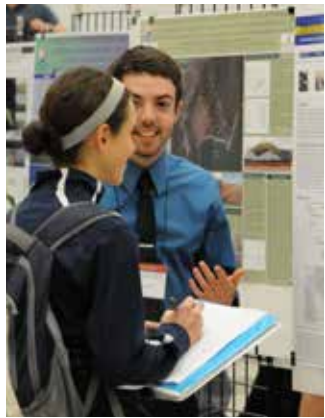
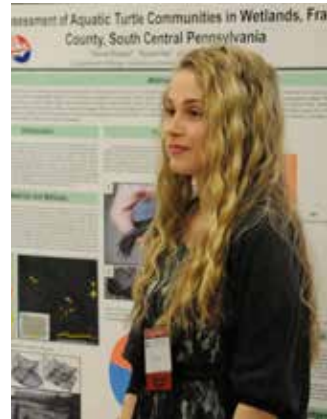


Minds @ Work

Celebrating Student Research, Scholarship, and Creativity



April 19, 2016

Schedule of Events

April 19, 2016

	MPR B&C	PRESIDENT'S HALL HONORS SEMINAR ROOM	ORNDORFF THEATER 123	MPR A	103	104	105
1:00		HONORS SYMPOSIUM					
1:15		Natural Sciences					
1:30		1:00-2:00					
1:45		HONORS SYMPOSIUM					
2:00		History and Military Science					
2:15		2:00-2:45					
2:30							
2:45							
3:00		HONORS SYMPOSIUM					
3:15		Arts and Humanities					
3:30		3:00-4:00			CRIMINAL JUSTICE DEPT. PANEL	ENGLISH DEPARTMENT	EARLY CHILDHOOD EDUCATION
3:45			HONORS SYMPOSIUM	HUMAN COMMUNICATION DEPT. ROUNDTABLE	Crime Prevention & School Shootings	Student Oral Presentations: Fiction Seminar	Student Oral Presentations: Undergraduate Action Research
4:00	POSTER SESSION I	HONORS SYMPOSIUM	Mathematics and Exercise Science	Understanding Sense of Humor	3:30-4:15	3:30-4:30	3:30-5:00
4:15	3:30-5:00	Social Science and Business	3:30-4:45	3:30-4:30			
4:30		4:00-5:00			ED LEADERSHIP AND SPECIAL EDUCATION DEPT. PANEL		
4:45				HUMAN COMMUNICATION DEPT. PANEL	Helping Individuals Reach Employment	ENGLISH DEPT. PANEL	
5:00		HONORS SYMPOSIUM		(Inter)Cultural Communication Across Contexts	4:30-5:30	Poetry - The Sound of Paper	HISTORY/ PHILOSOPHY DEPT.
5:15		Psychology		4:45-5:45		4:45-5:45	Student Orals: Symbolism and Communication in Ancient Egypt
5:30		5:00-6:00	CHEMISTRY DEPARTMENT		INDEPENDENT STUDENT PAPERS	ENGLISH DEPT. PANEL	5:15-6:15
5:45			Student Oral Presentations: Undergraduate Research in Chemistry	HUMAN COMMUNICATION DEPT. PANEL	Counseling and Social Work	Poetry Here and Now	
6:00		HONORS SYMPOSIUM	5:00-7:30	Communication Foundation of Relationships	5:45-6:15	5:45-6:45	HISTORY/ PHILOSOPHY DEPT.
6:15	POSTER SESSION II	Computer Science		6:00-7:00			Student Oral Presentations: American Environmental History
6:30	6:00-7:30	6:00-7:00			MANAGEMENT/ MARKETING DEPT. PANEL		6:15-7:45
6:45					The Intern Experience and the Learning of Business	ENGLISH DEPT.	
7:00		HONORS SYMPOSIUM		HUMAN COMMUNICATION DEPT. PANEL	6:30-7:30	Student Oral Presentations: Creative Strategies for the Secondary Language Arts Classroom	
7:15		Education		Communication in Professional Contexts		7:00-8:30	INDEPENDENT STUDENT PAPERS
7:30		7:00-8:15		7:15-8:15	MANAGEMENT/ MARKETING DEPT. PANEL		History/Philosophy and Sociology/ Anthropology
7:45			WRITE THE SHIP		Walmart Strategy: Global and Domestic Impacts		7:45-8:45
8:00			"Write the Ship" Awards		7:30-9:00		
8:15			7:45-9:00				
8:30							
8:45							
9:00							

Schedule of Events

April 19, 2016

119	125 LOUNGE	226	232	238	239	240		
							1:00	
							1:15	
							1:30	
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							3:00	
							3:15	
							3:30	
BIOLOGY DEPARTMENT Student Oral Presentations: Biological Research 3:30-6:00		ENGLISH DEPT. Student Oral Presentations: Creative Writing - Nightmares 3:30-4:30	POLITICAL SCIENCE DEPT. Student Oral Presentations: The Personal is Politics 3:30-5:00	ETHNIC STUDIES PROGRAM Student Oral Presentations: Latin America in the United States 3:30-5:30	EXERCISE SCIENCE DEPT. Student Oral Presentations: Mechanical Analysis of Sports Skills 3:30-5:30	INDEPENDENT STUDENT PAPERS Computer Science/ Engineering and Mathematics 3:30-4:45	3:30	
		HUMAN COMMUNICATION DEPT. PANEL Rhetorical Construction of Social Realities 4:45-5:45					3:45	
		MUSIC DEPT. Creative Works Performance: Strings 5:30-6:00	HUMAN COMMUNICATION DEPT. PANEL Social Media, Romance, and Community 5:45-6:45	POLITICAL SCIENCE DEPT. Student Oral Presentations: Elections and Partisanship 5:15-6:45	DISABILITY STUDIES PROGRAM PANEL Disability and Gender 5:30-7:30	MODERN LANGUAGES DEPT. Student Oral Presentations: Latin American Fiction 6:00-8:00	HUMAN COMMUNICATION DEPT. PANEL There's More to It Than Meets the Eye: Rhetorical Strategies 6:00-7:15	4:00
		STUDENT PIANO PERFORMANCE: Welsh Song Tradition 6:00-6:30						4:15
	BIOLOGY DEPARTMENT Student Oral Presentations: Ecology & Natural History of the Central Appalachian/Mid-Atlantic Region 6:00-9:00		INDEPENDENT STUDENT PAPERS English, Exercise Science, and Finance/ Supply Chain Management 7:00-8:15	POLITICAL SCIENCE DEPT. Student Oral Presentations: Policy Change and Evaluation: Guillotines to Bullies to Parks 7:00-8:45	DISABILITY STUDIES PROGRAM PANEL SU Accessibility and PASSHE Disability Services 7:30-8:30			4:30
							4:45	
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							9:00	

Poster Session I Map

3:30 - 5:00 PM CUB Multi-Purpose Room B & C

Posters begin on page 29



Row 1	Row 2	Row 3	Row 4	Row 5	Row 6	Row 7	Row 8	Row 9
1. Comp Science 2. Comp Science 3. Comp Science 4. Comp Science 5. Comp Science 6. Comp Science	7. Comp Sci 8. Math 9. Math 10. Math 11. Math 12. Mgt/Mktg 13. Mgt/Mktg 14. Mgt/Mktg	15. Biology 16. Biology 17. Biology 18. Biology 19. Military Sci 20. Supply Chain 21. Info Systems 22. Mgt/Mktg	23. Exer Science 24. Exer Science 25. Exer Science 26. Exer Science 27. Exer Science 28. Exer Science 29. Psychology 30. Psychology 31. Psychology	32. Social Work 33. Social Work 34. Social Work 35. Social Work 36. Social Work 37. Social Work 38. Social Work 39. Psychology 40. Psychology	41. Social Work 42. Social Work 43. Social Work 44. Social Work 45. Social Work 46. Social Work 47. Economics 48. Economics 49. Economics	50. Comm/Journ 51. Comm/Journ 52. Comm/Journ 53. Comm/Journ 54. Comm/Journ 55. Economics 56. Economics 57. Economics 58. Economics	59. Comm/Journ 60. Comm/Journ 61. Comm/Journ 62. Geo/Earth Sci 63. Geo/Earth Sci 64. Geo/Earth Sci 65. Geo/Earth Sci 66. Geo/Earth Sci 67. Geo/Earth Sci	68. Geo/Earth Sci 69. Social Work 70. Sociology 71. 72. 73.

Poster Session II Map

6:00 - 7:30 PM CUB Multi-Purpose Room B & C

Posters begin on page 43



Row 1	Row 2	Row 3	Row 4	Row 5	Row 6	Row 7	Row 8	Row 9
1. Counseling 2. Counseling 3. Writing Studio 4. Writing Studio 5. Disability Studies	7. Geo/Earth Sci 8. Geo/Earth Sci 9. Geo/Earth Sci 10. Geo/Earth Sci 11. Geo/Earth Sci 12. Geo/Earth Sci 13. Geo/Earth Sci 14. Geo/Earth Sci	15. Comm/Journ 16. Comm/Journ 17. Comm/Journ 18. 19. Economics 20. Economics 21. Economics 22. Economics	23. Mod Lang 24. Mod Lang 25. Mod Lang 26. Math 27. Math 28. Math 29. Economics 30. Economics 31. Economics	32. Mod Lang 33. Social Work 34. Social Work 35. Social Work 36. Social Work 37. Social Work 38. Social Work 39. Social Work 40. Social Work	41. Humn Comm 42. History 43. History 44. Social Work 45. Social Work 46. Social Work 47. Social Work 48. Social Work 49. Social Work	50. Physics 51. Political Sci 52. Political Sci 53. Criminal Just 54. Criminal Just 55. Criminal Just 56. Chemistry 57. Chemistry 58. Chemistry	59. Biology 60. Biology 61. Biology 62. Biology 63. Biology 64. Biology 65. Biology 66. Exer Science 67. Exer Science	68. Mgt/Mktg 69. Mgt/Mktg 70. Mgt/Mktg 71. Mgt/Mktg 72. Exer Science 73. Exer Science



Photo by John Weinstein

Kirkland/Spizuoco Memorial Science Lecture
"Your Inner Fish"

Neil Shubin

Paleontologist, Biologist, Writer, Professor

Wednesday, April 20, 7:30 PM

Luhrs Performing Arts Center

NEIL SHUBIN is the author of two popular science books, *The Universe Within* (2013) and the best-selling *Your Inner Fish* (2008), which was chosen by the National Academy of Sciences as the best book of the year in 2009. Trained at Columbia, Harvard, and the University of California at Berkeley, Shubin is the Robert Bensley Distinguished Service Professor and Associate Dean of Biological Sciences at the University of Chicago. In 2011 he was elected to the National Academy of Sciences.

