-PURPOSE ROOM

Evaluation of Post Placement at an Adoption Agency

According to the National Adoption Center, in 2005 there were a total of 514,000 children in the foster care system and out of that 52,000 children were actually adopted into new families. Sanctuary House Adoptions, Inc. is located in Carlisle, Pennsylvania and is a non-profit agency that has provided service to families since 2002. This research shows the overall satisfaction for the families who have finalized an adoption in the last two years and five years from this agency. Surveys were distributed in order to obtain information on how the agency can improve the services offered and to know what works well. It is hypothesized that the families who have gone through the agency and finalized had a positive experience working with the agency.

Krista Baney

Faculty Sponsor(s): Dr. Jennifer Clements



The Effect on Substance Abuse on Juvenile Crime

The purpose of this study is to determine the impact substance abuse has on a juvenile crime. The criminal acts focused on in this study are auto/property theft, robbery, burglary, and receiving stolen property. Many, but not all, criminal acts are related to substance abuse. This study is going to look at Loysville Youth Development Center (LYDC). LYDC is a residential placement for juvenile delinquent boys from age 12-21. Often, juveniles are under a substance when they commit their crimes. This study will have a sample from LYDC by using all secondary data such as, Multi-disciplinary Team (MDT) and Master Case Planning Conference (MCPC) notes and assessments, Youth Level of Services (YLS), and the social workers' interviews with the resident and their guardians. This research will be conducted using a quantitative method based on statistics and theories on drug-related crime. The results will be included later in the research.

Christen Benjo

Faculty Sponsor(s): Dr. Liz Fisher



Voices of Hospice Volunteers: Motives and Barriers

According to a federal law requirement, volunteers must provide five percent of all patients care hours if the agency receives Medicare and Medicaid compensation (Hospice Foundation of America, 2012). However, according to the Bureau of Labor Statistics of the U.S. Department of Labor, in 2010, the volunteer rates declined by 0.5 percentage compared to the same rates reported in 2007 and 2008 (Bureau of Labor Statistics, 2010). With nonprofits relying on volunteerism, it is important to develop a strategic approach to recruit and retain hospice volunteers. Since volunteers play a vital role within the Hospice of the Panhandles mission it is essential to examine the motivations and barriers within the hospice volunteerism population. Keywords: volunteer, hospice.

Sharon Berry

Faculty Sponsor(s): Dr. Jennifer Clements



Housekeeping and Late Rent

The purpose of this study is to see if there is correlation between the residents who get lease violations for poor housekeeping and the residents who are late paying the monthly rent. If lease violations are related to late rent payment, then residents with lease violations related to housekeeping will pay rent late continuously.

Michelle Crawford

Faculty Sponsor(s): Dr. Michael Lyman



The Public's Perception of Social Work

The purpose of the study is to examine the attitudes and perceptions of the general public towards the profession of social work. The data of this study will be gathered by an online survey distributed through Facebook. Based on previous literature on the topic, the general public's perception of social work is generally negative and based on inaccurate depictions of social work in the main stream media. Once the National Association of Social Workers can see where individuals lack in education on this helping profession they can advocate for the education of the public on the diversity of the profession.

Hali Farrell

Faculty Sponsor(s): Dr. Michael Lyman



Mental Health & Restraint Frequency in RTF's

In many cases, individuals exposed to a traumatic event in early childhood are diagnosed with mental health issues later in life. Trauma alters the way that the brain works; when this alteration occurs in childhood, the effects can be extremely damaging to brain functions. This disruption within the brain can lead to long lasting mental health conditions, as well as incidents of dissociation. Due to these disorders, some individuals may need to be placed in residential care in order to maintain their mental health status in a positive, healthy manner. This research is a correlation between mental health diagnoses of individuals in residential treatment facilities and the amount of restraints that they are placed in over their time in care. The sample used is a random sample of approximately 30 out of 100 children, 5-20 years old, in care at Hoffman Homes for Youth in Gettysburg, Pennsylvania. The research will compare pre-existing data from the agency, as well as literature related to the study.

Brittany Graham

Faculty Sponsor(s): Dr. Jennifer Clements



Feeling of Safety on Shippensburg University Campus

Every college campus reports crimes committed on their grounds. A major concern among college students is the safety of women and the process of reporting a sexual assault or rape. Sexual assaults are frequently underreported to authorities. Research has been conducted consistently over the past few decades and has shown one in four college women will experience attempted rape or rape during her academic career (Rich, Utley, Janke and Moldoveanu, 2010). Sexual assault and/or rape on college campus is a growing epidemic in the United States. The importance of the information gathered shows the true necessity of women's feeling of safety on college campus and how a "men against sexual violence" group can help raise awareness and advocate for safety of women. The research question is "What is the feeling of safety felt by the women on Shippensburg University campus?"

Darlanna Heinbaugh

Faculty Sponsor(s): Dr. Jennifer Clements



Kinship Foster Parent Training

Being a foster parent is one of the most challenging commitments someone can make. Kinship foster parents have a greater challenge because they are raising a close friend or relative's child. All foster parents need a required amount of training each year but do kinship foster parents need more or additional training than what traditional foster parents receive?

Sadie Kinnarney

Faculty Sponsor(s): Dr. Michael Lyman



Social Participation within Older Adults

The purpose of this research is to understand the relationship between mental health and its affect on social participation. This study involves comparing and contrasting the differences between older adults with high and low mental health statuses that does and does not participate in social interactions. Research will be conducted at Elmcroft of Shippensburg, a Senior Living Community. Within this community, fourteen residents both male and female has been scored on the Mini-Mental State Exam, which is a structured test of mental status that tests global cognitive function. The scores will determine how mobile each resident is. These fourteen residents will also be interviewed one-on-one with the researcher to analyze why he or she may or may not be participating. After analyzing the data of each resident's participation, results of this study will be included on the poster.

Tiffany McKie

Faculty Sponsor(s): Dr. Liz Fisher



Outcomes of Family Finding

Foster care illustrates evidence in regards to children's long-term outcomes due to disruptions. As a consequence, children and youth develop a significant risk for emotional and developmental difficulties. Evidence shows that children who have endured long-term foster care placements sustain inadequate life preparation and premature parenthood. In respects to placement stability, research has shown advantages of kinship foster homes. A relationship with kin provides a sense of stability, personal history, identity and family origin. With the implementation of Family Finding, permanency can be achieved for children and youth in care. The goal of Family Finding is to provide children with family connections and permanency. In response to concerns about nonkin placements, the researcher will be able to identify the percentage of children and youth in kinship placements versus nonkinship placements as a result of the development of Family Finding by tracking the outcomes of placements.

Sarah McMillion

Faculty Sponsor(s): Dr. Michael Lyman



Types of Senior Center Services and Programs Seniors in Dauphin County Desire

According to the Dauphin County Area Agency on Aging, there are fourteen senior centers that reside in Dauphin County. All senior centers in the county serve the same general purpose which is to gather for fellowship and activities. Therefore, the present study will answer the question: What types of Senior Center services and programs do seniors in Dauphin County desire? This research will be able to benefit the Area Agency on Aging in a variety of different ways.

Nicole Michael

Faculty Sponsor(s): Dr. Michael Lyman



Domestic Violence: Violations of Protection from Abuse Orders

Domestic violence is an issue of increasing concern worldwide. One in every four women will experience some form of domestic violence during her lifetime. It affects all people regardless of age, race, religion, culture, educational background, or socioeconomic status. It is very important to protect oneself when threatened by the effects of domestic violence. One way to do so is to obtain a protection from abuse (PFA) order, which grants legal protection from another person, whom one may feel threatened by. The Victim Services Division of Cumberland County plays an important role in the safety of domestic violence victims. The agency will benefit from a study that will examine the relationship of a temporary or a final protection from abuse order and the likelihood of it being violated.

Kayla Miller

Faculty Sponsor(s): Dr. Jennifer Clements



How Helpful are the Programs Offered through Army Community Service throughout the Carlisle Barracks Community?

This research study looks at how helpful the programs that the Carlisle Barracks Army Community Service (ACS) offer are and how often they are utilized. The research study also looks at how many people actually know about the programs, so that there can be more awareness made about the programs that not many people know about. This study will help make the staff at ACS more aware of things that need changed about their program as well as what programs are more liked and more useful. The

research will be done by collecting data through questionnaires that were given to Carlisle Barracks community members, as well as through research of other ACS Needs Assessments throughout the country.

Sarah Ogden

Faculty Sponsor(s): Dr. Jennifer Clements



Differences in Services Used by Single and Dual Parent Homes

Single parents have a tough job to do, and it starts off by trying to be two parents when you're only one. It would be easier to have someone help you with parenting duties, bills, and income. There are a lot of services out there, but a lot of people do not have any idea of where or how to access them. Head Start programs are federal programs that promote school readiness for low-income families. Head Start programs help both single- and dual-parent families due to the fact that their job is to help families that are below the poverty line. Benefits to participating in the study are to gain knowledge on services in the community, and to understand what services are being used and which services are needed by the community. All of the Head Start parents and staff will be given a survey and asked to complete it. The other participants will be local community members of a local social service.

Rolyn Paulino

Faculty Sponsor(s): Dr. Michael Lyman



Comfort Level of Adoptive Parents Concerning Birth Family Contact through Social Media

This research is looking to examine how comfortable adoptive parents are with their child's birth family having contact through social media websites, such as Facebook. The study will specifically focus on families who adopted through the foster care system. The data will be collected via an online survey and results will look at overall comfort levels as well as specific correlations between data. Correlations looked at will be if comfort levels increase if the adoption was a kinship adoption and if they increase based on the length of time the child has been with the adoptive family. The research is being done to provide insight into this topic for workers at Jewish Family Services of Greater Harrisburg.

Allie Perlmutter

Faculty Sponsor(s): Dr. Michael Lyman



Kinship Care Versus Foster Care Permanency with PPI at CCCYS

Thousands of children live in kinship care and traditional foster care in the United States. On a national level, as of 2005, 513,000 children lived in out-of-home placements. Out of the 513,000 children, 124,153 children lived in kinship foster care. On a state level, in 2007, there were 20,262 children in foster care. Permanency Practice Initiatives (PPI) was started in Pennsylvania, and consequently Cumberland County Children and Youth Services (CCCYS) in 2008. The idea behind PPI is having three month court reviews instead of six month reviews in dependency cases will speed up permanency for children. There has not been an agency study at CCCYS done since PPI started to see if it has affected permanency. Is permanency achieved more timely with kinship care compared to traditional foster care in cases using PPI at CCCYS? The hypothesis is that at CCCYS, permanency is achieved faster with kinship care.

Sherry Phillips

Faculty Sponsor(s): Dr. Jennifer Clements



Drug and Alcohol Interventions in Rural Communities

The effects of drug and alcohol use are vast and the consequences can directly affect many people, especially families. Rural areas lack the resources to provide the necessary interventions to help people and families affected by drug and alcohol abuse and assist with recovery. Other service providers become involved with families such as Children and Youth, Law Enforcement, Probation, and Mental Health due to the lack of availability of drug and alcohol services. Proper services and interventions that are available to individuals and families in a rural community can reduce the after effects of drug and alcohol abuse use such as crime and abuse which can potentially eliminate the involvement of other service providers.