THIS EVENT IS FREE AND OPEN TO THE PUBLIC.

A book signing follows the lecture.

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From the President

Welcome to Shippensburg University's 2016 Minds@Work Conference, Celebrating Student Research, Scholarship, and Creativity. This annual program is a highlight of the year and showcases student-faculty research, which has become a key component of our academic programming across all disciplines.

From the sciences and humanities, to business, creative arts, and human services, our students, both undergraduate and graduate, will present their activities

through posters, oral presentations, panel discussions, and works of art.

Throughout the year, we challenge these students to probe more deeply into subjects that interest them, to create original work, and to work directly with faculty on research and other scholarly activities. I enjoy seeing the work that they've accomplished, but even more, the excitement, energy, and enthusiasm they display as they share their work. This is at the heart of what learning is about: discovering, comprehending, and interpreting the world around us and ourselves.

Shippensburg University has made a significant investment in joint student-faculty research and other high-impact learning experiences because we know that the benefits are far-reaching. Many of our students present results at regional and national conferences. They become highly qualified graduates capable of meaningful contributions to their employers, their graduate studies, and their communities.

This celebration may be the culmination of a year or more of work, but for many it is just the beginning of a lifetime of learning. I encourage these students to continue to explore, discover, create, and share. The world is waiting for your bright minds at work.

G.F. "Jody" Harpster, PhD
President



From the Provost and Executive Vice President

To see evidence of the high quality education available at Shippensburg University, one need only look at the annual Minds@Work Conference! Regardless of the academic program, there are opportunities to engage in the intellectual and experiential adventure of student research and/or creative activities guided by faculty.

Joint faculty-student research has both near term and long term benefits. Engagement in scholarly inquiry and creative explorations reinforces a questioning attitude which is singularly important to making advances in identifying, defining, evaluating, and addressing unknowns and unresolved issues within and across many contexts. These benefits are associated with individuals' greater capacity for critical thinking and problem solving, useful not only in academic domains but in the world at large and over a lifetime.

Students who pursue their research projects and creative productions enhance abilities in such areas as design thinking, project management, advocacy, and negotiation as well as public presentation skills. These capacities, amplified through the student research experience, mean that Shippensburg University students emerge among the most highly qualified when they pursue academic studies in a variety of advanced professional degree programs. Ship students also emerge as highly qualified candidates for employment as employers welcome the enhanced suite of skills and dispositions formed as a result of the high impact experience of student research.

I encourage students to compare notes with their peers at public and other institutions of higher education. When they do they will find that the joint faculty-student research program at Shippensburg University is a premier program of scope and quality not readily found elsewhere!

My deepest congratulations to the students, appreciation to the faculty, thanks to the staff, and gratitude to our donors for another successful Shippensburg University Minds@Work Conference!

Barbara G. Lyman, PhD
Provost and Executive Vice President



From the Associate Provost and Dean of Graduate Studies

This year's Minds@Work conference is an excellent showcase for the talents and diligence of Shippensburg University's graduate student researchers. I am proud to play a role in supporting the independent endeavors of these individuals, many of whom are working professionals already balancing the demands of work, family, and academics.

The graduate research projects included in this program address complex questions that engage the higher order thinking skills of master's students. The conference serves as a venue for our students to demonstrate the mastery learning they have achieved.

What separates master's degree level work from that of an undergraduate student? While there are certainly more than a few distinguishing features, one in particular is the depth of exploration into a given discipline. By their nature, master's programs include a project that integrates the deeper knowledge and skills that have been obtained since the bachelor's degree. It is critical that the student's process of synthesizing and building new knowledge culminate in the presentation of what has been learned and what questions remain to be answered. Graduate students appreciate being able to present their research at the Minds@Work conference, thus allowing them to practice their discipline-specific communication skills.

It is an interesting fact to note that some of this year's graduate research projects are done in collaboration with undergraduate students. In the spirit that is the Ship community, this synergy is enriching for all who are involved. We must recognize that this kind of collaboration is something that would likely not occur at a larger research institution. For those graduate students who are collaborating with undergraduate students, they are gaining a powerful, real-life experience of working with colleagues of diverse interests and varying degrees of knowledge. This experience will be valuable years after the project concludes.

For all of these reasons, the School of Graduate Studies is pleased to have the work of our master's students showcased in the Minds@Work conference.

Tracy A. Schoolcraft, PhD
Associate Provost and Dean of Graduate Studies



From the Dean, College of Arts and Sciences

Meaningful and close academic engagement between students and faculty can be one of the most impactful experiences in the educational lives of our students. Delivering on this premise is, I believe, one of the distinguishing strengths of the College of Arts and Sciences at Shippensburg University. Perhaps the most impactful of this type of engagement for students is working under the mentorship and guidance of

a faculty member in an undergraduate research project, scholarly activity, or creative activity (URSCA). Through participation in an URSCA endeavor, students and faculty together work to expand the boundaries of human knowledge and experience. These experiences are not trivial and through them students get the opportunity to uniquely contribute to their disciplines while simultaneously experiencing personal and professional growth. Through their URSCA projects, students learn to work collaboratively and gain vital skills in writing, problem solving, and communication. They also develop distinct insights into the power of guided inquiry and design thinking for approaching issues they are likely to encounter as they enter the working world.

The College of Arts and Sciences continues its exploration of the possibilities presented by deep engagement in URSCA. The Dean of Arts and Sciences' Advisory Council for Undergraduate Research, Scholarship and Creative Activities continues its task of posing questions, seeking answers, providing a forum for meaningful dialog, and proposing innovative ways for faculty members to make these activities a part of our students' learning experiences. Maintaining curricular relevance and fostering an understanding and mutual respect for the disciplinary differences has been among their many activities. We look forward to continued engagement in undergraduate research, scholarship, and creative activities, and to continually improving the educational experiences of our students in the College of Arts and Sciences at Shippensburg University.

James H. Mike, PhD
Dean, College of Arts and Sciences



From the Dean, John L. Grove College of Business

The mission of the John L. Grove College of Business is to provide a high quality and high value comprehensive educational experience that prepares students to excel as principled leaders in today's global business community. The faculty in the Grove College of Business are committed to high quality standards of teaching and are very active in their areas of research.

Delivering high quality business programs requires active faculty/student collaborations in all aspects of learning. Minds@Work is a brilliant example of faculty/student collaborations and exemplifies Shippensburg University's commitment to high quality education, development of critical thinking skills, problem-solving, analytical and communication skills. Faculty within the Grove College of Business, as well as members of the Shippensburg University family, continue to collaborate with our students in conducting and applying research skills.

This is a win-win opportunity for both the faculty and student as they work together to gain knowledge; have the opportunity to interact with experts in the field through presentation and panel discussion at academic conferences; have the opportunity to publish in peer-reviewed journal articles. The John L. Grove College of Business is committed to excellence in teaching and high standards of intellectual contribution by providing faculty professional development and support to faculty/student initiatives.

I am very proud of our faculty participation in the 2016 Minds@Work Conference. Fourteen faculty members and thirty-four students have participated in different activities including posters, panel discussions, and presentations. As the Grove College of Business continues to build new programs, student experiential learning will continue to be a major focus of our strategic planning process.

John G. Kooti, PhD
Dean, John L. Grove College of Business

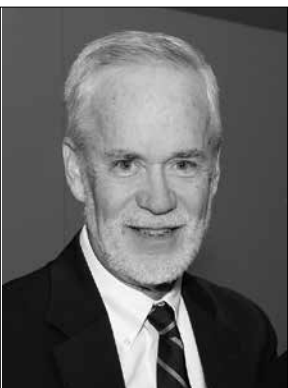


From the Dean, College of Education and Human Services

Every college and university hopes to offer its students a "signature experience." At Shippensburg University, one of those signature experiences is the Minds@Work 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 members 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, life-long learners, and future leaders in our society.

James Johnson, PhD
Dean, College of Education and Human Services



On Behalf of Faculty

Shippensburg University has a well-deserved reputation for its innovative approach to undergraduate research that engages students in high-impact learning experiences. In particular, the student-faculty research initiative has demonstrated the efficacy of academic mentoring within the context of shared intellectual endeavors. Many faculty, across many departments, have repeatedly shared their expertise with their students by partnering on research projects.

Clearly, these are win-win opportunities, in that both faculty and students are energized and enriched by their interactions on joint research agendas. Faculty are to be commended for their willingness to provide the necessary structure, guidance and support to ensure a meaningful research experience for students. And students deserve praise as well for pursuing significant academic assignments which are above and beyond their typical class-based experience.

Such sustained and intense learning experiences have been shown to have long-term impacts by encouraging students to be yet more academically ambitious due to their enhanced intellectual self-confidence. Encouraging students to dream and helping them realize their dreams is part of the Ship magic, and the undergraduate research program contributes significantly to making the magic a reality.

Thank you for helping our students succeed.

Brendan P. Finucane, PhD
*Economics Department
APSCUF-SU President*



From the Institute for Public Service and Sponsored Programs

By time-honored tradition, research and public service are identified alongside teaching as essential components of a vital university. SU's Institute for Public Service and Sponsored Programs (IPSSP) serves as a behind-the-scenes research and service facilitator. We help students and faculty shape their research and project goals, and we then help find the funding needed to turn plans into reality.

We play an active role in making the university's commitment to student research and creative expression a fully realized endeavor. In addition to funding and coordinating the Minds@Work Conference, IPSSP oversees the annual Undergraduate and Graduate Research Grant Programs.