Heather Reinhard

Faculty Sponsor(s): Dr. Michael Lyman



An Effective Evaluation of Laurel Life Family Center Services

Children are and continue to be an at-risk and under-served population. There have been many programs created to help children and their behavioral health issues. To ensure that children receive proper services, program evaluations were established. My research question is to explore and evaluate services provided to students at Fayetteville Elementary School on behalf of the Laurel Life Family Center team. My assumptions are that students receiving services from the Laurel Life team will

perform better in attendance, increase in academics, and decrease referrals to the program. There are a total of 506 students that are currently enrolled at the elementary school. There will be a comparison study between students that receive services and the other students that do not. By comparing these groups I will be able to effectively evaluate the Laurel Life Family Center program to see if their services are needed for the next academic school year.

Shaniya Richardson

Faculty Sponsor(s): Dr. Liz Fisher



Possible Turnover of Staff Members Working with Individuals with Intellectual and Developmental Disabilities

Currently many social service agencies have problems with recruitment and retention rates due to the high level of stress, so many social service workers find themselves to burn out quickly. With this issue it has become hard on agencies because they are putting out a lot of money to hire and train new employees multiple times throughout the year. Depending on the way in which people are recruited, hired and trained, the cost of getting a new employee into the agency and ready to work could cost a agency approximately \$2,500. In the long run recruitment and retention of staff members affects the agency more because it takes a particular person to work in social services, especially with individuals with intellectual and developmental disabilities. In response to these struggles this study is going to examine why staff members leave agencies where they work with individuals with intellectual and developmental disabilities.

Lori Riley

Faculty Sponsor(s): Dr. Liz Fisher



Indicated Substance Abuse

Substance abuse has been around for many years, and it not only affects the person abusing them, but their children in the family. According to the U.S. Department of Health and Human Services, "Abuse of drugs or alcohol by parents and other caregivers can have negative effects on the health, safety, and well-being of children" (U.S. Department of Health and Human Services 2009). I believe that there is a positive correlation between substance abusing caregivers and the number of indicated child abuses in the welfare system.

Rebecca Robbins

Faculty Sponsor(s): Dr. Jennifer Clements



Making the Transition

According to Scannapieco and Schagrin (2002) each year an estimated 16,000 to 18,000 youths are emancipated and leave foster care to assume independence. Since there are so many youth aging out of the system to live on their own it is imperative to have independent living classes to teach the youth helpful skills to reach self-sufficiency in adulthood. The independent living classes work with youth ages 16–21, and offer resources for the client individually or if they have support systems they want involved in the plan. Some of the services that are offered in the plan are personal counseling, advocacy, resource referral, life skills instructions and practice and the majority of the services pertain to the client’s community. The issue of an abundant amount of youth involved in independent living classes raises the question of, “How effective are the Cumberland County Children and Youth Independent Living classes for youth in placement to prepare them for adulthood?”

Courtney Salmon

Faculty Sponsor(s): Dr. Jennifer Clements



Death by the Numbers

Older adults living in a nursing facility face many challenges while adjusting to their new environment. One challenge is dealing with the death of people you see on a daily basis. A death in a nursing home can have a significant impact on other residents’ mental and physical conditions. It can be even more noteworthy that if residents do not have any emotional support at the time of another resident’s death, they are more susceptible to decline faster. Residents in a nursing home may experience a significant decline in their health around or during the holidays. This can be due to lack of support, memories of holidays’ past, or other issues. The hypothesis is nursing home residents pass away in larger numbers during the holiday seasons than any other times during the year.

Caitlin Shanahan

Faculty Sponsor(s): Dr. Jennifer Clements



The Impact of the Full Moon on Long-Term Care Residents

It is a common belief that the full moon has an influence on human behaviors. Although many studies have failed to prove this, there are still strong beliefs that there is a correlation between the phases of the moon and human behaviors. After reviewing literature and with no concrete answer, the question still at hand is, does the full moon have an influence on human behaviors? This study examines the frequency and types of behaviors at a long-term care facility in relation to the phases of the moon, in order to determine if the full moon influences resident behaviors.

Alyson Smith

Faculty Sponsor(s): Dr. Jennifer Clements



Outcomes of Former Foster Youth in a Rural Central Pennsylvanian County

This study examines the outcomes of former foster youth in a rural county in Pennsylvania. Particularly the study investigates the outcomes of former youth that turned 18 while in foster care. The outcomes examined include how successful former foster youth have been in maintaining/establishing a supportive life connection, a permanent residence, and a source of income. The research is intended to help determine the effectiveness of services currently provided to foster youth transitioning into adulthood.

Lorenzo Varisano

Faculty Sponsor(s): Dr. Jennifer Clements and Dr. Liz Fisher

Sociology/Anthropology

TIME: 3:45 - 5:45 PM

LOCATION: MULTI-PURPOSE ROOM

Competing Narratives Regarding the Future of State Institutions for the Intellectually Disabled Throughout 1960s America

State institutions for people with intellectual disabilities have been characterized by contradictory objectives and lackluster practices since their inception. However, parents of the intellectually disabled were restricted to very few realistic options for their children; often they found that they had to choose between the provisions of overcrowded institutions with serious defects in service and mission, or a lack of state assistance altogether. As institutions became increasingly unreliable and hazardous, many parents aspired toward deinstitutionalization. At the same time however, other parents, policy-makers and institutional superintendents—those invested in the system of institutions—simultaneously attempt to continue expansion of institutional services. This study examines competing narratives regarding the future of institutions as evidenced in the newsletters of the Pennsylvania Association for Retarded Children throughout the 1960s.

Lucy Gu

Faculty Sponsor(s): Dr. Allison Carey



***Immigration and Education:
The Wage Disparity between
White and Asian Scientists***

This research will examine the effects of immigration and place of education on the wage disparity between Asian and white scientists with precise workplace and education variables. The racial wage gap will be decomposed by modeling earnings as an exponential function of race, immigration status, place of education, highest education, etc. With a more accurate understanding of education and workplace variables, we hope to add a significant layer to the Asian American wage gap. Data for this study was obtained from the American Chemical Society (ACS) 2006-2010 Annual Survey of Recent Graduates.

Timothy Schock

Faculty Sponsor(s): Dr. Philip Broyles



***Development of Interactive Website
for Sociology/Anthropology Club***

Alongside Dr. Ying Yang, an interactive, easy-to-use website will be developed for the Sociology/Anthropology Club. The website's aim is to encourage student and faculty interaction while improving the overall sociology/anthropology experience.

Christopher Varone

Faculty Sponsor(s): Dr. Ying Yang



***An Examination of Age and Cohort
Effects among Aging Athletes***

This study seeks to determine how marathon participation by age cohort has changed over time. Additionally, this study also explores how performance by age cohort has changed over time. The population for this study is marathon runners within the United States. The sampling process begins with random selection of 20 different marathons in the United States. From there, the results of these 20 marathons will be examined for the years 2000, 2005, and 2010. For each of the 20 marathons in each time period, 50 marathon runners will be randomly selected. From this point, the data will be analyzed.

Stephen Schelander

Faculty Sponsor(s): Dr. Philip Broyles and Dr. Cynthia Drenovsky

Celebrating Poster Session II

Biology

TIME: 7:00 - 9:00 PM LOCATION: MULTI-PURPOSE ROOM

*A Riverfront Population of the Eastern Garter Snake, *Thamnophis sirtalis sirtalis*, in South-central Pennsylvania*

We surveyed a population of the Eastern Garter Snake, *Thamnophis s. sirtalis*, from March-October 2010, along the Susquehanna River, Dauphin County, Harrisburg, Pennsylvania. Using opportunistic searches and hand capturing, we collected 80 snakes with a sex ration of 0.47:0.53 in adults. The adult male snout-vent length of (35.3 mm) was significantly smaller than that of females (47.2 mm). The basking needs and the sparse verdure best explained the high proportion of (91%) of captures on exposed rocks during April-May. Clutch size averaged 20 young and increased with female body size. Young hatched in August. Size dimorphism was typical of the species; however, the mean body size of adult females at this site was more similar to other Pennsylvania sites with high Garter Snake densities. Early maturity, high fecundity, broad diet, and crypsis provided the Eastern Garter Snake with a colonizing advantage that makes it thrive in this heavily human-impacted site along the city riverfront.

James Anderson

Faculty Sponsor(s): Dr. Pablo Delis and Dr. Walter Meshaka



Survey of Snake Colonization Rates on Reclaimed Wetlands at Letterkenny Army Depot (LEAD) in Franklin County, Pennsylvania

Wetlands are critical and threatened habitat subject to destruction by extensive anthropogenic pressures. Wetland reclamation is a practice designed to counter the decline in wetlands. To determine the success of a wetland reclamation effort at Letterkenny Army Depot (LEAD) in south-central Pennsylvania, I will survey the snake community in a 1-ha semipermanent wetland built in 2010. This reclaimed site is 200m west from two existing permanent ponds. Monthly surveys will take place from April to October 2012. Using coverboards, opportunistic searches, and PIT tags, snakes will be captured, identified, sexed, assessed for health and reproduction, and individually marked. This research will shed light in the snake colonization rates and utilization of reclaimed wetlands. The information gathered will be used to evaluate the success of the reclamation effort and possibly the design of long-term strategies for conservation and management of the wetlands in LEAD.

James Anderson

Faculty Sponsor(s): Dr. Pablo Delis and Dr. Walter Meshaka



Incidence of Tick-borne Diseases in Common Animal Populations

Lyme disease, the most common tick-borne disease in North America, is a systemic disease caused by the pathogen, *Borrelia burgdorferi*. The common "deer tick", *Ixodes scapularis* is the usual vector implicated in transmission. Rocky Mountain Spotted Fever (RMSF) is also a tick-borne disease. RMSF is caused by *Rickettsia rickettsii*, a pathogen thought to be transmitted by *Dermacentor variabilis*, commonly known as the American dog tick. Pennsylvania is the number one state for documented Lyme disease cases and the prevalence of RMSF cases is also increasing. In order to determine the current prevalence of these disease-causing pathogens in the vector population, tick species were collected from areas in and around south-central Pennsylvania. DNA was extracted and PCR with pathogen-specific primers was performed to detect the presence of pathogens.

Katherine Baldwin, Katie Wiechelt

Faculty Sponsor(s): Dr. Marcie Lehman, Dr. Alyssa Bumbaugh, and Dr. Richard Stewart



Comparison of Reproductive Characteristics between Two Mole Salamanders from South-central Pennsylvania: Implications for Conservation

Life history traits, such as fecundity, are critical in determining the biotic potential of species with conservation concern. Eleven female Jefferson Salamanders (*Ambystoma jeffersonianum*) and five female Spotted Salamanders (*A. maculatum*) were collected from the same vernal pool in south-central Pennsylvania for comparison of reproductive characteristics. Mean clutch size of the Jefferson Salamander (169.5 eggs) was larger than that of the Spotted Salamander (130.8 eggs) despite an 8.9% smaller body size. Greater fecundity could provide the Jefferson Salamander with an added advantage in areas of syntopy with the Spotted Salamander where it is known to be a superior competitor and predator of the Spotted Salamander at the larval stage.