For the 2015-16 Academic Year, with funding from the university and the SU Foundation, IPSSP has awarded sixty undergraduate research grants. Nineteen additional awards have been made to graduate students for their independent research. The results of most of these research endeavors are included in today's conference.

Student research and creative inquiry bring practical benefits because they represent first-hand experience in critical thinking, planning and project management, and communication. When these skills are challenged and focused

through the mentorship of our dedicated faculty, we end up with the annual event known as Minds@Work.

To all of those involved in the endeavors resulting in today's conference, I say, "Thank you." Please enjoy the event and appreciate the hard work of all who made it possible.

Christopher Wonders, *Director*

Pamela Bucher, *Office Associate*



From the Advisory Council for Undergraduate Research, Scholarship, and Creative Activities

"When are we ever going to use this?" I heard, and turned my head to see the girl who asked the question sitting in the next row. I was a student taking a Differential Equations class in 1994, and I was a little surprised to hear this question. After all, the class was mostly physics and math majors. Surely we would use differential equations, right? Someday?

The professor (Dr. Kuzmanovich, one of my favorites) paused for a moment and smiled. "You know," he said, "the other day I was walking by the weight room in the fitness center and I saw all these people lifting heavy weights up off the floor, and I thought, 'What are they doing? Why are they lifting the weights up? Oh, I see! We need to keep these weights off the floor! Keep them up! All across America, in weight rooms everywhere, don't let the weights touch the ground!'" And then he continued teaching differential equations.

We learn because learning makes us better people. Whether it's cell biology, business management, art history, or educational theory, learning connects us to others across continents and throughout history. Learning makes us world citizens.

And research, well, research is a whole other level. I love this conference because I see students from all disciplines taking control of their learning, pushing it beyond the comfort of the classroom, exploring uncharted territory. To research is to force yourself to think clearly and precisely; it is to be tenacious in the face of the unknown; it is to pull together disparate facts to discover deeper truth.

When are we ever going to use...critical thinking? When are we ever going to use...perseverance? When are we ever going to use...organizational skills? To answer the question, "When are we ever going to use this?," we use this all the time. This is research. This is college. This is life.

Marc Renault, PhD

Chair, Advisory Council for Undergraduate Research, Scholarship, and Creative Activities

Advisory Council for Undergraduate Research, Scholarship, and Creative Activities Committee Members 2015-2016

Corrine Bertram
William (Turi) Braun
Sarah Bryant
Pamela Bucher
Neil Connelly
Allen Dieterich-Ward
Alison Feeney
Christy Fic

Thomas Frielle
Ben Galluzzo
Steve Haase
Misty L. Knight
Cynthia Koller
Eveline Lang
Jeonghwa Lee
Rob Lesman

Blandine Mitaut
Kirk Moll
Holly Ott
Gretchen Pierce
Kathryn Potoczak
Marc Renault
Joohee Sanders
Ashley Seibert

Brian Ulrich
Brian Wentz
Christopher Wonders
Cheryl Zaccagnini
Curt Zaleski

Undergraduate Research Grant Recipients 2015-2016

Rosa Alberga	Sarah Flick	Sara Landis	Jacqueline Rabedeau
Kelly Babashan	Emily Friebe	Alyssa Lare	Hector Raya
Megan Baer	Tyler Garrett	Jesse Lawton	Paige Rippon
Amanda Barnes	Briana Giovenco	Katherine Lindsay	Matthew Ritts
Brandon Barrett	Keri Gladhill	Katya Luckenbach	Daniel Rosen
Michael Benham	Jared Good	Emilie Luttman	Rikki Sargent
Tara Bicko	Brooke Hall	Michael Marcinko	Emery Saylor
Mackenzie Brouse	Caylyn Hall	Audrey McGarrell	Jonathan Schulz
Eric Cantor	John Han	Aaron McKnight	Elias Shissler
Paul Christman	Colleen Hanson	Carolyn Meier	Enoch Shissler
Michael Chubb	David Heath	Alyssa Monaghan	Rachel Smith
Caitlin Clark	Julie Hendrickson	Kelly Monaghan	Wesley Smith
Brooke Coder	Jonathan Horensky	Myles Mossbrooks	Jeremy Starr
Robyn Collette	McKenzie Horn	Brooke Moyer	Stefan Szilagyi
Crystal Conzo	Morgan Horowitz	Brandon Mullen	Corrine Urland
Erika Coover	Christopher Jeffery	Devon Newcomer	Lucas Van Horn
Tyler Cover	Jordan Jones	Kyra Newmaster	Joshua Varone
Connor Daly	Erica Jose-Polanco	Aleister Oldhouser	Victoria Walls
Drew Deardorff	Jordyn Kahlbaugh	Jillian Onyskiw	Brandon Weiser
Michael Denchy	Kayla Keller	Jacob Painter	Josh Wolfgang
Courtney Devine	Lauryn King	Patrick Peck	Brittany Wood
Michael Donovan	David Kinna	Emily Peffer	Drew Yauneridge
Aaron Einstein	Ian Kuhn	Tristan Phillips	Michael Zimmerman
Bernard England	Amanda Kuzo	Alyson Poorbaugh	
Joseph Farabaugh	Curtis Lamp	Jessica Querry	

**Not all Undergraduate Research Grant Recipients will be presenting their research at this year's conference due to the timing of the conference and nature of their research.*

Undergraduate Research Grant Advisory Committee Members 2015-2016

G. Brad Armen	Sara Grove	Charlene Lane	Kathryn Potoczak
Pamela Bucher	M. Blake Hargrove	Britt Patterson	Joohee Sanders
Jamonn Campbell	Jeb Kegerreis	Greg Paulson	Christine Senecal
Neil Connelly	Kim Klein	George Pomeroy	Christopher Wonders

Graduate Research Grant Recipients 2015-2016

Jaclyn Braund	Katelyn McCauley
Jason Dallas	Katie Pressley
Rianna Grissom	Julia Mae Robinson
Shanna Hawkins	Karen Schwander
Courtney Kensinger	Ariel Slotter
Michael Kirby	Daniel Weichel
Allysha Kochenour	Jessica Weidner
Sarah Kropf	Stephanie Williams
Hanna Laukaitis	Emily Young
Kun Ma	

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

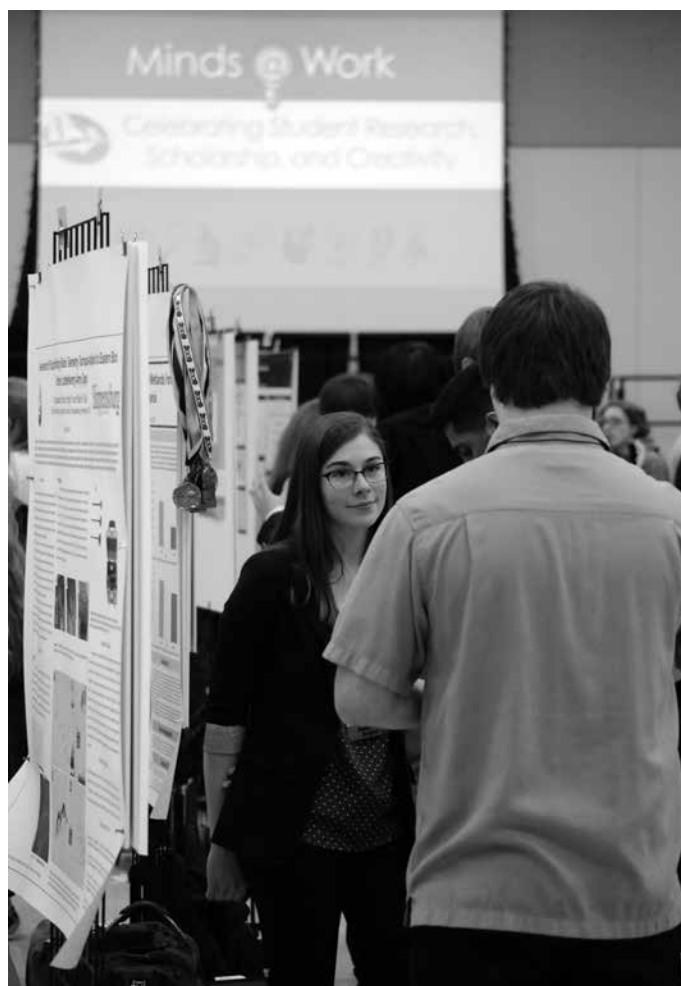
Graduate Research Grant Advisory Committee 2015-2016

Lonce Bailey	Scott Madey
Sherri Bergsten	Robert Setaputra
Cynthia Koller	Christopher Wonders

Ezra Lehman Memorial Library Research Award

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 Minds@Work Conference or by conducting other research with a faculty mentor. The first prize recipient receives a \$1,000 cash prize and the honorable mention recipient is awarded a \$500 prize. Commemorative posters will be made of the winners and the posters will be displayed in the library.

The Library Research Award is made possible by the generous support of Berkley and Carol Laite (SU Classes of 1967 and 1965, respectively). The winners will be announced and awards presented at the Kirkland/Spizuoco Memorial Science Lecture at 7:30 PM on Wednesday, April 20, at the Luhrs Performing Arts Center.



Keystone Journal of Undergraduate Research

Call for Manuscripts

The Keystone Journal of Undergraduate Research is accepting research-based manuscripts for a peer-reviewed journal designed to showcase undergraduate student research.

Manuscripts are accepted on a rolling review process, and must meet specific requirements, including:

- The study must have been undertaken by a current or recent undergraduate student from a PASSHE institution;
- The study must have been conducted under the direction of a faculty mentor;
- The research protocol must have met university compliance requirements as related to use of human or animal subjects, if applicable.

For more information visit:

http://www.ship.edu/keystone_journal/



Email questions to the Managing Editors at KJUR@ship.edu



Sponsored by the Pennsylvania State System of Higher Education



Minds @ Work

DEPARTMENTAL CONFERENCE PANELS



Biology

TIME: 3:30 - 6:00 PM

LOCATION: 119

Biological Research

This session includes oral presentations by undergraduate and graduate student researchers in the Department of Biology. Presentations cover topics that illustrate the breadth of biological research. There will be four presentations that discuss the role of key genes that regulate the cellular recycling process, autophagy, in a brain cancer cell line. A study of the genes controlling brown adipose tissue characteristics will be presented. Students will also describe work on the identification and distribution of a range of species. One presentation focuses on the use of genetic tools to study sculpin distribution and hybridization in south-central PA. The avian biodiversity on campus will be discussed. The session will conclude with information about the prevalence and risk assessment for important species associated with disease, such as *Borrelia* and canine helminthic parasites.

Quantitation of Autophagic Flux through Activation and Inhibition of Autophagy in GFP-p62/DsRed-LC3 Glioma Cells

Kyra Newmaster, Jonathan Schulz, Brianna Brancato, Dorissa Brivchik

Comparison of Alternative Atg5 Isoforms on Regulation of Autophagy in Glioma Cells

John Han, Erica Jose-Polanco, Bernard England

Overexpression and Deletion of Atg4b and Atg4c Autophagy Regulatory Proteins in Human Glioblastoma Cells

Aaron McKnight, Michael Marcinko

Impact of Beclin-1 Overexpression on Autophagy-Mediated Cell Survival and Cell Death in Glioma Cells

Matthew Ritts, Enoch Shissler

The Investigation of Genes Controlling Brown Adipose Tissue Characteristics in C2C12 Mouse Myoblasts

Elias Shissler, Myles Mossbrooks, Erika David

Confirmation of Species Identifications and Potential Identification of Hybridization in Sculpin (Cottidae) Species in South-Central Pennsylvania

Paul Christman

Point Count and Analysis of Avian Biodiversity on a South-Central Pennsylvania University Campus

Emilie Luttman

*Prevalence of *Borrelia* Species in Pennsylvania and Surrounding Areas*

Emily Young*

Risk Assessment of Canine Helminthic Parasites Found in South-Central Pennsylvania Dog Parks

Katie Dabney, Sarah Pound

Faculty Sponsor(s): Dr. Sherri Bergsten

Discussant: Dr. Sherri Bergsten

TIME: 6:00 - 9:00 PM

LOCATION: 119

Ecology and Natural History of the Central Appalachian/Mid-Atlantic Region

This session of biology graduate student presentations examines the ecology, natural history, and conservation of organisms and ecosystems of our central Appalachian/Mid-Atlantic Region. The focal organisms include plants, microorganisms, invertebrates, and vertebrates. Ecosystems studied range from headwater springs and streams to hardwood forest. The talks highlight the range of ecological interests of our graduate students and faculty members, and shed light on the biological diversity of our surrounding natural areas and the challenges these ecosystems are facing at a time of rapid global change.

*Population Dynamics, Migration Patterns, and Reproduction of the Marbled Salamander, *Ambystoma opacum*, at a Site in South-Central Pennsylvania: Implications for Conservation*

Stephanie Williams*

A Comparison of the Effect of Clothianidin on Amphibian Growth and Survival Through Water Runoff or Contaminated Plant Decomposition

Sarah Kropf*

Effects of Stream Acidification on the Relationship between Crayfish and Their Branchiobdellidan Symbionts

Daniel Weichel*

Effect of Native and Exotic Invasive Plants on Vernal Pool Communities and Amphibian Growth and Survival

Karen Schwander*

Plant Species Richness in Flood Areas and the Potential Influence of Mycorrhizal Species Richness and Propagule Pressure

Kiah DeSarro*

*Distribution of Sculpin (*Cottus*) Species in Relation to Water Quality and Land Use History in South-Central Pennsylvania*

Shanna Hawkins*

Woodcock Spring Migration and Habitat Use in South-Central Pennsylvania

Kris Goetz*

Identification and Probable Ecological Toxicity of PAH in Karst Springs

Kun Ma*

*Dietary Analysis of Red-Spotted Newts (*Notophthalmus v. viridescens*) in the South Mountain area of South-Central Pennsylvania*

Kelsey Miller*

*A Two-Year Study on Home Range, Habitat Utilization, and Movement Patterns of Female Eastern Box Turtles, *Terrapene c. carolina*, at a Site in South-Central Pennsylvania: Implications for Conservation*

Sarah Bartle*

*Conservation Biology of the Pennsylvania Endangered *Iris verna**
Jaclyn Braund*

*Ecology of the Northern Black Racer, *Coluber constrictor constrictor*, in South-Central Pennsylvania*

Jason Dallas*

Faculty Sponsor(s): Dr. Tim Maret, Dr. Theo Light

Discussant: Dr. Tim Maret

Chemistry

TIME: 5:00 - 7:30 PM

LOCATION: ORNDORFF THEATER

Undergraduate Research Projects in Chemistry

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

Expansion of Molecular Orbital Theory: Expansion of Dirac's Equation

Brandon Barrett

Calculation of Position Autocorrelation Functions Dampened with Cyclic Invariance for a System Coupled to a Harmonic Bath

Connor Daly

*Optimization of an ELISA for Quantifying Tetrodotoxin Found in Red-Spotted Newt, *Notophthalmus viridescens**

Drew Deardorff

Path Integral Monte Carlo Simulation of Lithium Nanoparticle Aggregation

Michael Denchy

Characterization of a Human G-Protein Coupled Receptor

Emily Friebe

Synthesis of Aza-Diels-Alder Products

Josh Wolfgang

Faculty Sponsor(s): Dr. Robin McCann

Discussant: Dr. Robin McCann

College of Business

TIME: 7:30 - 9:00 PM

LOCATION: 103

Walmart Strategy: Global and Domestic Impacts

In January 2016, Walmart decided to close 269 stores worldwide. Everyone knows that a Walmart opening impacts a small community by displacing small businesses, but effects go beyond this. Walmart often builds on the outskirts of town, stimulating other retail and residential development nearby. In the absence of mass transit, lower income people move within walking distance of this retail center. Thus, the loss of Walmart can be devastating. Towns are not only left with no retailer (small or large), but a newly developed neighborhood that no longer has a reason to exist. This panel represents three group research projects undertaken to study the impact and motivation of Walmart's recent decision. The first group focused on the U.S. communities affected, surveying 154 mayors/town leaders about the impact of Walmart leaving on their communities. The second group examined Walmart's business strategy. The third group looked at the impacts of Walmart's strategy in Brazil.

Walmart: Domestic Closure Impacts

Sabrina Kelly, Gabe Clymer, Thomas Ludden, Robert Cauthon

Walmart International Closures: Brazil Strategies

Colin Storz, Stephanie Madara

Walmart Strategy Domestically

Mark Tressler, Katie Fisher

Faculty Sponsor(s): Dr. Irma Hunt, Dr. Sarah Bryant, Dr. Allison Watts

Discussant: Dr. Irma Hunt

Criminal Justice

TIME: 3:30 - 4:15 PM

LOCATION: 103

Using Crime Prevention to Prevent School Shootings

School shootings have become an all too common event in our society. At times in the last year, news stories of such events appeared almost weekly. While much attention is given to the cause of the event, including why the shooter committed the act and how they could have been detected sooner, other methods of potential prevention are often overlooked. Based on research performed at Shippensburg University, students will discuss potential safety and security improvements that could be used to prevent and/or reduce the harm caused by a possible school shooter. Particular focus will be placed on crime prevention theory and its potential application on campus.

Caleb Bartlett, Samantha Beckerleg, Timothy Usher

Faculty Sponsor(s): Dr. Billy Henson

Discussant: Dr. Billy Henson

Disability Studies

TIME: 5:30 - 7:30 PM

LOCATION: 238

Disability and Gender

The session will throw light on what it means to be a woman with a disability by covering such topics as sexual education for women with disabilities, the continual search for identity for African American women with disabilities, the experiences of women with disabilities in college or the treatment of women with mental illness in prison. The presenters will also cover other related topics such as the portrayal of women with disabilities in the media and as comic book superheroes as well as the gender impact on the social inclusion of people with intellectual and developmental disabilities.

The Portrayal of Women with Disabilities in the Media

Jordan Cortazzo

The Treatment of Persons with Mental Illness in Prison

Najah Ballard

Gender, Disabilities, and Comic Book Superheroes

Sabrina Becker

Sexual Education for Women with Disabilities

Sasha Winters

Women with Learning Disabilities in College

Kimberly Browna

Finding the Northern Star: The Continual Search for Identity for African American Women with Disabilities

Stephanie Coats

Researching Gender Differences in Community Connections of People with IDD

Elizabeth Hornbaker*

Faculty Sponsor(s): Dr. Marita Flagler

Discussant: Dr. Marita Flagler

TIME: 7:30 - 8:30 PM

LOCATION: 238

The Investigation of Accessibility of SU's New Residence Halls and a Survey of Disability Student Services across the Pennsylvania State System of Higher Education's (PASSHE) Campuses

This panel will provide information as a result of an investigation of the new Shippensburg University residence halls and their accessibility as well as information obtained as a result of a state system survey of all fourteen PASSHE university disability student services offices. Kieffer, Seavers, Presidents and Naugle and their laundry rooms, public bathrooms, access to each floor, room accessibility, kitchen area and game room were examined. In the second area presented in this

panel, it was a survey of the 14 Pennsylvania State System Higher Education (PASSHE) universities. The goal of the research was to have the 14 PASSHE universities respond to a survey about students with disabilities on campus and compare and contrast each university's office of disability student services. It was learned that there are a variety of accommodations for students with disabilities.

Are the New Residential Buildings at Shippensburg University Accessible: An Investigation into the New Dorms

Tyler Williams, Kristen Green

PASSHE Disability Student Services: A Survey across the State System Campuses

Megan Klock, Allison Frymoyer

Faculty Sponsor(s): Dr. Cheryl Zaccagnini

Discussant: Dr. Cheryl Zaccagnini

Early Childhood Education

TIME: 3:30 - 5:00 PM

LOCATION: 105

Undergraduate Action Research

This session includes several oral presentations by undergraduate students in the Teacher Education Department. Five of the presentations represent classroom based (action) research on strategies pre-service teacher candidates use to impacted student learning in given areas of academic need. One presentation investigates whether or not tests benefit young children.