Sarah Bartle

Faculty Sponsor(s): Dr. Pablo Delis and Dr. Walter Meshaka



A Photographic Catalog of Developmental Changes in Two Frogs and Two Salamanders Native to Pennsylvania

Amphibians have complex larval development and metamorphosis from egg to adult stage. Four Pennsylvania species (Spotted Salamander, *Ambystoma maculatum*; Jefferson Salamander, *A. jeffersonianum*; Spring Peeper, *Pseudacris crucifer*; and the Wood Frog, *Lithobates sylvaticus*) were photographed each week to illustrate anatomical changes occurring from hatching through metamorphosis. Pictures and measurements were taken using an Olympus digital 12-megapixel camera, with a metric grid backdrop. Our photographic catalogue will provide a graphic reference needed for accurate identification of these four species during stages of their larval development.

Sarah Bartle

Faculty Sponsor(s): Dr. Pablo Delis and Dr. Gregory Paulson



Disease Prevalence in Central Pennsylvania Feral Cat Populations

Feral cats can serve as a reservoir for various zoonotic diseases and have the potential to transmit diseases to other animals, including humans. The purpose of this study is to determine the prevalence of several bacterial, viral, and protozoal pathogens in feral cat populations of Central Pennsylvania. Blood and fecal samples were collected from local Trap-Neuter-Release programs and analyzed for the presence of *Toxoplasma gondii*, *Helicobacter* spp., *Bartonella* spp., *Toxocara cati*, *Taenia* spp., *Giardia* spp., feline immunodeficiency virus, and feline leukemia virus. Using polymerase chain reaction (PCR) detection methods, *Helicobacter* spp. was identified in 21/79 (27%) cats, whereas *Toxoplasma gondii* was identified in 0/79 (0%) cats. Additionally, *Toxocara cati* was identified in 59/87 (68%) cats using fecal flotation. These results suggest that localized feral cat populations serve as reservoirs for various zoonoses.

Tessa Boyd

Faculty Sponsor(s): Dr. Alyssa Bumbaugh



*Geographic Variation in Morphometrics and Life History Traits in Two Spring Peeper (*Pseudacris crucifer*) Populations in South-central Pennsylvania*

The Spring Peeper (*Pseudacris crucifer*) is a small but locally abundant hylid frog in Pennsylvania. In 2010 and 2011, we used night surveys to collect 25 amplexing pairs at Michaux Forest (MF) and 15 at Letterkenny Army Depot (LEAD), south-central Pennsylvania. These two sites, 25 km apart, are forested habitats separated by a human-populated valley. Laboratory examination showed that the snout-vent-length (SVL) averages of the individuals were significantly larger at LEAD. Sexual dimorphism was apparent, with females being 20.2% larger than males at MF and 12.8% at LEAD. Minimum body size at reproduction was smaller for males (21 mm SVL) and females (25 mm SVL) at MF than for males (25 mm SVL) and females (31 mm SVL) at LEAD. Spring peepers in south-central Pennsylvania appeared to vary in morphometric and reproductive parameters between years and sites, which was consistent with an r-selected species. Further research will test these patterns and explain more of the variation in those life history traits.

Laurel Campbell

Faculty Sponsor(s): Dr. Pablo Delis and Dr. Walter Meshaka



Evaluation of Deer Health at Letterkenny Army Depot through Organ Analysis

Odocoileus virginianus, white-tailed deer, is a widespread keystone mammalian ruminant with nearly 30 subspecies throughout Central and Northern America. Its primary diet is forbs and herbaceous shrubs while it grazes in grassland habitats. If shrub abundance decreases, *O. virginianus* will not produce necessary fat stores and can starve. One way to reduce this outcome is closely monitoring the health of resident *O. virginianus* populations. If *O. virginianus* have ample fat and a healthy body mass, then their population levels are more secure. Other significant data was organ (liver, heart, and kidney) mass, organ fat, skeletal growth, carcass mass, and chest girth. This research is occurring at Letterkenny Army Depot for its second consecutive year. The 2011 sample of Letterkenny fawn population is healthier in comparison to 2010 sample due to the data collected for 63 fawn samples. This denotes a marked increase in fawn health and vigor.

Benjamin Carlucci

Faculty Sponsor(s): Dr. Richard Stewart



Prevalence of Pathogenic Escherichia coli Isolates in Pennsylvania Deer Populations

Escherichia coli are a versatile group of bacteria found in the gastrointestinal tracts of warm-blooded animals. Some serotypes, known collectively as Shiga-toxigenic *Escherichia coli* (STEC) isolates, harbor specific virulence genes that can cause severe diarrheal illness in humans. Deer can serve as asymptomatic carriers of STEC serotypes and have recently been implicated in foodborne illness associated with venison consumption and fecal contamination of field crops. In order to study the prevalence of STEC in Pennsylvania deer populations, fecal pellets were collected from several counties for total DNA isolation. PCR was performed using an *E. coli* specific primer set along with two STEC specific primer sets. The results of this study can provide insight for hunters, farmers, consumers, and game officials as these deer-associated outbreaks of human illness are becoming more frequent.

Whitney Crosby, Karla Peterson, Amanda Wise, Kaitlyn Wallace

Faculty Sponsor(s): Dr. Alyssa Bumbaugh, Dr. Marcie Lehman, and Dr. Richard Stewart



Subcloning of Stably Transfected EGFP-Atg5 SNB19 Cells to Obtain a Pure Clone of Cells Expressing EGFP-Atg5 Fusion Protein

Subcloning of stably transfected EGFP-Atg5 SNB19 cells to obtain a pure clone of cells expressing EGFP-Atg5 fusion protein. Recent studies in our lab comparing SNB19 cells deficient in Atg5 to stably transfected cells over-expressing functional Atg5 (SNB19/Atg5) were inconclusive because less than 25% of the stable transfectants were found to over-express the protein. The purpose of this project was to sub-clone the stable transfectants, using limiting dilutions, to obtain a pure culture of SNB19/Atg5 cells that over-express the EGFP-Atg5 fusion protein. These cells were then used to elucidate the role of functional Atg5 in clearance of the intracellular pathogen, *Shigella flexneri*, from infected SNB19 and SNB19/Atg5 cells.

Yael Gau, Winnie Okwaare, Caleb Smith, Michael Myett

Faculty Sponsor(s): Dr. Lucinda Elliott and Dr. Alyssa Bumbaugh



Behavioral Characterization of Courtship in Drosophila Melanogaster

We are using RNA interference (RNAi) to reduce the expression of genes predicted to play a role in courtship behavior in *Drosophila melanogaster*. OBP56d, a gene with sequence similarity to pheromone-binding proteins, has been cloned into an RNAi vector and transgenic lines were produced. Courtship behavior in the fruit fly involves a reproducible set of steps allowing us to compare the timing of each step in flies with altered levels of pheromone binding proteins. Results of mating assays with transgenic flies show faster progress through the mating ritual when OBP56d expression is reduced. We are currently comparing the impact of loss of OBP56d in females versus males to determine which sex primarily uses this protein. In addition to mating assays performed with normal white light, mating assays are also being performed under infrared light where vision is severely compromised in order to clearly distinguish between the roles of vision and pheromone detection in mating behavior.

Taylor Hudson, Kaila Chaney

Faculty Sponsor(s): Dr. Sherri Bergsten



Snake Assemblages Inhabiting Four Man-Made Wetlands in Letterkenny Army Depot, Franklin County, South-central Pennsylvania: Implications for Wetland Management and Conservation

There is a dearth of information on the status of snake assemblages in Pennsylvania. The characterization of snake species assemblages and their population status are necessary to enact conservation and management policies. We have chosen Letterkenny Army Depot (LEAD), a federally owned 7,000 ha facility, as the study site where to examine the snake community inhabiting man-made lakes in south-central Pennsylvania. In this study, we will use cover boards and opportunistic transect searches to determine the species composition, relative population size, sex ratios, morphometrics, and activity patterns of the snake assemblage around four man-made lakes in LEAD. Monthly surveys will start in April until October of 2012. Findings from this study will provide the base line to the better understanding of the critical role that man-made wetlands play in snake community dynamics.

Daniel Hughes

Faculty Sponsor(s): Dr. Pablo Delis and Dr. Walter Meshaka



Evaluating White-Tailed Deer, *Odocoileus virginianus*, as a Sentinel for the Incidence and Spread of Dog Heartworm, *Dirofilaria immitis*

Dirofilaria immitis, known by the common name dog heartworm, is a parasitic nematode which utilizes both wild and domestic canids as its definitive host. Throughout the United States, the habitats of both white tailed deer (*Odocoileus virginianus*) and *Dirofilaria immitis* converge upon each other. Experimentation phases will take place at Shippensburg University under the direction of Drs. Richard Stewart, Marcie Lehman, and Alyssa Bumbaugh. These phases will involve a visual inspection of the heart for both mature, adult worms and immature worms, an enzyme linked immunosorbant assay (ELISA) and the polymerase chain reaction (PCR) amplification of female heartworm cuticular antigen (Favia 1996). The cuticular antigen being amplified is present in all stages of life in the heartworm (Favia 1996). This will enable the detection of the presence of the parasite in any sample if it is infected.

Kelly Motter

Faculty Sponsor(s): Dr. Richard Stewart, Dr. Marcie Lehman, and Dr. Alyssa Bumbaugh



Winter Ectoparasites of Coyotes (*Canis latrans*) from Pennsylvania

Coyotes, *Canis latrans*, first colonized North America in the 1940s when animals moved from Quebec into the northern parts of New York and eventually dispersed into the surrounding states. By the late 1990s, coyotes became ubiquitous throughout northeastern North America. While well-known parasites such as heartworms, sarcoptic mange mites, canine distemper virus, and rabies virus are known to infect and cause clinical disease and death in coyotes in the northeast, few investigations of ectoparasites of coyotes in the northeast have been published. The objective of our research was to collect samples of winter enteric parasites from coyotes that had been harvested in the Annual Mosquito Creek Coyote Hunt and then identify each parasite. Thus far, all of our specimens have been identified except two fleas, which are pending identification from another entomologist. Two of the most common parasites were lice, *Trichodectes canis* and the black-legged tick, *Ixodes scapularis*.

Marissa Nagle, Karen Mohney, Joseph Wisgo

Faculty Sponsor(s): Dr. Richard Stewart



Evaluating a Track Capture Technique for Use in Assessing Small Mammal Abundance and Diversity

Tracking tubes were made and tested to evaluate mammal abundance. These tubes work by capturing the footprints of animals on an ink pad and paper inside the tubes. It is a noninvasive approach to studying animals in the sample area. Using Sherman box traps is currently the accepted standard for small mammal surveys and the box traps can result in the death of animals if they are not continually checked. In this survey there was a 14 percent death rate of animals that were captured in the Sherman traps. Tracking tubes do not result in death and have no ecological impact on the area. This low impact approach allows tracking tubes to be set into sensitive environments to monitor the area. We compared tracking tubes and Sherman traps to determine if there was any statistical difference between the two methods capturing efficiency at a local site and observed no statistical difference between the success rates of either trapping method.