Igniting a Proficiency in Writing for Kindergarten Learners: Impact on Student Learning

Amber Fuller

Growing Minds and Plants

Dane Stoyanovitch

Creating Successful Writers Through Guided Instruction

Kaitlyn Erb

Creating Successful Writers Through Small-Group Instruction

Tessa Lindsey

Phonics/Spelling Patterns for 2nd Grade!

Alexandra Celli

Testing Young Children: What's the Point?

Hanna Al-Hamdani, Bria Blue

Faculty Sponsor(s): Dr. Eucabeth Odhiambo

Discussant: Dr. Eucabeth Odhiambo

Educational Leadership/Special Education

TIME: 4:30 - 5:30 PM

LOCATION: 103

HIRE ME (Helping Individuals Reach Employment Milestones Everyday)

This presentation describes a collaboration between Big Spring School District (BSSD) and the Special Education program at Shippensburg University. The purpose of HIRE ME is to prepare students with disabilities (SWD) for the transition to competitive employment by practicing hard and soft work skills. BSSD brings SWD to our campus to work at several practice work sites. University students supervise the SWD while they are working. The presentation will be divided into the following sections: Original Reasons to Collaborate; Groundwork Prior to Beginning the Pilot; Training; Benefits for Constituent Groups (SWD, university students, BSSD, Shippensburg University as a whole; Campus Site Supervisors); What We Have Learned So Far; and Future Plans. Video of Job Coaches working with SWD will be shown as part of this presentation.

Casey Bellamy*, Rachel Stevenson*, Courtney Marchut

Faculty Sponsor(s): Dr. Thomas Gibbon

Discussant: Dr. Thomas Gibbon

English

TIME: 3:30 - 4:30 PM

LOCATION: 104

Showcasing Research from the Seminar in Fiction

This panel features research projects in progress from this semester's Seminar in Fiction, one of the capstone courses of the English major. The seminar focuses on the various manifestations of the "frontier myth" in American fiction, exploring how American writers have used both the historical and mythological frontier to negotiate complex questions regarding race, gender, class, sexuality, disability, and sustainability. The student presenters on this panel will present their unique takes on this theme, applying the frontier myth to works of their own choosing.

The Frontier and the Steampunk Genre

Natasha Stark

The Frontier Myth in American Literature

Aaron Rhoads

Faculty Sponsor(s): Dr. Matthew Cella

Discussant: Dr. Matthew Cella

TIME: 4:45 - 5:45 PM

LOCATION: 104

Poetry: The Sound of Paper

This panel features original work from the writers in Introduction to Poetry Writing (ENG 307). These poets will present a variety of unique voice and style inspired by contemporary poetics.

Tyler Baldwin, Crystal Conzo, Dwayne Ellis, Michael Fick, Tyler Law, Nick Macy, Mark Raymond, Darin Robillard, Eron Towns, Dorothy Ward-Wimmer, Nicholas Wertz, Madeline Zerbe

Faculty Sponsor(s): Dr. Nicole Santalucia

Discussant: Dr. Nicole Santalucia

TIME: 5:45 - 6:45 PM

LOCATION: 104

Poetry Here and Now

This panel features poets from Dr. Santalucia's Advanced Poetry Workshop (ENG 427). These students will present original poetic work and discuss the power of voice and the art of description.

Amanda Cloran, Alexandra Dunn, Natalie Eastwood, Tiana Lopez, Mary Trahey, Kerriane McGuire, Madelyn Moyer-Keehn, John Watts, Marguerite Trahey

Faculty Sponsor(s): Dr. Nicole Santalucia

Discussant: Dr. Nicole Santalucia

TIME: 7:00 - 8:30 PM

LOCATION: 104

Creative Strategies for the Secondary Language Arts Classroom: Research and Practice Insights from Student Teachers

In this session, four secondary English education students will share teaching strategies they investigated in preparing to student teach. The presenters received undergraduate research grant funding to present this work at the National Council of Teachers of English annual convention in November 2015 in Minneapolis, Minnesota. The presentations at the Minds@Work conference will be further informed by their experiences as student teachers in spring 2016. While each presenter will have a different focus, all will be talking about both the research they did on particular approaches in the classroom and how their field experiences have enriched their understanding of these strategies. Because the four presenters are familiar with each other's work, they will also be able to talk together after presenting about how their different strategies connect and may align with their respective experiences in the field.

Getting Students in Kahoot with Assessment

Courtney Devine

Youth Lens in the Classroom

Brittany Wood

Writing Through It: Creative Writing Workshops and Their Feats and Follies

Jordyn Kahlbaugh

Student-Led Socratic Seminars

Caitlin Clark

Faculty Sponsor(s): Dr. Thomas Crochunis

Discussant: Dr. Thomas Crochunis

TIME: 3:30 - 4:30 PM

LOCATION: 226

Nightmares

Literary characters, like real people, are often associated with their hopes and dreams. But we are defined too by that which haunts us. To delve deeper into the human psyche, these fiction writers have conjured creative visions of their own. Nightmares—literal and metaphorical, hellish and humorous—will be explored to help us reflect on what it means to be human.

Taylor Caudill, Chad Smith, Samantha Justice, Darin Robillard, Lequan Chapman, Ryan Stammel

Faculty Sponsor(s): Prof. Neil Connelly

Discussant: Prof. Neil Connelly

Ethnic Studies

TIME: 3:30 - 5:30 PM

LOCATION: 238

Latino Studies: Latin American in the United States.

The presentation are focused on topics about the Latin American experience in the United States.

Maquiladoras: The Exploitation of Latin America

Jerry Bjorklund

Hispanics During the Civil Rights Movement

Chelsea Natera

Faculty Sponsor(s): Dr. Ana Moraña

Discussant: Dr. Ana Moraña

Exercise Science

TIME: 3:30 - 5:30 PM

LOCATION: 239

Mechanical Analysis of Sports Skills

This panel features a selection of noteworthy student projects from the Mechanical Analysis of Sports Skills course (ESC 244). The session highlights the variety of interests of our students and includes the sports of soccer, football, baseball, and softball. Presenters will provide background information, describe the methods used to examine the skill, and then share the results of their field-based research. The ESC 244 course provides students in the Exercise Science Major and Coaching Minor with initial experiences in the research process. The presentations in this session showcase the students' first venture into research projects in the discipline.

A Comparison of the Straight Cross and Bend Cross Soccer Ball Strikes

Colten Arnold

An Analysis of Baseball Pitching Technique

Gabriel Hirsch

A Look at Two Types of Soccer Penalty Kick Techniques

Kiersten Daly, Caitlin Wallace

Differences between Kicking a Football and a Soccer Ball

Shannon Brown, Sarah Carroll

Timing and Positioning During a Football Field Goal Attempt

Helene Miller

Kinematic Variability in Three Types of Softball Windmill Pitches

Tara Bicko

Faculty Sponsor(s): Dr. Ben Meyer

Discussant: Dr. Ben Meyer

History/Philosophy

TIME: 5:15 - 6:15 PM

LOCATION: 105

Symbolism and Communication in Ancient Egypt and Beyond

This panel presents research conducted by three students for an honors "Global Foundations of History" course in the fall of 2015 and deal with communication and the meaning of symbols from Ancient Egypt and beyond: Olivia Turner presents her essay on the limitations of ancient Egyptian hieroglyphics, which demonstrates how the Egyptians unwittingly limited the practical use of their writing. Arlee Simendinger's paper on the degradation of cats shows how felines went from having a high position in Ancient Egypt and Rome to symbolizing many qualities considered evil in the Middle Ages. Finally, our third essay by Rachel Smith evaluates the success of the female Neoplatonic scholar Hypatia of Alexandria, whose ability to communicate with both groups that made her so popular during her lifetime.

The Limitations and Impact of Egyptian Hieroglyphic Writing

Olivia Turner

The Great Cat Massacre

Arlee Simendinger

The Success of Hypatia of Alexandria

Rachel Smith

Faculty Sponsor(s): Dr. Christine Senecal

Discussant: Dr. Christine Senecal

TIME: 6:15 - 7:45 PM

LOCATION: 105

American Environmental History

Environmental history is an interdisciplinary field that studies the historical relationships between humans and the rest of the nature. This session will feature a diverse array of environmental themes, with the four papers linked by their attention to both rigorous archival research and a thorough grounding in the existing scholarly literature.

Organic on the Rise: Sustainable Agriculture and Its Culture

Morgan Brandes

Wasted Opportunities: Nuclear Waste in American History

Blake Dennis

Examining the Environmental Effects of Mining and Logging in the Adirondacks

Michael Myers

Evaluating the Relationship between Environmental Conservation, Historic Reconstruction, and Tourism in Gettysburg, Pennsylvania

Molly Ryan

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

Discussant: Dr. Allen Dieterich-Ward

Human Communication Studies Roundtable

TIME: 3:30 - 4:30 PM

LOCATION: MPR A

Understanding Sense of Humor through Journal Data and Theory

Human Communication Studies students will discuss journal data and their findings regarding sense of humor and the “big three” theories of humor.

Andrew Boyd, Rosemary Cloran, Khaliq Coleman, Dorsey Cottman, Daniel Curry, Ameera Eison, Briana Green, Emilie Hoke, Andre Lewis-Kent, Brianna Lippert, Jared McLuhan, Erin Meade, Tyler Murkley, Jack Nobbs, Robert Pacheco, Brandon Ruff, Steffi Sampson, Gabrielle Sheller, Casey Shover, Kristen Shover, Natalia Carden, Dywan Crankfield-Blanding, Gabriela Cruz, Abigail Farrell, Tanner Fitting, Jacob Frederick, Edward Gillespie, Natalie Grieco, Matthew Haun, Lauren Kell, Casey Norton, Sara Nutaitis, Kenneth Ottaway, Austin Rowley, Jennifer Sanchez, Abigail Shafer, Roxie Turner

Faculty Sponsor(s): Dr. Matthew Ramsey

Discussant: Dr. Matthew Ramsey

Human Communication Studies

TIME: 4:45 - 5:45 PM

LOCATION: 226

The Rhetorical Construction of Social Realities

Public discourse serves to establish and evaluate our social experiences. The ways in which we communicate about contemporary issues help us to make sense of the world around us, to gauge our levels of participation, and to understand the consequences of our experience. In this panel, students present individual research that employs established forms of rhetorical criticism to interrogate the rhetorical construction of standup comedy, the morality of marijuana legalization, the role of fathers' communication, Black Lives Matter, and suicide letters. Though diverse in topics, these presentations are unified by a common focus on how the collective experience of public discourse serves to rhetorically construct our shared social realities.