Benjamin O'Brien

Faculty Sponsor(s): Dr. Richard Stewart



Species Variation in Plasma Indicators of Body Condition in Small Passerine Birds

Plasma indicators as a metric of body condition have become a prominent tool in physiological ecology. These indices allow for a further understanding of physiological processes more in depth than surface measures have historically permitted. A single blood sample can provide information regarding fattening status, muscle damage and stress condition. It is documented these plasma indicators change on annual, seasonal and daily time frames. The purpose of this study is to document the variation in plasma indicators of body condition in a variety of passerine species during the transitional season from winter to early summer. Blood samples were collected from many bird species after capture. Samples were analyzed for plasma metabolites (glucose, triglycerides and free fatty acids) as well as for an indicator of muscle damage (creatinine kinase). All of these indices will allow for a comparison of species variation in body condition as one portion of an ongoing study.

Brekan Piper, Otto Scharf

Faculty Sponsor(s): Dr. Nathan Thomas



Wildlife Survey of Johne's Disease

Johne's is a fatal gastrointestinal disease found in wildlife worldwide, with weight loss and diarrheal symptoms suspiciously similar to those of Crohn's disease in humans. Johne's impacts the dairy industry causing billions in annual costs due to animal and product loss. Additionally, the causative agent, *Mycobacterium avium* subspecies *paratuberculosis* (MAP) can be transmitted to humans through the consumption of raw meat and unpasteurized milk. Consideration of spill over/spill back between dairy herds and local wildlife is essential in monitoring the disease. This study establishes the local prevalence of MAP carriage through wildlife fecal sampling and water testing in close proximity to dairy productions. Identification of MAP positive samples is based on polymerase chain reaction (PCR) amplification of MAP specific DNA loci. The molecular results can provide scenarios for transmission, thereby allowing for the design and implementation of preventative measures by dairy farmers.

Jennifer Wysocki

Faculty Sponsor(s): Dr. Alyssa Bumbaugh, Dr. Marcie Lehman and Dr. Richard Stewart

Develop a Magazine for Beginning Wedding Photographers

I will develop a magazine to introduce beginner wedding photographers to the industry's competitive atmosphere. The magazine will primarily target new wedding photographers, but will include research content that could serve seasoned photographers, too. The magazine will include stories, how-to articles, photos and helpful tips for photographers. This magazine will be titled, *Captured, A Wedding Guide for Photographers*. It will cover topics such as pre-wedding duties, post-wedding duties, ideas for pricing and packaging services and ideal business practices as well as ethics. Other topics include knowing the timeline of the wedding day, going to the rehearsal, knowing your equipment, using a blog or website for promotion and attending workshops. The magazine will also feature helpful suggestions from experienced photographers and memories of their own photographers from past brides.

Megan Mowen

Faculty Sponsor(s): Dr. Joseph Borrell and Prof. Margaret Evans



Communication/Journalism

TIME: 7:00 - 9:00 PM LOCATION: MULTI-PURPOSE ROOM

Capital Campaign Fund Raisers for Newburg-Hopewell Fire Company

Newburg-Hopewell Fire Company has recently built a new fire house and has a Capital Campaign fund that is used to generate money to help pay for the building costs. The fire company is looking for a way to generate funds for the Capital Campaign that will act as a long-term source of revenue.

Stephanie Miller

Faculty Sponsor(s): Dr. Joseph Borrell and Prof. Margaret Evans



Winsome Farm

Public relations campaign for Winsome Farm in Newville, Pennsylvania.

Kathryn Morrone

Faculty Sponsor(s): Prof. Margaret Evans



Promoting Public Relations for the Cumberland Valley Hose Company

For my senior project I plan on working with the Cumberland Valley Hose Company on redoing their website. I was recently asked to take over their website and after some talk with the vice president of the fire department he asked if I could create a new website using WordPress. We would also like to create a Facebook page for the department to advertise on the website. Our plan for the Facebook page is to inform the public when their trainings and fundraiser are. We want this page to be able to inform the public about what they do and hopefully it will try and recruit new members. My goal is to be able to create a website and Facebook page that is easy to manage so that I do not have to be the only one to update.

Sara Myers

Faculty Sponsor(s): Dr. Joseph Borrell



Kupcakes for Kris - A PRSSA Fundraiser

This project plans on helping families that are met with unexpected health challenges that need financial support. Kupcakes for Kris is an organization that was started after Kris Green was diagnosed with Stage IV lung cancer. After she lost her battle with cancer, the organization named after her brought "sweet support" for those dealing with the same hardships as Kris and her family.

Abbey Nebrotski

Faculty Sponsor(s): Dr. Joseph Borrell



Reach Out: Building a School in Santo Domingo, Dominican Republic

The Reach Out program is a program at Shippensburg University that raises money, makes new teaching tools and lessons and travels to Santo Domingo to teach the students. The team teaches the students English among regular school subjects and classroom management. The Reach Out team plans to build a new school in Santo Domingo. I think this is an extraordinary group of students and faculty and their work deserves to be recognized. For this project I plan to do a series of two or three news packages to show the public the Reach Out team's work. They can also use these packages for their own records or for recruitment of new members.

Casey Piell

Faculty Sponsor(s): Dr. Joseph Borrell



Promotions for Better Days Animal League Thrift Store's Relocation

I will be working with the Better Days Animal League to promote the relocation of two of the League's thrift shops. These shops use donations to help fund the League's no-kill animal shelter. The thrift shop in Shippensburg will be consolidating with the shop in Waynesboro and will be reopening in a new location in early April. I will be promoting this move, as well as furthering the current promotions for the shop. These promotions may include, but are not limited to, press releases, the use of social media outlets, partnering with local media outlets and events. The implementation of these promotions will allow the organization to update those who currently visit the shop, as well as reach out to potential visitors, donors, and volunteers. The materials created for this relocation can also be implemented in the future to reach out to potential investors/volunteers.

Ashley Price

Faculty Sponsor(s): Dr. Joseph Borrell



Colleges Against Cancer

I will be working with the organization Colleges Against Cancer helping plan and organize "Purple Week" and continue to raise awareness and funds as well as getting new team members up until Relay for Life in April.

Brianne Sauers

Faculty Sponsor(s): Dr. Joseph Borrell



Promoting District of Cupcakes

For this Senior Capstone project I plan do public relations work for District of Cupcakes. This is a new and upcoming business that has been created by a recent college graduate. The business does not really have any customers right now, because no one

really knows about it. I plan to help get District of Cupcakes' name out to the public and get the business started on a good foot. I plan to create a website that will explain what the business is, how it got started and show everything they have to offer. The website will be the first tactic created for this business. I also plan to create a brochure and promotional flyers. These will be used for the business owner to hand out to random people so that she can get the name out there. I will also attempt to write a public relations campaign plan for the business. This will help the owner of the business get a clear idea of what she needs to do to get customers and help the business grow.

Natalie Schwind

Faculty Sponsor(s): Dr. Joseph Borrell



WSYC - From the Inside, Out

My project for Capstone will be centered on reconstructing the internal public relations at the campus radio station, WSYC. Each DJ will create two liners that alert audiences to their show time and their online location. Last school year marked the launch of our WSYC iPhone app, which put us on the technological map. Holding us back from conquering said map is our disastrous website. I will be designing a new website for WSYC using the program Dreamweaver. A requirement of every DJ will be a biography which will include: a description of their show, the time and day and a picture of the hosts. Each show will be required to have their own Facebook page and Twitter handle. Links to these handles will also be posted in their biographies. The collaboration of these two public relation plans will be the corner that WSYC needs to turn to be a driving campus media force.

Simone Smugar

Faculty Sponsor(s): Dr. Joseph Borrell



Producing Special Edition of SUTV for Wellness Fair

Prior to the broadcast, I would write the scripts for the talent, as well as organize and plan the order and contents of the show. I would also be leading members of SUTV in doing packages about each vendor to air during the broadcast. I would also create packages on some of the vendors as well. I would be in charge of the development and planning of the show, as well as oversee and control the execution of the show. During the broadcast, I would set up interviews and times with the vendors to be interviewed live during the broadcast, as well as oversee the production of the show. I would be in charge of making sure that the talent knows what they are doing, as well as every other member on the crew. I would also be making sure that the show stays on schedule and making adjustments to things as it goes along.

Rachel Snody

Faculty Sponsor(s): Dr. Joseph Borrell



Newburg-Hopewell Fire Department Fund-Raising Campaign

The Newburg-Hopewell Fire Department recently upgraded their facilities and are having trouble funding the operation of the new firehouse. The goal of this project was to creatively advertise and fund raise to help with the department's financial situation.

Jordan Stasyszyn

Faculty Sponsor(s): Dr. Joseph Borrell



Mercersburg Academy Alumni & Development Volunteer Handbook

For this project, I have created a volunteer handbook for the Mercerburg Academy Alumni & Development Office to hand out to potential volunteers in order to help them decide how they want to donate their time to the Academy. The creation of a new volunteer handbook for Mercerburg Academy would help to smoothly transition alumni into volunteers, offering them a variety of volunteer opportunities available in the new handbook.

John Stavinga

Faculty Sponsor(s): Dr. Joseph Borrell and Prof. Margaret Evans



Senior Capstone

For my Senior Capstone project, I will be planning, conducting and evaluating my own contribution awareness fair for Shippensburg Volvo Construction Equipment employees. I will be conducting meeting for the fair as well as planning the fair agenda. Surveys will be created before and after the fair to randomly selected employees.

Kelsey Strachan

Faculty Sponsor(s): Dr. Joseph Borrell



Publicizing and Marketing a Student-Run Musical

PR and advertising campaign developed for Act V Productions' spring presentation of "Little Shop of Horrors."

Rebecca Streletz

Faculty Sponsor(s): Dr. Joseph Borrell



Kappa Delta Phi National Affiliated Sorority Training Materials

The creation and use of training manuals will help to ease the transition when a new person takes over a position. Based on my experience as a member of Kappa Delta Phi NAS, there can be confusion when a new person takes over a position. Often the new chair does not have access to the forms and contact information that her predecessor did. The manuals would be created for the following positions: recruitment, senior send-off, philanthropy, social, public relations, fundraising, constitution, Greek goods, and alumni liaison. The manuals would be available in hard copy as well as electronic format.

Hannah Valentich

Faculty Sponsor(s): Dr. Joseph Borrell



Stray Cats in Shippensburg Area

My project is to raise awareness about stray cats and help reduce the number of them in Shippensburg. I want to do some research as to the reason these cats are becoming strays and what happens to them after they are released. With my research I am going to produce Public Service Announcements, one to air on our SUTV news channel and another to be aired on our radio station. I am also going to do a fund-raising event for my clients. I hope to raise as many donations as possible and give them to Better Days Animal League.

Amanda Whaley

Faculty Sponsor(s): Dr. Joseph Borrell



Central Dauphin Green Energy Club Documentary

This will be a 20-minute documentary about the Central Dauphin Green Energy Club accompanied by a blog that adds emphasis to what is highlighted in the documentary.

Steven Williams

Faculty Sponsor(s): Dr. Joseph Borrell



Promotional Campaign to Aid Recruitment for the Shippensburg University Marching Band

This project is a promotional campaign to aid recruitment for the Shippensburg University Marching Band. I will develop flyers, ads for *The Slate*, ads for WSYC, and an ad for SUTV. Through the use of these methods, I hope to raise membership in the SUMB by 5 percent prior to the mid-April meeting for interested new members.

Daniel Winnick

Faculty Sponsor(s): Dr. Joseph Borrell

Development and Design of a Detailed Product Manual for the SunTan Hut

My project is to create an informative and detailed product manual for a salon in Camp Hill, Pennsylvania. Product sales are crucial to the business, but being able to explain the benefits, uses, costs, etc. to each customer is not always realistic. The SunTan Hut offers numerous products for sale and would benefit from having a resource that clients can look at to see the many options they have. This manual will include photos along with the product information. Research for this project will include usage information, benefits of the products, prices, popularity among clients, and other informative material. I think that the better informed the client is about what they are potentially buying, the better chance a sale will be made. This will hopefully benefit the business by increasing their monthly sales. The end result will be available in the salon. Ideally, if successful, another manual could be created for the salon's alternate location in Etters, Pennsylvania.

Rachel Wrigley

Faculty Sponsor(s): Prof. Margaret Evans and Dr. Joseph Borrell



Create an Online Resource for Returning Study Abroad Students at Shippensburg University

Working with the International Programs office on campus, I will create an online space where Shippensburg students returning from study abroad experiences can go to find helpful information. Returning students might have questions like "how is the best way to highlight my study abroad experience on my resumé?" or "now that I studied abroad, I want to work abroad. How can I do that?" I will use different kinds of research methods to identify the expectations and wants of pre-departure and returning study abroad students. Other important sources of information will be websites of other international programs offices at other universities (both public and private) and speaking with individuals in some of those offices. The International Programs' website does not currently have a space that acts as a resource for returning students. I believe my contributions will greatly benefit my stakeholders.

Blair Young

Faculty Sponsor(s): Dr. Joseph Borrell and Prof. Margaret Evans



Professional Print Workshop

I will be conducting research on print standards for the professional world. This research will determine what print methods and strategies are appropriate for a workshop focused to help students of Shippensburg University from diverse disciplines learn the standards for printing and how to reach those standards. The workshop will be held at Shippensburg University and include the most applicable information on professional grade printing.

Lauren Templer

Faculty Sponsor(s): Prof. Margaret Evans

Economics

TIME: 7:00 - 9:00 PM LOCATION: MULTI-PURPOSE ROOM

"Are We Rich Dad?" A Study on Socioeconomic Status

This research is an attempt to determine if there is a correlation between a rural, urban, or suburban area's cost of living and a household's socioeconomic status. If so, then federal tax brackets should be adjusted in order to accommodate the cost of living and socioeconomic status, not just income and marital status. Using an ordered logistical regression and predicting the marginal effects outcome model for my data, it can be determined that for outcomes where New England is used as the control, the Mountain division has a few significant results, compared to the other divisions with no significance. On the other hand, outcomes 1, 8-17, 20-25 have a significant cost of living index, providing compelling evidence for my hypothesis. These outcome numbers are an assigned code that refers to the different income ranges, when used in the marginal effects model, it shows the results of being given one additional unit of income.

Joy Rothermel

Faculty Sponsor(s): Dr. Freddy Siahaan



High, I'm Going to College and Need Contraceptives

This project was a probit regression analysis of the effects of drug use, education, and sexual education, on the abortion rate. NLSY79 provided the data that was organized and analyzed in Stata. The findings were that, for this study, marijuana use among women has a positive effect on the need for an abortion. When compared to the west, women living in the northeast are less likely to have an abortion. The other independent variables in the analysis were insufficient in their relationship to the dependent variable, to be analyzed.

Nathan Smith

Faculty Sponsor(s): Dr. Freddy Siahaan



An Analysis of Open Access Scheduling on Family Medicine within a Federally Qualified Health Center

Health care providers have a choice to make when attempting to select the proper scheduling system that best fits both patient and provider needs simultaneously. This study considers the implications regarding a hybrid system combining both pre-book and open access scheduling models with respect to the rate of missed appointments. Referred to as the “no show” rate, missed appointments present an opportunity cost to the provider and a potential risk to patients. In an environment that combines both scheduling models under one roof, it is important to the provider to understand the distinction between how provision resources are allocated. If this crucial aspect of patient behavior can be explained by accessible EHR data, the results can be incorporated into creating a more efficient and successful health care provider at a relatively low cost.

Kyle Stewart

Faculty Sponsor(s): Dr. Freddy Siahaan



PGA Tour: An Analysis on the Compensation System

The main objective of this research is to attempt to gain a better understanding of how a tournament style compensation system in a corporate setting may positively or adversely affect returns on effort and performance by employees. To do so, this study uses statistics from the 2010 PGA Tour season to demonstrate how people will react to various payment opportunities given a set pay structure. The data is contained over a one season span and excludes tournaments that do not fit the basic pay structure of a professional golf tournament. Using panel data regression, a variety of variables are regressed based upon individual output per individual tournament. The results of this study hold consistent with many similar experiments; there is evidence that a tournament style pay system may elicit increased positive individual output or profitability.

Brian Suchanick

Faculty Sponsor(s): Dr. Freddy Siahaan



Exchange Rates and International Trade

When it comes to international trade, exchange rates have always been considered key factors in trade volume shifts. My research will test this theory by using regression data to find the correlation between these two items. Other factors that will be tested to see how they affect international trade are Gross Domestic Product, Inflation, and Unemployment. Through testing these four factors using regression, I hope to find proof of a correlation with international trade volumization. This correlation will describe which items cause a change in trade volume and which items may not.

Andrew Ward

Faculty Sponsor(s): Dr. Freddy Siahaan



Who are the Millionaires of Major League Baseball?

In 2008 the average salary of a Major League Baseball (MLB) player was \$3.15 million, proving that there are millions to be made in Major League Baseball. The goal of this study is to examine the determinants of a Major League Baseball player’s salary. This study follows players who were playing in 1998 from 1998 to 2010, accounting for relevant statistics throughout those years. Due to this study taking place over the course of thirteen years, a panel data regression model is set to the parameters of the players and the years. Age, at bats, home runs, and teams are found to be significant in determining a player’s salary. The results of this study show that as a player’s age increases up to a certain point and his performance improves, the player is more likely to see an increase in his salary. There are also significant findings within the model supporting a player’s performance as a major factor influencing salary.

Phillip Wigfield

Faculty Sponsor(s): Dr. Freddy Siahaan



A Regression Analysis — What Makes the Formula 1 Champion?

This research analyzes the optimization of the expenses in Formula 1 — the fastest sport in the world. Formula 1 is the most popular sport in the world in terms of the size of a TV audience focused on a single sport event. The cars in this sport can race on tracks with a maximum speed of 220 mph. The regression model is somewhat able to make a forecast the exact final position of one out of twelve teams at stake.

Latocha Wojciech

Faculty Sponsor(s): Dr. Freddy Siahaan

English

TIME: 7:00 - 9:00 PM LOCATION: MULTI-PURPOSE ROOM

Promotions of the Third Annual Student Video/Multimedia Contest

The goal of this project is to help promote the Third Annual Student Video/Multimedia Contest. This will be done by creating fliers and promotional materials, then placing them in strategic places such as dining halls.

Clark Barlow

Faculty Sponsor(s): Dr. Thomas Crochunis and Prof. Margaret Evans

Exercise Science

TIME: 7:00 - 9:00 PM LOCATION: MULTI-PURPOSE ROOM

The Effects of Armourbite™ on Physiological Variables and Exercise Performance

Purpose: To examine whether wearing Armourbite™ mouth guard improves physiological variables and power. Methods: Ten male collegiate football players (20±2 years) performed bike test (BE), hand grip strength (HG) and vertical jump (VJ) tests under three different conditions; no mouth guard (control), wearing Armourbite® mouth guard (MG1), and wearing a regular mouth guard (MG2). Heart rate (HR), blood pressure (BP), blood lactate (BL) and rate of perceived exertion (RPE) were recorded during the BE test. Results: VJ, HG and BE showed no significant difference among the different conditions ($p > 0.05$). Interestingly seen was a trend of faster HR recovery while wearing Armourbite™ ($p > 0.05$). A trend of lower RPE values were also seen while wearing the Armourbite™ ($p > 0.05$). Conclusion: There were no significant effects of the Armourbite™ on physiological variables however different people may have a different effect using the Armourbite™.

Felicia D'Innocenzo, Travis Fritz, Derrick Ranson, Danielle Wolf

Faculty Sponsor(s): Dr. Joohee Sanders and Mr. Wesley Mallicone



Influence of a Five-Week Exercise Program on Posture, Physical Fitness and Group Cohesion in University Employees

The purpose was to examine the effects of a five-week exercise program on posture, physical fitness, and group cohesion in university employees. Fourteen employees signed up for the program and seven completed the postural and physical fitness assessment. Exercise tests were performed before and after the program. Twelve females completed the Physical Activity Group Environment Questionnaire (PAGE-Q). Dependent t tests revealed significant improvements in the sit-and-reach, right and left side bridge endurance test, trunk flexor endurance, and the right and left straight leg raise. There were no significant improvements in the other physical fitness assessments. The $M \pm SD$ for the PAGE-Q subscales were: ATG-T = 8.21 ± 0.84 , ATG-S = 5.80 ± 1.35 , GI-T = 5.54 ± 1.03 , and GI-S = 4.25 ± 1.41 . The program improved lower body flexibility and core muscular endurance. Postural exercises showed no significant improvement (4%) over the program. The PAGE-Q implies subjects were attracted to the group because of the task.

Joe Lahovski

Faculty Sponsor(s): Dr. Sally Paulson

Geography/Earth Science

TIME: 7:00 - 9:00 PM LOCATION: MULTI-PURPOSE ROOM

The Olympic Games as a Catalyst for Urban Revitalization: Transportation Changes in Vancouver as a Result of Hosting the 2010 Winter Olympics

As cities around the globe compete to attract businesses and visitors, many are looking for unique ways to showcase their city and region to the world. Due to their scale and duration, mega-events such as the Olympics provide opportunities for cities to attract global attention. Transportation is one of many aspects that must be considered by a host city as athletes, officials, and visitors expect to travel to venues as quickly and efficiently as possible. Case studies on individual host cities are needed to understand how Olympic transportation systems affect a city's population before, during and after the Olympics are staged. This study looks at the 2010 Vancouver Olympics and the affect they had on the city's transportation system. Annual reports, quantitative data, and interviews were used to determine Vancouver's transportation vision and capabilities before the bidding process and after the city received the bid.

Brandon Duxbury

Faculty Sponsor(s): Dr. Kurt Fuellhart



Fluctuation of Pennsylvania's Groundwater During the August 2011 Mineral, Virginia Earthquake

The 5.8 magnitude Mineral, Virginia earthquake that occurred on Tuesday, August 23, 2011 had far reaching impacts throughout the east coast of the United States. One particularly interesting effect of the earthquake was a change in groundwater levels across Pennsylvania as seen in wells monitored by the U.S. Geological Survey. Curiously, some wells recorded a rise in water level, others a drop, while some exhibited no change at all. The exact cause of the fluctuations and their relation to the earthquake remains unclear. This study examines possible relationships between lithology, geologic structure, well depth, the proximity to the Appalachian Mountain axis, and the distance from the earthquake's epicenter.