Suicide Letters: A Genre Creation

Jeremy Aiello

Drugs, the Media, and Morality

Andre Lewis-Kent

Fatherless House: A Fantasy Theme Criticism

Jack Nobbs

Social Constructs and Stand Up Comedy

Kenneth Ottaway

Metaphor Criticism of Black Lives Matter

Brandon Ruff

Live, From New York, It's Burke's Perspective by Incongruity: An Ideological Criticism

Gabrielle Sheller

Faculty Sponsor(s): Dr. Kara Laskowski

Discussant: Dr. Eveline Lang

TIME: 5:45 - 6:45 PM

LOCATION: 226

Social Media, Romance, and Community

The use of social media has permeated all types of relationships, and has implications for the communication between friends, romantic partners, family members, workplaces, and community relationships. From self-disclosure to relational maintenance, identity expression to community solidarity, the use of social and mobile communication has altered the trajectory of messages sent and received. Independent student research projects employ quantitative and qualitative observation to investigate the ways in which social media use changes communication patterns and relational outcomes.

Self-Disclosure on Social Media: The Consequences for Relationships

Rosemary Cloran

College Students and Long Distance Relationships

Dorsey Cottman

The Effects of Social Media on Community Relationships

Abigail Kassab

Self-Disclosing Communication of College Students through Social Networking

Brianna Lippert

The Effects and Influence of Mobile Communication in College Students' Romantic Relationships

Tyler Murkley

A Quantitative Content Analysis of Expressed Identities in Facebook Profile Pictures

Michael Turnick

Faculty Sponsor(s): Dr. Kara Laskowski

Discussant: Dr. Lucian Lu

TIME: 6:00 - 7:15 PM

LOCATION: 240

There's More to It Than Meets the Eye: Uncovering Rhetorical Strategies that Inspire, Evoke Cynicism or Perpetuate Hegemony

The panel examines rhetorical strategies by inspiring speakers who employed sophisticated approaches to make a lasting impact on audiences, the power of memes in the dissemination of a conspiracy theory and the film industry that disguises racism, (hetero)sexism and xenophobia as innocent entertainment. It will show how unconventional rhetorical strategies are crafted and can serve as models to emulate as well as how careful scrutiny of conspiracy theories and critical spectatorship are valuable assets.

Blessed Be the Ties That Bind: A Narrative Analysis of Steven J. Stack's 2015 Inaugural Address for the American Medical Association

Deah Atherton

Stay Hungry, Stay Foolish: A Narrative Analysis of Steve Jobs' 2005 Commencement Address at Stanford University

Jennifer Sanchez

A Fantasy Theme Analysis of Memes that Spread the Sandy Hook Conspiracy Theory

Natalia Carden

The Subtext of Pixel and Its Hegemonic Codes: An Ideological Critique of How the Movie Industry Is Suffused with Racism, (Hetero)Sexism and Xenophobia

Kenneth Ottaway

Faculty Sponsor(s): Dr. Eveline Lang

Discussant: Dr. Eveline Lang

TIME: 4:45 - 5:45 PM

LOCATION: MPR A

(Inter)Cultural Communication Across Contexts

Culture and communication are intrinsically linked, with culture being the means by which communication is understood, and communication serving to (re)create culture. This relationship is present across all contexts and avenues of human interaction, from interpersonal to public interactions. In this panel, students present independent research that has explored the effects of culture and intercultural communication on interracial relationships, the stress experienced by (minority) students, the appropriation of culturally distinct forms of speech, and the perceptions formed in interactions.

Interracial Relationships: Effects on Interpersonal Communication

Briana Green

Cultural Appropriation by Caucasian Students

Ameera Eison

Minority Stress: Communicating and Coping by Minority Students in Predominantly White Institutions

Jennifer Sanchez

White Students' Evaluation of African Americans' Communication

Steffi Sampson

Faculty Sponsor(s): Dr. Kara Laskowski

Discussant: Dr. Kara Laskowski

TIME: 6:00 - 7:00 PM

LOCATION: MPR A

Communication Foundations of Interpersonal Relationships

The factors influencing communication with strangers, family members, friends, and romantic partners determines the trajectory of our relationships. Our communication choices influence who we form relationships with, the nature of those relationships, and the overall likelihood of success or failure of our relationships. As such, an understanding of an array of issues, including communication apprehension, relational satisfaction, and communication patterns, helps scholars and students alike make better choices about their communication behaviors. This panel features students who have researched interpersonal communication in new relationships, long term dating relationships, and family relationships in order to identify strategies for relational communication skill development.

Communication Apprehension in Interpersonal Interactions between Faculty and Students

Andrew Boyd

Nonverbal Communication and Relationship Satisfaction

Lauren Burkhardt

The Change of the Communication Practices between Parents and Students

Erin Glass

The Use of Interpersonal Communication to Create New Relationships in College

Erin Meade

The Suite Life: Residence Hall Space and Communication Patterns of Students

Jared McLuhan

Communication for Children in Families

Casey Shover

Faculty Sponsor(s): Dr. Kara Laskowski

Discussant: Dr. Misty L. Knight

TIME: 7:15 - 8:15 PM

LOCATION: MPR A

Communicating in Professional Contexts

Competent communication can make or break an individual's success in a career, can determine the relative worth and outcome of a corporation, and can alter the determination of success by a group or professional. In this panel session, students present independent research that focuses on goal-based communication across a variety of roles and messages in organizational settings. Perceptions of trust formed by employers', physicians', and organizations' communication are analyzed, with attention paid to the ways in which groups can use face-to-face and electronically mediated communication to engage in decision making, and how communication violations in the workplace are handled by employees.

Do You Trust Me?: The Importance of Trust in Organizational Communication

Deah Atherton

Communication Violations in the Workplace

Daniel Curry

Student Perceptions of Group Communication and Group Decision Making**Nicole Kregeloh****SU Alert System and Its Effectiveness to the Campus Community****Jordan Potthoff****Physician Patient Communication Satisfaction among Senior Citizens****Kristen Shover****Faculty Sponsor(s):** Dr. Kara Laskowski**Discussant:** Dr. Rich Knight**Management and Marketing****TIME: 6:30 - 7:30 PM****LOCATION: 103****The Intern Experience and the Learning of Business**

The panelists in this session are management and marketing majors who are undertaking internships this semester at a variety of regional business organizations. They will discuss how their respective internship experiences have impacted their view of the world of work and business, as well as how these experiences have positioned them for the next step in the development of their careers. Following Kolb's (1984) model of the Experiential Learning Cycle, panelists will describe and reflect on their experiences, draw conclusions about their larger meaning, and ponder the effect of their internship experience on the trajectory of their future business lives. Panelists will compare the scope, intensity, and value of their internship-based experiential learning with learning in the classroom environment.

Miguel Aciri-Rodriguez, Zachary Dolan, Rebekah Elbel, Spencer Felix, Uriel Maldonado, Julie Miller**Faculty Sponsor(s):** Dr. William Oberman, Dr. Ronald Taylor, Dr. Jerry Carbo**Discussant:** Dr. William Oberman**Modern Languages - Spanish****TIME: 6:00 - 8:00 PM****LOCATION: 239****Latin American Fiction**

The students will discuss the cultural possibilities of real and imaginary spaces created in the narrative by authors of the Río de la Plata region (Uruguay and Argentina). All the presentations will be in Spanish although the discussion can be conducted in Spanish or in English.

Enrique Santos Discépolo, el tango y sus influencias en Jorge Luis Borges**Jennifer Keller****La deshumanización de la mujer en la literatura rioplatense****Audrey McGarrell****El feo reflejo. Bienvenido Bob, de Juan Carlos Onetti****Jason Lewis****Faculty Sponsor(s):** Dr. Ana Moraña**Discussant:** Dr. Ana Moraña**Music and Theatre Arts****TIME: 5:30 - 6:00 PM****LOCATION: 125 RAIDER LOUNGE 6****Strings Class Performance Projects**

This presentation is from the Spring 2016 Strings Class. The class is a mix of students from the beginning stages of study to intermediate/advanced. The students will perform all together as a group and in smaller ensembles.

Cripple Creek – (Appalachian Fiddle Tune)

P.D.

Bagpipes and Kilts (Celtic inspired piece)

Soon Hee Newbold

Strings Class Blues

Gillespie, Withum

Learning to Fly

Tom Petty

Hotel California

The Eagles

I'se the B'y (Newfoundland seafaring song)

P.D.

Strings Class PerformanceViolin: **Haeri Lee, Karen Rundquist**Cello: **Matthew Peck, Gabrielle Sheller, Kelly Sullivan**Guitar: **Edward Gillespie, Joshua Kortick, Andrew Withum**Vocals: **Gabrielle Sheller and the Strings Ensemble****Faculty Sponsor(s):** Dr. Mark Hartman**Discussant:** Dr. Mark Hartman**Political Science****TIME: 3:30 - 5:00 PM****LOCATION: 232****The Personal is Politics: Identity, Politics, and Leadership**

The struggle to determine who gets what is the classic definition of politics. Given that politics is dynamic, is action among various actors, one cannot escape the fact that the individual matters; thus, the personal is political. The papers in this panel explore the various facets of this truth. When the U.S. Army attempts to define successful leaders, can they ever get around gender? Can we predict political orientation through personality tests? Do women make a difference in the global effort to broaden human rights? What about family business—how does a heritage and commitment influence approaches to political challenges?

Evaluating the Meaningful Inclusion and the Role of Women in the Responsibility to Protect**Hannah Lougheed****Personality Tests as a Predictor of Political Orientation****Olivia Straka****Leadership Definition in the U.S. Army: The Gendered Wall****Elizabeth Scheivert****"Got Milk?" An Inside Look at Family Dairy Farms in Pennsylvania****Caitlin Glazier****Faculty Sponsor(s):** Dr. Cynthia Botteron**Discussant:** Dr. Cynthia Botteron

TIME: 5:15 - 6:45 PM

LOCATION: 232

Elections and Partisanship: Is U.S. Democracy at the Tipping Point?