Richard Kaiser, Kevin Eaton, Melinda Yoder

Faculty Sponsor(s): Dr. Tom Feeney



Groundwater Fluctuation on the Shippensburg University Campus

Groundwater is an invaluable resource that provides Pennsylvanians with clean water for drinking, irrigation and industry. The Shippensburg area alone, including the SU campus, consumes roughly 2 million gallons per day of groundwater derived from a series of water wells. The university also makes use of campus wells to irrigate athletic fields and nursery stock, especially during the hot summer months. Such high demand on the groundwater resources can only be sustained if the demand, like a bank account, is recharged. In most regions groundwater is recharged by precipitation that slowly percolates into the ground. In other areas nearby surface streams can recharge groundwater if the stream is higher than the adjacent groundwater level. This study explores the relative elevation of groundwater and surface water on the SU campus as measured at a 15-minute interval over 5 months, as well as the response rate of groundwater level to precipitation events.

Luke Ohlinger, Becca Koroncai, Bob Koroncai, Keri Simmons

Faculty Sponsor(s): Dr. Tom Feeney



A GIS Analysis of the Chincoteague Inlet Eddy and Its Impact on the Shoreline Morphology of Northern Wallops Island, Eastern Shore Virginia

Longshore currents on the Delmarva Peninsula run predominantly south-westward toward the mouth of the Chesapeake Bay. Due to local barrier island architecture and vigorous tidal flows at island inlets, the current along Wallops Island has been locally reversed by a clockwise-rotating eddy. The eddy and associated ebb tidal delta have significantly

impacted sediment distribution and wave refraction patterns since the 1930s, producing a progradational pattern of beach faces stacking seaward over 1 km, to the detriment of beaches to the south. Using field surveys and GIS, sediment transport rates both onshore and alongshore since the 1930s will be assessed. These data will be used to predict future sediment transport and erosional patterns in the vicinity of north Wallops to support the development of a shoreline management plan for the NASA Wallops Flight Facility.

Veronica Woodlief

Faculty Sponsor(s): Dr. Sean Cornell



Dam Removal and Seasonal Changes in Stream Discharge Rates for the Conococheague Creek, Adams County, Pennsylvania

The Conococheague Creek originates on South Mountain and is located in Adams County, Pennsylvania. The Conococheague flows through the site of the former Chambersburg Reservoir which is a basin left by the breaching of the Birch Run Dam in 2005. Discharge was measured at multiple sites in the spring of 2011, and a 14 ft³/sec loss in discharge was documented. The purpose of this research is to determine whether the loss in discharge is related to seasonal patterns of precipitation and whether stream flow is regained within 300 yards (274 meters) downstream of the breach. Measurements will be conducted on a seasonal basis at four sites and will be compared to determine differences in discharge and its relationship to precipitation. The expected results should show that discharge at this reach of the Conococheague varies with hydrologic conditions. This research will contribute to the knowledge of how stream hydrologic processes may differ after dam removal.

Laurie Young

Faculty Sponsor(s): Dr. Christopher Woltemade

History/Philosophy

TIME: 7:00 - 9:00 PM LOCATION: MULTI-PURPOSE ROOM

In Memoriam?: Investigating an Unidentified Civil War Gravestone in Juniata County

This project examines the results of archival research conducted by the author regarding the only burial site of an unidentified soldier of the Civil War in Juniata County, Pennsylvania. Following a general discussion of the circumstances surrounding the mysterious death and burial of this soldier, the author presents a detailed description of what his research experience revealed about the larger issues of anonymity and commemoration as well as the nature of community history and memory. This project examines this broader context of public attitudes regarding death and anonymity during the Civil War in relation to the author's

findings concerning both the historical and contemporary response of the residents of Juniata County to the presence of an unidentified soldier of the Civil War in their midst.

Luke Strawser

Faculty Sponsor(s): Dr. Steven Burg



Boom and Bust Towns of the Chesapeake Bay

My research project will examine the relationship between the Chesapeake Bay and the communities along Maryland's eastern shore.

Martavis Washington

Faculty Sponsor(s): Dr. Allen Dieterich-Ward

Learning Center

TIME: 7:00 - 9:00 PM **LOCATION: MULTI-PURPOSE ROOM**

Writing Centers as Change Agents

Is there a discrepancy between the expectations of current writing tutors toward the proficiencies they will gain in their future careers as compared to the skills tutors have used once they enter the workforce? How effective are/were the tutoring strategies in the development of interpersonal skills and written and oral communication? Did these skills help the tutors enter their career field more easily? How can the information gained in this study help current and future writing tutors in the Learning Center? Recent claims about the skills, proficiencies, and expertise writing tutors develop as a result of their training and practice in tutoring sessions has suggested that these valuable skills often transfer to the workforce. Results from this study could strengthen writing tutor training at the Learning Center and help the researchers add to the research of these claims.

Cassandra Shive, Ariana Tavakoli

Faculty Sponsor(s): Dr. Karen Johnson

Mathematics

TIME: 7:00 - 9:00 PM **LOCATION: MULTI-PURPOSE ROOM**

$$PA \div 18 = ?$$

The United States conducts a census every ten years in order to redistribute the U.S. House of Representatives "fairly" amongst all states in the union. After the 2010 census, all states that experienced a significant (relative) loss or gain in population were given new congressional allotments and are required to create new congressional districts for 2012 elections. This project uses accessible technology and graph theoretical techniques to develop methods for creating district maps in some of the affected states. This project is also being used to introduce a "real world" topic to the high school classroom. The

poster presentation will cover a brief history of redistricting, the motivation for the research, the maps and mathematical processes used to create new maps, and the approach used to bring this problem into the high school classroom.

Johnathan Hocker

Faculty Sponsor(s): Dr. Ben Galluzzo



Sliding Tile Puzzles

In this project we studied specific classes of graphs to understand groups that describe specific solution methods. Then we addressed the question of shortest possible solutions, which we generalized to other puzzles.

Ryan Long

Faculty Sponsor(s): Dr. Doug Ensley



Apery Diagrams of Numerical Semigroups

A numerical semigroup is a subset of the nonnegative integers that includes 0, contains all sufficiently large integers, and is closed under addition. An Apery diagram is a pictorial representation of a numerical semigroup that displays important information about the semigroup. We are interested in the relationship between semigroups that have the same Apery diagram. This type of relationship has recently proven useful for results in commutative algebra.

Ryan Long

Faculty Sponsor(s): Dr. Lance Bryant



Research-Based Strategies to Improve the Quality of Education for Students with Learning Disabilities

The National Council of Teachers of Mathematics recognizes equity as a feature of good instruction. Equity demands that students identified with learning disabilities receive accommodations to ensure that they receive the support to enable them to have the same opportunities for success. Teachers are challenged to find ways to best address the needs of these students to maximize mathematical growth. To fulfill the need for easily accessible, research-based strategies for teaching students with learning disabilities, we created a mapping of specific learning deficits to associated manipulatives, which are tools that can enhance learning. A systemic review of literature through library databases was conducted to synthesize results from a multitude of recent studies. Our research provides teachers who are looking for new ideas to implement in their classrooms with exposure to the most current research-backed strategies, proven to improve the quality of education for students.

Megan Rowson

Faculty Sponsor(s): Dr. Debbie Gochenaur

Modern Languages

TIME: 7:00 - 9:00 PM LOCATION: MULTI-PURPOSE ROOM

Du « lard » ou du « poulet » ? Une comparaison culturelle entre la perception et la représentation de la police en France et aux États-Unis dans la culture populaire

Les Américains utilisent la métaphore du « cochon » en référence aux policiers dans la langue vernaculaire, alors que les Français voient leurs policiers comme des « poulets ». Cette différence d'appellation qui pourtant fait appel à l'imagerie animale dans les deux pays, est révélatrice de différences plus profondes entre les perceptions que le public a des forces de police de chaque côté de l'Atlantique. Cette étude comparative sur les représentations de la police dans la culture populaire aux États-Unis et en France entend analyser l'attitude des citoyens des deux pays à l'égard des forces de l'ordre et du système pénal. D'abord, nous évaluerons et comparerons l'histoire du maintien de l'ordre en France et aux États-Unis. Ensuite, nous explorerons les perceptions et les représentations de la police dans la culture populaire française et américaine, à travers l'analyse de films, d'articles et de témoignages.

“Du lard ou du poulet?” a Cross-Cultural Comparison between the Perception and Representation of the Police in France and the United States in Popular Culture

Americans use the metaphor of “pigs” in reference to police forces in the vernacular language, whereas the French use the image “chickens” in reference to theirs. While this difference in nomenclature draws from the imagery of animals in these two countries, it also reveals the profound differences in the public's perception of the police on each side of the Atlantic. This project will encompass a comparative study between the police systems of the United States and France and will specifically show how the media represents and influences the attitude of citizens in regard to police forces. We are going to evaluate and compare the history of policing in France and the United States, along with the organization of their respective police systems. Furthermore, we are going to explore the perceptions and representations of the police in French and American popular culture through the analysis of films and testimonials. This study will give an insight into the cultural viewpoints of one of the most prominent forces in the criminal justice system in the United States and France.

Felicia Franklin

Faculty Sponsor(s): Dr. Blandine Mitaut

Psychology

TIME: 7:00 - 9:00 PM LOCATION: MULTI-PURPOSE ROOM

The Cell Phone Dependency Scale: Validity and Reliability

This study was designed to develop a Cell Phone Dependency scale. Items designed to be rated on a six point frequency scale were generated. Participants responded to these items along with other questions regarding cell phone use. Results revealed that the validity and reliability of the scale is very promising.

James Evans, Brittany Harman

Faculty Sponsor(s): Dr. Lea Adams, Dr. Toru Sato, and Dr. Michael Coolson



Employee Engagement as a Mediator of the Relationship between Realistic Job Previews and Counterproductive Work Behaviors

Research has shown that realistic job previews (RJPs), defined as human resource practices which provide accurate information to job candidates about the job during the recruitment and selection process, are an important driver of critical organizational outcomes. The purpose of the current study is to examine the relationship between employee perceptions of RJP and self-reported CWB. An additional objective of this research is to examine the extent that the relationship between perceptions of RJP and CWB is mediated by employee engagement. The sample consists of approximately 40 employees recruited from medical facilities across the United States. In order to test Hypothesis 1-3, data will be analyzed using a linear regression. For Hypothesis 4, a mediated regression will be used. In the current study the RJP will act as the predictor variable, organizational engagement as the mediator, and CWB as the criterion variable.