The statement that the United States is a country of divisions, more than ever before, rings out over this election cycle perhaps more than any other in recent history. The papers on this panel are going to explore these divisions in great detail, challenging us to think about how education correlates with the ability to successfully run for public office, how the media uses stereotypes when reporting on candidates, a challenge as to whether rhetoric about immigrants in this election cycle is undermining our democratic foundations and the worrisome matter of citizens refusing to break out of their partisan bubble to engage with those they disagree with.

Media and Candidates of Color: Appeals to Stereotypes

Kelvin Howard

Education's Impact on Successful Bids for Political Office

Kiem LeGrant

Living in the Bubble: Partisan Selective Exposure in America

Matt Osenbach

Dahl's America on the Collapse: Immigration Rhetoric in the 2016 Election

James Landron

Immigrants and Presidential Elections: What Wins?

Katie Swiontek

Faculty Sponsor(s): Dr. Cynthia Botteron

Discussant: Dr. Cynthia Botteron

TIME: 7:00 - 8:45 PM

LOCATION: 232

Policy Change and Evaluation: Guillotines to Bullies to Parks

Public policy, in spite of the recent years of inaction and intransigence on the part of the national political class, does change. It changes in response to public awareness that leads to constituency mobilization, cultural value shifts, media portrayal of an issue, interest group pressure, and just that one happenstance that allows all the pressures to come together. The papers in this session explore the multifaceted and complex dynamic of policy change from the looking at clothing policy in the gym at a public university to botched executions' impact on punishment policy to bullying in public and private schools.

From the Guillotine to the Chair: How Public Awareness of Botched Executions Changes Punishment Policy

Amanda Oster

Shirts to Skins: The Unexpected Resistance to Policy Change at the Level of Gym Clothing Rules

Michael Hallowell

Money Doesn't Grow on Trees: National Parks and the War with Concessionaires

Julia Frey

Recidivism: Policy Failure and America's Shame

Jessica Pimentel

Faculty Sponsor(s): Dr. Cynthia Botteron

Discussant: Dr. Cynthia Botteron

Write the Ship

TIME: 7:45 - 9:00 PM

LOCATION: ORNDORFF THEATER

Write the Ship Award Winners

The presenters have won the Write the Ship Editor's Choice Awards.

The Trans-Pacific Partnership: The (Corporate) American Dream

Lucas Smith

Facial Recognition Technology: When Privacy Is No Longer a Possibility

Leah Fleming

The World's Response to European Intervention and Rule

Joshua Torzillo

It's Like Space Invaders, But Gay

John Watts

Live, From New York, it's Burke's Perspective By Incongruity: An Ideological Criticism

Gabrielle Sheller

Social Collaboration in FFXIV

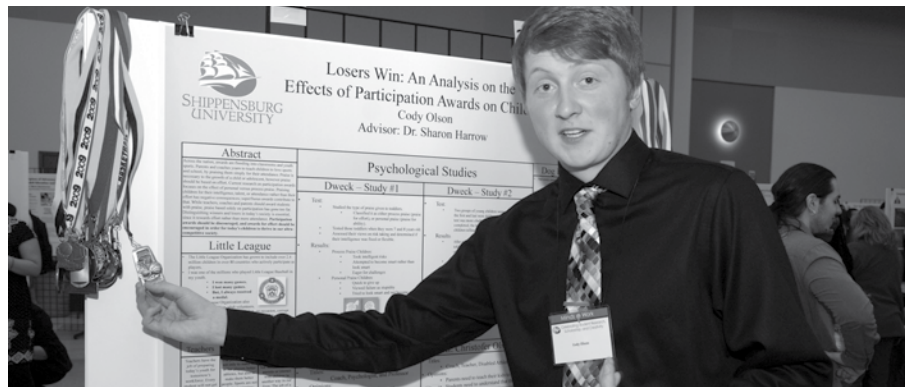
Mandelyn Moyer-Keehn

Faculty Sponsor(s): Dr. Laurie Cella

Discussant: Dr. Laurie Cella

Minds @ Work

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!

Arts and Humanities

TIME: 3:00 - 4:00 PM

**LOCATION: HONORS SEMINAR ROOM,
PRESIDENTS HALL**

Case Study of Spring Awakening

With the ever-increasing popularity of musical theatre in the United States and around the world, it would be foolish to think brand new ideas and concepts are being consistently created after all these years. When writers are stuck, they look to past works to get inspiration for something new and exciting. Many turn to old pieces of literature, such as a novel, play or opera, to gain motivation to create an entirely new piece of art, be it a play, musical, movie, or TV show. This process is called adaptation. The musical *Spring Awakening* is no exception to the slew of new adaptations that are being created today. But to truly be revolutionary in the realm of theatre, a musical adaptation must stay true to all six Aristotelian elements of theatre, which *Spring Awakening* does beautifully. Because of this, Steven Sater's adaptation of Wedekind's late-nineteenth century play of the same name can withstand the test of time.

Nicholas Ecker

Faculty Sponsor(s): Dr. Michael Pressler

Discussant: Dr. Sharon Harrow

Komorebi: Creating an Undergraduate Online Literary Magazine

"Komorebi" is a Japanese word used to describe the way that sunlight looks coming in through the trees. This natural, tranquil, and universal image spans across different countries and cultures. It mirrors the universality of writing and art's ability to express human emotion. While the physical or cultural landscape may differ, the underlying human experience remains the same. When creating my Honors capstone project, this image stood out as the ideal way to represent a literary magazine that would accept work from undergraduate students internationally, which remains uncommon among student-run publications. Preparing for this project involved interviewing editors of literary magazines such as Ron Mitchell from *Southern Indiana Review*, analyzing online literary magazines, and attending the Association of Writers and Writing Programs Conference. The first issue of *Komorebi* was published in December 2015.

Madelyn Moyer-Keehn

Faculty Sponsor(s): Prof. Neil Connelly

Discussant: Dr. Sharon Harrow

Transmogrified: From the Desktop to Finished Artistic Product

My Honors capstone project is a chapbook, containing the best of my creative prose and poetry. The chapbook will be available in a physical copy and digital format for all to read. Some of my work slated to appear

in the text includes short stories like "East and West" and poems such as "World's Most Powerful People" and a series of experiments with tankas (a Japanese form of poetry). Beyond the original written content of the text, I am designing the chapbook from the ground up, including layout and cover design. What makes this project different from other chapbooks is that included in my project there will be an essay about the creative progress behind the book, discussing my creative decisions, why I made them, and other options that I explored. The finished product will be available at the Honors Symposium and the Reflector/Write the Ship Launch Party at the end of the semester.

John Watts

Faculty Sponsor(s): Dr. Nicole Santalucia

Discussant: Dr. Sharon Harrow

Computer Science

TIME: 6:00 - 7:00 PM

**LOCATION: HONORS SEMINAR ROOM,
PRESIDENTS HALL**

Design, Development, and Implementation of Water Quality Sensors for Real-Time Data Collection and Observation of Global Climate Change

As the effects of global climate change and rising sea levels become an increasing concern, developing methods to collect data efficiently is of the utmost importance. Environmental sensors can be utilized to measure various characteristics of water and air quality along the coast. Currently, several sensors are located near NASA's Wallops Island Flight Facility; however, the sensors cost thousands of dollars and lack a network to communicate. My project focused on developing new sensors that have the ability to measure more characteristics with increased accuracy while creating a network mesh of nodes that communicate, in real-time, to a centralized computer system. All this can be done at five percent of the current cost. With the help of 3D printing, rapid prototype development, and in-house printed circuit board fabrication, the new environmental data sensors have the potential to make the Wallops Island area the most monitored coastline in the world.

Tyler Garrett

Faculty Sponsor(s): Dr. Thomas Briggs

Discussant: Dr. Kim Klein

Automatic Music Genre Classification through Machine Learning

Computers are incredibly powerful machines, but are they capable of classifying music into genres? Music is already subjective, and people often cannot agree in which genre a particular selection should belong. There is a small but active community in the computing world that explores this particular topic. In this research, inspired by the research of Brecheisen, Kriegel, Kunath, and Pryakhin in their paper, "Hierarchical Genre Classification for Large Music Collections," I explore how computers can be taught to learn to identify features of predefined genres. Using those features, I explore how a machine decides in which genre the music selection should belong and compare the results with the predefined classification, which naturally was constructed by people. This research also seeks to determine if this genre classification process is more effective with genres structured evenly or hierarchically.

Curtis Rabe

Faculty Sponsor(s): Dr. Alice Armstrong

Discussant: Dr. Kim Klein

Developing and Designing an Actograph for Mosquito Activity Monitoring

My team-based project involved creating an actograph that can model mosquito (*Aedes aegypti*) movements. The mosquitoes resided in a square plastic tube within an apparatus fitted with sensors that created a break beam. These sensors sent voltage of the receivers to a controller that transmitted the data into ranges of activity to be sent over USB to a computer, which will use a program to control parameters of tests, including sensitivity of the sensors and how long they track. My part of the project focused on developing the hardware needed for the project, including sensors and electronics. Specifically, I presented a bill of materials, researched parts, designed the circuit board, created and prepped the circuit board, populated the circuit board, tested circuits, and aided in designing and building the apparatus.

Otto Wallenmeyer

Faculty Sponsor(s): Dr. Carol Wellington

Discussant: Dr. Kim Klein

Education

TIME: 7:00 - 8:15 PM

**LOCATION: HONORS SEMINAR ROOM,
PRESIDENTS HALL**

Implementing Game-Based Learning in the Middle School Level Classroom to Increase Student Engagement

As student engagement increases in the middle school-level classroom, motivation improves, interest is sparked, passion for the content being learned thrives, and student learning develops. That is why it is important to implement strategies in the classroom setting that allow students to activate their background knowledge and make a connection to their interests. Games provide the opportunity to connect with students on another level. This project sought to determine whether game-based learning in the middle school-level classroom could benefit student learning by increasing engagement levels. Research was conducted on the benefits of game-based learning and connected to educational philosophers' theories and ideas. The implications of game-based learning for twenty-first century educators will be addressed. Qualitative and quantitative data will be collected to compare research data with my own observations in the middle-level classroom.