Rachel Hamel

Faculty Sponsor(s): Dr. Jenny Pitts



Validation of the English Version of the Sexual Modes Questionnaire

The Sexual Modes Questionnaire (SMQ; Nobre & Pinto-Gouveia, 2003) was developed in the Portuguese language to measure automatic thoughts that arise during sexual activity. No published studies have tested the validity of this questionnaire in the English language. In the present study, 344 sexually active adults (234 female and 110 male) completed this questionnaire as well as the Cognitive Distraction Scale (Dove & Wiederman, 2000), the Satisfaction Subscale of the Female Sexual Function Index (Rosen, et al., 2000), and the Sexual Esteem Questionnaire

(Wiederman & Allgeier, 1993). Both the male and female versions of the SMQ had acceptable reliability ($\alpha \geq .800$) and were significantly correlated with the Cognitive Distraction Scale, an extant scale measuring distracting cognitions during sex. The female version of the SMQ was also significantly correlated with sexual satisfaction and sexual esteem, whereas the male version was not.

Brian Hammond

Faculty Sponsor(s): Dr. Kim Weikel



Development and Validation of Cognitive Distraction during Sexual Encounters Scale

Research has shown that cognitive distraction during sex—attending to one's own thoughts and worries instead of being cognitively and emotionally present in the moment—is associated with sexual dysfunction and lower levels of sexual satisfaction. It has also been shown that mindfulness training as part of sex therapy can be effective in decreasing cognitive distraction during sex, leading to decreased sexual dysfunction and increased satisfaction (Basson, Brotto, & Luria, 2007). Various studies have identified more than a dozen different types of distracting thoughts that frequently interfere with arousal and sexual satisfaction. Two scales have been used in the past to measure some of the possible distracted thoughts during sex (Dove & Wiederman, 2000; Nobre & Pinto-Gouveia, 2003). The purpose of my research is to develop a more comprehensive scale that is reliable and valid with a college student population and can be used by sex researchers and therapists.

Brian Hammond

Faculty Sponsor(s): Dr. Kim Weikel



Cell Phone Use and Grade Point Average among Undergraduate University Students

The present study examined whether cell phone use frequency is correlated with overall academic performance as measured by grade point average among undergraduate university students. Results revealed that text message frequency was negatively correlated with grade point average and variables such as academic level while cell phone call frequency was not. Surprisingly, individuals with higher grade point averages are more comfortable text messaging in class. No significant results were found in regards to phone calls.

Brittany Harman

Faculty Sponsor(s): Dr. Toru Sato



Differentiating Episodic and Semantic Encoding Strategies to Enhance Student Learning

Long-term memory can be divided into two systems of memory: episodic memory, or memory for personally experienced events, and semantic memory, or knowledge of concepts, facts, language, etc. Based on the conclusion that the ultimate goal of learning should be the establishment of information in semantic memory and recognizing that most study strategies that are suggested to college students enhance episodic memory, the present study was designed to investigate the effectiveness of a number of study strategies in facilitating the transfer of information from episodic to semantic memory. Study strategies examined include rereading material, using flashcards, organizing concepts, and applying information to different contexts. Immediate and delayed memory tests, as well as the remember/know procedure, were utilized to determine whether or not information had been successfully established in semantic memory. Preliminary results and potential implications of the study will be presented.

Brittany Harman

Faculty Sponsor(s): Dr. Lea Adams

Social Work/Gerontology

TIME: 7:00 - 9:00 PM

LOCATION: MULTI-PURPOSE ROOM

Evaluation of Family Based Therapy

The purpose of this study is to analyze whether the Family Based Mental Health Services (FBMHS) at Momentum have an impact/improve the lives of adolescents and their families throughout the planned change process. The data will be collected from secondary data based off The Child and Adolescent Needs and Strengths (CANS-MH) assessment tool that is used at Momentum. The researcher will use the Indiana Comprehensive version of the assessment. The CANS-MH is used to provide assessments of the clients throughout their time in FBMHS at Momentum. The sample will be collected from clients with the requirements that: first they have been discharged through the FBMHS program at Momentum and second have had an initial assessment of the CANS-MH completed and a discharge assessment of the CANS-MH. The researcher will take into account abrupt discharges and other circumstances that will impact the results.

Cassandra Arnold

Faculty Sponsor(s): Dr. Liz Fisher



Parents' Perspectives of a Child's Behaviors on the Autism Spectrum

Parent and guardian perspectives are a vital factor in the treatment of children on the autism spectrum. Agencies and schools working with children on the autism spectrum use the parent-school relationship to their advantage to help the children succeed. The perspectives of the parents or guardians are a key element that a private autism school in central Pennsylvania uses while working with each child. How does having a child on the autism spectrum affect a parent or guardian's perspective on the child's adaptive skills? To answer the question, secondary data previously collected using the Behavior Assessment System for Children, Second Edition will be used for the data analysis.

Ashle Bashore

Faculty Sponsor(s): Dr. Michael Lyman



Do Families from the Shippensburg Head Start Program Feel They are Growing into their Roles as Educators at Home?

The research project will be conducted at the Shippensburg Head Start program. The purpose of the research project is to find out if parents feel they are the primary educators of their children. The Head Start program believes that parents are the primary educators of their children and want parents to have the skills, tools, and services they need to feel confident in their role as educators. A voluntary phone survey will be conducted to find if parents feel they are the primary educators in the home.

Jamie Clark

Faculty Sponsor(s): Dr. Michael Lyman



Perceptions of Middle School Girls Regarding the Role of Media in Influencing their Ideas on Body Image

Mass media is integrated into our everyday culture. Media can be used for a lot of positive things however, there are negative aspects that many people gain from mass media such as the portrayal of an unachievable "perfect" body image. Body image is not something that is based on fact, but rather something that is learned or developed. The National Eating Disorders Association has done research that has proven that on average, exposure to the thin media ideal is linked with greater body dissatisfaction and more unhealthy eating beliefs and behaviors in adolescent girls. This study will examine the perceptions of middle school girls regarding the role of media in influencing their ideas on body image. The researcher will hypothesize that the middle school girls are affected by the media to some degree in how they perceive their own body image and hopes to gain insight on exactly what impacts their ideas on body image the most.

Donna DeCecco

Faculty Sponsor(s): Dr. Liz Fisher

The Evaluation on the Effectiveness of a Leadership Development After School Program for High School Students

This research study will evaluate after school program known as the Teen Advisory Committee to help increase students knowledge on healthy relationships, peer support, and positive role models. This group will run over a six week period and will consist of approximately ten to fifteen Shippensburg high school students ranging from grades nine through twelve. This study will be conducted by distributing a pre-test and post-test questionnaire. The first day of group participants will answer a questionnaire and then the last day of group they will again fill out the same questionnaire. By handing out the same questionnaire, it allows for the opportunity to measure the effectiveness and the outcomes of knowledge the group has had over this six week time period. The overall research question for this study is "What are the outcomes of a healthy relationships group for high school students?" The results of this study will be provided in the poster.

Katie Detweiler

Faculty Sponsor(s): Dr. Liz Fisher



Parental Involvement and the Success of High School Students with Disabilities in the LifeFit Program

This study is to assist in determining if parental involvement with their children with disabilities is directly correlated with the success of the LifeFit Program. The data will be secondary data that has been done over time with the LifeFit Program. There will be a comparison from the parents pre-test and post-test with the success of the individuals in the program to determine if those with more parental involvement were more successful at being healthier or not.

Heather Emerick

Faculty Sponsor(s): Dr. Liz Fisher



Satisfaction of Services Provided by a Private Autism School

The study that is being conducted by the researcher is parent satisfaction of services provided by a private autism school. Examining the effectiveness of services provided for children in the mental health field has become important. Allowing a parent or guardian to provide feedback to the school creates a voice of opinion for them. The researcher will analyze data of satisfaction surveys that have been administered to the parents or guardians of the students who attend the school. The researcher will present the results and interpret the findings when the research study has been completed.

Kelsey Galbraith

Faculty Sponsor(s): Dr. Michael Lyman

The Arts and Student Behavior

This project looked into males between the ages of 13 to 16 and their current school behavior and attendance. The research question was how an after school arts program can improve student behaviors and attendance records with behaviorally troubled and severely truant students.

Mark Hair

Faculty Sponsor(s): Dr. Michael Lyman



How Beneficial is Creative Therapy for the Children at Hoffman Homes?

This research study looks at the benefits of the creative therapies that are provided for the children in care at Hoffman Homes. The research study will determine the effectiveness of the Therapy by charting the amount of physical interventions the children receive while involved with the creative therapy. This research study will help the staff at Hoffman Homes have a better understanding of what techniques better prevent physical interventions with the children in care. The research will be conducted by collecting secondary data through the records on file at Hoffman Homes. The secondary data will be charted to clearly identify any patterns that are found in the course of treatment of previous children who are no longer in care.

Zara Johnson

Faculty Sponsor(s): Dr. Jennifer Clements



Alternative Education Life Skills and Lessons

There has been plenty of research of the effective education techniques in alternative education programs. With the rate of alternative education programs rising, it is critical to investigate the effectiveness of alternative education. The research presented will display the results of surveys taken from current students and former students of the Yellow Breeches Educational Center. The surveys will be discovering life skills and lessons that the students of this institution have learned through adventure based education. Participants will be all currently enrolled students at Yellow Breeches Educational Center at the Fair Oaks location as well as formerly enrolled students. All participants are male and vary in race/ethnicity, age, and duration of enrollment. The research will provide evidence of the students' confidence in their preparation to transition to mainstream education or life after high school.

Kelley Jones

Faculty Sponsor(s): Dr. Jennifer Clements



Coping Mechanisms and Techniques for Shippensburg University Students

Large amounts of stress in college students are due to their workload and responsibilities which make them rely on coping mechanisms alone or in groups. The goal of this research is to identify if college students are more likely to cope in groups or alone and which coping mechanisms they use. Participants are students from Shippensburg University consisting of various races, genders and ages. The week before finals, researchers randomly asked students to fill out the survey explaining confidentiality and protection for the samples. The participants completed the survey and returned it and the consent form to the administrator. Some of the stress factors that were focused on were amount of classes being taken, outside jobs and activities they were involved in. After answering questions about their stress levels participants were given a list of individual and group coping mechanisms and they indicated how often they used those coping mechanisms.

Kacie Kidwell, Heather Kundus

Faculty Sponsor(s): Dr. Michael Lyman



Is There a Need for Early Head Start in Shippensburg Head Start Program's Service Area?

Due to government cuts and reforms to financial assistance, families within the Shippensburg Head Start program's service area are forced to focus more on working for a smaller pay check than spending time at home helping their children's development. These cuts and policy changes have led Shippensburg Head Start directors to reevaluate their program and question what more they can do for the community. Although Early Head Start was not a primary need when the program first began, it may be what families now need for Cumberland and Franklin counties. To help determine whether or not there is a need for Early Head Start within the Shippensburg Head Start program's service area, there will be several methods of data collection. Census data, Pennsylvania health reports, surveys, and a focus group, are a few of the ways that will determine whether or not the Shippensburg Head Start directors should pursue getting approvals to start a new program to service the local population.

Kacie Kidwell

Faculty Sponsor(s): Dr. Michael Lyman



Are Consumers Satisfied with the Services Provided at the Arc of Franklin and Fulton Counties

The goal of this research is to find out if the consumers are satisfied with the services provided at the Arc of Franklin and Fulton Counties. All participants are consumers at the Arc of Franklin and Fulton Counties. Consumers may have someone else complete the survey on their behalf if they cannot do so themselves. Participant's reside in Franklin or Fulton County and can be any gender or age. Participants will be sent an assumed consent form containing the participant rights along with the survey. There will be no identifying information to match to the participants. The researcher will be sending satisfaction surveys by mail to every consumer that has received services. The participants that choose to be a part of the study will be given about four weeks to complete the survey and return it to the Arc. The survey consists of both qualitative and quantitative questions that give the participant the opportunity to rate every individual service they have used.

Heather Kundus

Faculty Sponsor(s): Dr. Michael Lyman



Franklin Co. MH/ID/EI: Case Manager's Perceptions on the Peer Specialist Program

The purpose of this study is to gain a better understanding and explore the perceptions of Franklin Co MH/ID/EI Case Managers about the Certified Peer Specialist (CPS) program located within MHAFF. Past research has established a lack of knowledge and confusion about the supportive roles CPS give individuals in need of their services with mental health professionals, but research has concentrated more on CPS and consumers perceptions on peer to peer supports. This study will attempt to fill the gap of literature on the perceptions of mental health professional on the roles CPS. This may help to bridge the gap between misunderstanding and confusion on the roles and interactions between mental health professionals and CPS. Both professionals may work towards a more collaborative and effective relationship for the betterment of mental health consumers.

Sandra Mobry

Faculty Sponsor(s): Dr. Michael Lyman



Dauphin County Children & Youth Family Engagement Practices

Within the child welfare system, engaging families is the main focus for appropriate intervention. The belief that the best approach to protect children is to strengthen families, acknowledges that there are times when families may be weak from exposure to stressors such as poverty, poor housing,

substance abuse, domestic violence, or mental illness (Pennell, Burford, Connolly, & Morris, 2011). For both the child and family to be successful in reaching their goals, dedication and full engagement is required. This raises questions regarding placements, permanency practice, and kinship sources. Were unnecessary placements avoided, did they help to return a child home safely, and was a kinship source located? Effective engagement practices' used by an agency can allow for families to fully utilize services and benefit greatly. Overall, the goal of the agency is to both do what is best for the child and help the families to succeed.

Caitlyn O'Connor

Faculty Sponsor(s): Dr. Michael Lyman



The Effectiveness of a Group Intervention for Anger Management in an Elementary School

The research that I am conducting is identifying the usefulness of an anger management program in an elementary school. The reason for this particular topic is a clear need for intervention to help improve student's academic and social behavior caused by unhealthy anger management techniques and related social skills. The research question for this study is as follows, "What is the effectiveness of a group intervention for improving anger management and other socially unacceptable behaviors?" The participants of the study will be elementary school students referred by his or her teacher as well as the teacher and parent/guardian who will be filling out the surveys. The method that will be used for measuring the effectiveness is a seven-item Likert scale survey with two open ended questions about behaviors which will be distributed as a pretest before the group starts and a post-test after the group has finished. A copy of the results and survey will be included on the poster.

Jordan O'Donnell

Faculty Sponsor(s): Dr. Liz Fisher



Are Clients Satisfied with the Mental Health Services They Receive in Franklin County?

This research identifies what mental health services are available in Franklin County. The research will also aim to identify if the clients who use Franklin County Mental Health services are satisfied with their experience. The research will also find what areas Franklin County Mental Health can improve upon and what areas they are doing well in.

Josh Philpott

Faculty Sponsor(s): Dr. Michael Lyman



***It's the Nature of the Job:
Children and Youth Caseworkers—
Stress and Secondary Trauma***

Professionals working in the child welfare field are legally mandated to protect children who are abused and neglected and also those children who are exposed to harmful issues such as substance abuse, violence, young parenthood, mental illness, poverty, and homelessness. Going into homes where children are at-risk is in the daily job description for County Children and Youth caseworkers. Caseworker intervention into child protection situations is inherently stressful for everyone – children, families, and caseworkers. It takes a specially trained person to be able to work in the child welfare field. The annual turnover rate for child welfare caseworkers is between 30 and 40 percent. Turnover in this field is caused by many things but the issues that this study focuses on are stress and secondary trauma and how these factors affect Children and Youth caseworkers.

Amanda Pupich

Faculty Sponsor(s): Dr. Jennifer Clements



***Caseworkers' Perceptions of the Impacts
of Budget Cuts on Their Abilities to Serve
Clients in a Children and Youth Agency***

Due to the regulations in place by the government through the Child Protective Service Law, it is imperative to have an adequate budget for child welfare agencies. There are potential risks to clients when there are considerable budget cuts that may reduce the number or effectiveness of services provided. This study questions if budget cuts impact caseworkers' perceptions of their abilities to serve clients. Through careful examination of recent budget cuts and surveys of a sample of caseworkers in a Children and Youth agency, this study will serve to answer the above question. It is hypothesized that the results will indicate that there is a negative perceived impact on caseworkers' abilities to serve clients when budget cuts are made.

Nicole Schools

Faculty Sponsor(s): Dr. Jennifer Clements



***Exploring the Impact of Intellectual
Disabilities on Weight and Health***

This study explored whether a diagnosis of Down Syndrome has an impact on a person's ability to lose weight and health status as compared to other types of disabilities.

Mary Shedleski

Faculty Sponsor(s): Dr. Liz Fisher



***The Effectiveness of Educational
Programs on Dating Violence***

Dating violence within adolescents' interpersonal relationships has been an underlying issue nationwide. Adolescents are often unaware of the severity and impact that dating violence can have on a person psychologically, emotionally and physically within their lifetime. This study was conducted by going to five different high schools to talk about domestic violence within dating. Pre- and post-tests were used to measure to seek the difference of the students' level of knowledge. The research question was defined as is the level of knowledge on the topic of domestic violence impacted towards high school students 9th through 12th grade affected by participating in the "Dating Violence" presentation by Domestic Violence Services in Cumberland and Perry Counties? If high school students participate in the presentation, then more awareness will be raised throughout the adolescent ages, and the statistics of teen violence within interpersonal relationships will decrease.

Laura Stroman

Faculty Sponsor(s): Dr. Jennifer Clements



***Understanding Mental Health
Needs in the School Setting***

The purpose of this research project is to understand how behavioral or social/emotional problems impact a student's academic success. Understanding the prevalence and severity of students who are experiencing behavioral or social/emotional problems creates a pressing need for mental health professionals in the school setting. Research will be conducted at a special education school located in Newville, Pennsylvania on students identified with emotional support needs. Phone interviews will be conducted to understand what mental health services families identify as important at the school. This research will provide valuable information regarding students with emotional support needs, school social workers and other mental health professionals.

Samantha Stuart

Faculty Sponsor(s): Dr. Liz Fisher



Utilization of Behavioral Health Rehabilitation Services

The purpose of this study is to examine utilization of prescribed services within behavioral health rehabilitation services. Behavioral health rehabilitation services are important for children to learn and succeed, but how can we improve the utilization of behavioral rehabilitation health services within children? The instrument that will be used for this research is an employee and parent/guardian questionnaire. The questionnaires will be distributed to the 23 BHRS workers and parents/guardians of the 35 clients at Momentum Services, LLC in Chambersburg, Pennsylvania. This research hopes to find reasons for gaps in rehabilitation services and improvements that can be made within the agency to improve utilization of prescribed services to clients.

Brittany Wartluft

Faculty Sponsor(s): Dr. Liz Fisher



The Relationship between Psychiatric Treatment and Childhood Abuse

When a patient is admitted into a psychiatric hospital or treatment center, there can be a number of stressors or triggers that cause a psychiatric break. There are multiple assessments done to make sure that a patient's history is understood and the best possible treatment plan is formed. It has only been in the past seven years that research has started looking at childhood trauma as a cause for psychosis, and not just as a patient history factor (Bendall, Jackson, & Hulburt, 2010). As stated by Alvarez et. Al, "Childhood trauma is a well-known risk factor for suicide, increasing the number of suicide attempts in adulthood and bringing forward the onset of the first attempt" (Alvarez, Roura, Oses, Foguet, Sola, & Arrufat, 2011). If the patient has a history of childhood trauma, does that become an influencing factor as to whether or not the patient seeks treatment multiple times in an inpatient treatment center?

Erin Witowski

Faculty Sponsor(s): Dr. Jennifer Clements



Are Mandated and/or Self-Referred Parenting Classes at a Private, Non-Profit Child Welfare Agency an Effective Intervention for the Participants?

Parenting classes are frequently provided by child welfare agencies, yet there is not a lot of information regarding the effectiveness of various programs. This paper will address several parent education programs, including the program this researcher co-facilitates, that are designed for parents who were determined to be at risk for abusive or neglectful behaviors. Parenting classes address these parent's deficient parenting skills. These parenting classes are an attempt to assist parents who are at risk of losing their children to the foster care system or are parents who are trying to regain custody of their children from the foster care system. Included in this research project are participants of an eight-week parenting class called "Active Parenting Now," and the results of this study will be provided in a poster presentation. A pre/post-test and a program evaluation was distributed to the participants at the first parenting class and the final parenting class.

Lynn Ziegenfuss

Faculty Sponsor(s): Dr. Michael Lyman

Division of Student Affairs

TIME: 7:00 - 9:00 PM LOCATION: MULTI-PURPOSE ROOM

"Plan B" Informational Program for Student Affairs

For my Capstone project, I'm creating a 25-30 minute informational program dealing with the controversy surrounding Shippensburg University's decision to disperse the "Plan B" contraceptive drug in an on-campus vending machine. The program will capture the collective voice of the campus community, including students, faculty, and officials. It will offer a comprehensive narrative and fact-based overview of the issue from its origins and as it progresses throughout the spring 2012 semester, including lots of interviews and raw campus footage. I'll assemble all prevalent perspectives and opinions regarding the controversy in hopes of creating a fair and balanced work that services the ethical and moral welfare of the community — and thus services the Shippensburg University Division of Student Affairs, too.

Brett Snyder

Faculty Sponsor(s): Dr. Roger Serr

Teacher Education

TIME: 7:00 - 9:00 PM LOCATION: MULTI-PURPOSE ROOM

Minority Students Views about Admission and Retention

As the number of minority students increase here at Shippensburg, there is a need to hear their views as to how Shippensburg University can contribute to minority student success. The goal for this study was to examine minority students' general views on academic, financial and social issues that contribute to their stay here. Poster presentation by three undergraduate students in education, social work and political science will present the findings of their qualitative study on this topic.

Dimonique Daughty, Lavell Simpkins, Nicole Fairman

Faculty Sponsor(s): Dr. Eucabeth Odhiambo, Dr. Gwendolyn Durham, and Dr. Marita Flagler



Virtual Vacations

The purpose of this lesson plan is to examine the use of technology in the classroom. Students will have the opportunity to participate in literacy experiences using technology. The teacher will also be able to study the effectiveness of student-generated information. The students will virtually travel to a place that the teacher chooses on Google Earth. The students will use non-fiction text that is based on the location that has been chosen. The students will also use websites that have been approved by the teacher. The students will create their own non-fiction books using PowerPoint based on what they had learned. Through the creation of the student's own books, they learn about access features, and how to add pictures and videos to their PowerPoints.

Cassandra Moyer

Faculty Sponsor(s): Dr. Lynn Baynum

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