Megan Baer

Faculty Sponsor(s): Michelle Switala

Discussant: Dr. Christine Senecal

Student-Led Socratic Seminars: Crafting Conversation in the Classroom

This research project is two-fold. It focuses on the teacher's role in the secondary English classroom as a facilitator and the student's role in the classroom as a learner. My goal for the project was to better understand my students' perceptions of their own roles in the classroom, and how, as an educator, I could help to improve my students' perceptions of their roles. The project analyzes data from typical teacher-led, direct instruction lessons, in comparison to data from lessons where students

are using the Socratic method to guide their own learning via discussion with their peers. The project highlights students' abilities to achieve higher-order thinking skills within their own conversations and without intervention from the teacher.

Caitlin Clark

Faculty Sponsor(s): Dr. Erica Galioto, Dr. Shannon Mortimore-Smith

Discussant: Dr. Christine Senecal

Teaching English as a Second Language: A Study of Best Practice and Culturally Appropriate Education in the Dominican Republic

Reach Out, an Honors Education Initiative, has a long-standing partnership with a school in the Dominican Republic. I conducted a data analysis and interviews with the professionals at the school in January 2015 to assess their educational needs. Based on their feedback and my own observations, I wrote an English language education manual, which focused on including total physical response activities to integrate kinesthetic and linguistic disciplines, read-alouds to expose students to the sound of the English language, and word walls to create a print-rich environment. After writing my teaching manual, I facilitated a professional development session with the teachers at the school and trained fellow Reach Out members to teach the content during two days at the school. This research has increased my knowledge and understanding of cultural diversity and language education.

Sara Landis

Faculty Sponsor(s): Dr. Cheryl Slattery

Discussant: Dr. Christine Senecal

Scientific Inquiry through the Five Senses: A Reach Out Manual for Educating Students in the Dominican Republic

Through the Honors service-learning project, "Reach Out," Shippensburg students travel to the Dominican Republic each year to work with teachers and students at a school that serves low-income children. After discussions with teachers at the school, I identified science education as an area of need and interest in their classrooms. My goal was to create activities that would allow students to engage in relevant, genuine, hands-on science to explore the world around them. After conducting research on best practices in the field, I created a manual that guided a professional development workshop for teachers in the Dominican Republic. I also worked with Shippensburg students to prepare them to teach some of the lessons from the manual to Dominican students.

Victoria Walls

Faculty Sponsor(s): Dr. Joseph Shane

Discussant: Dr. Christine Senecal

History and Military Science

TIME: 2:00 - 2:45 PM

LOCATION: HONORS SEMINAR ROOM,
PRESIDENTS HALL

Developing Leadership and Excellence in a Near Peer Environment

During the spring 2016 semester, I was the Commanding Cadet in Shippensburg University's Raider Battalion. My research presentation discusses the challenges of operating an organization as a peer with duties and responsibilities aligned with an Operational Army unit. This research will discuss how norms and values can connect an organization when there isn't the structure of rank and authority. I will evaluate how the stated values and goals of Cadet Command align with the organizational structure of the ROTC program at Shippensburg University and its leadership development program. The near-peer challenge and the real authority of "Cadre" create organizational dynamics that can be utilized to develop more effective leaders.

Collin Brackin

Faculty Sponsor(s): LTC Matthew Sober

Discussant: Dr. Joseph Borrell

The U.S. Army and the Development of Camouflage Uniforms in World War II

The rapid mobilization of the U.S. military at the onset of the Second World War signified a new era of American military strength. This period was characterized by new methods, systems and strategy, made possible by technology, which dominated the U.S. Army's warfighting functions well into the twenty-first century. Among these technological revolutions was the idea of individual protective concealment. The development of a camouflage uniform became an integral part of the Quartermaster Corps' war effort. The dichotomy of nineteenth-century military thought and modern military tactics presented an interesting backdrop for the study and highlighted the conflict during the stages of development, testing, production and distribution.

Devon Newcomer

Faculty Sponsor(s): Dr. Steven Burg

Discussant: Dr. Joseph Borrell

Mathematics and Exercise Science

TIME: 3:30 - 4:45 PM

LOCATION: CUB ORNDORFF THEATER

Mathematically Modeling Disparities in Special Education School Funding

Government funding for schools is often based on the number of students they serve. Schools receive a certain amount of funding for regular students and a different, significantly higher sum for special needs students. Special education-classified students often do not require the same amount of help, and therefore the generalization that all special-needs students require the same amount of funding is misguided. Some necessitate more, and others less. Charter schools have utilized this government rule and have often "cherry-picked" special need students (or, identified the least disadvantaged) to enroll in their schools in order to receive additional government funding. This puts a disproportionate burden on other schools who serve the remaining students with special needs. This project modelled disparate government funding of special education students in Pennsylvania school systems.

Brielle Arch

Faculty Sponsor(s): Dr. Benjamin Galluzzo

Discussant: Dr. Kim Klein

Modeling Energy Exchange of the Whooping Crane and the Resources Available in Aransas National Wildlife Refuge (ANWR)

In 1967, the whooping crane (*Grus americana*) population dipped to sixteen wild birds, and it was placed on the United States Endangered Species list. Since then, dozens of articles have been published about whooping cranes in an attempt to educate the public on their needs, and the whooping crane population grew to 383 in 2009. In my research, I focused on the Aransas-Wood Buffalo flock because it is the last migrating self-sustaining flock. I developed an energy model to describe the whooping crane and its food source in order to predict the movement of the crane and analyze various foraging strategies and their impact on optimal foraging time.

Lara John

Faculty Sponsor(s): Dr. Edward Swim, Dr. John Alford, Sam Houston State University

Discussant: Dr. Kim Klein

Gauss and the Arithmetic-Geometric Mean: A Hidden Relationship to Pi

Many mathematics disciplines are connected in ways that go unnoticed. Experimentation in patterns of mathematics have led to the discovery of previously unveiled connections. A review of the Carl Friedrich Gauss' research in function theory illuminates connections among the arc length of the lemniscate function, algorithms for the geometric and arithmetic means, and their relationship to pi. My capstone project focused on researching the history of this discovery and its mathematical proofs. Then, I solidified and depicted these relationships using a computer algebra system.

Haley Jones

Faculty Sponsor(s): Dr. Douglas Ensley

Discussant: Dr. Kim Klein

Effects of Glucose and Bicarbonate as Recovery Methods for In-Season Competitive Swim Training

Athletes in the sport of swimming train at volumes that can lead to overtraining. Ergogenic aids, such as carbohydrate (CHO) and sodium bicarbonate (BC), supplementation have been proposed as methods to promote recovery in intense daily swim training. The purpose of the study was to determine the effectiveness of CHO and BC as recovery methods for swim training. Eighteen collegiate swimmers (twelve males and six females) participated in a two-week study. Subjects were divided into three groups, receiving high CHO beverage and placebo (PL) capsules, receiving PL beverage and PL capsules, and receiving high CHO beverage and BC capsules. Subjects completed a 100-yard maximal swim, two-repeat Wingate bout, hand grip dynamometer, and PANAS evaluation pretest and posttest of the two-week recovery intervention. It was determined the dosages of CHO and BC administered were not effective as recovery methods for swim training.

Stefan Szilagyi

Faculty Sponsor(s): Dr. William (Turi) Braun

Discussant: Dr. Kim Klein

Natural Sciences

TIME: 1:00 - 2:00 PM

**LOCATION: HONORS SEMINAR ROOM,
PRESIDENTS HALL**

The Migration of Disease: Movement of Rickettsia Species into Pennsylvania Tick Populations

A recent epidemiological study from the U.S. Centers for Disease Control concluded that the incidence of spotted fever diseases has increased throughout the United States. Rising global temperatures may be influencing the migration of certain tick populations that carry spotted fever diseases from warmer climates into South Central Pennsylvania. Our research examined several species of *Rickettsia*, a genus of gram-negative, non-motile bacteria, which cause spotted fever diseases. Our research suggests that if *R. rickettsia*, *R. montanis* and *R. parkeri* are found in the South Central Pennsylvania tick populations, then Rickettsial pathogens may be moving into the area from warmer climates. The difference in severity between these pathogens is an important consideration when determining the potential public health implications of having both pathogens present in the vector population.

Alyssa Monaghan, Kelly Monaghan

Faculty Sponsor(s): Dr. Marcie Lehman

Discussant: Dr. Tim Maret

Quantitation of Autophagic Flux through Activation and Inhibition of Autophagy in Glioma Cells That Express GFP-p62 and DsRed-LC3

Autophagy is a multistep cellular process that degrades and recycles damaged organelles and proteins. This process is crucial to maintaining cellular health and promoting whole organism longevity. While certain mechanisms concerning autophagy have been well studied, science has yet to determine how autophagy talks to other cellular processes meant to maintain homeostasis. One such pathway is the exosomal pathway in which the cell envelops and discards unwanted cytosolic contents outside of the cellular boundary. This project focused on using SNB19 glioma cells that express two fluorescent marks for autophagy,

GFP-p62 and Ds-Red LC3 to monitor autophagic response to different stimulatory and inhibitory drugs with the goal of reliably isolating and quantifying the autophagic process. Image analysis via Image J indicates that autophagy reaches a critical point after 2 hours of stimulation. After the two-hour mark, morphological changes in glioma cells indicate exosomal formation.

Kyra Newmaster

Faculty Sponsor(s): Dr. Sherri Bergsten

Discussant: Dr. Tim Maret

Investigating Brown Adipose Tissue or BAT

Brown Adipose Tissue (BAT) is a metabolically active tissue characterized by increased numbers of mitochondria, energy consumption, and heat production. The ability to activate BAT in adult humans could have significant consequences for diabetes, obesity, and heart disease treatment. Expression of BAT associated genes such as PRDM-16 and UCP-1 were quantified through qPCR after the extraction of RNA from mouse myoblasts. Mouse Myoblasts were treated with several drugs in the hopes of exhibiting BAT like characteristics. Furthermore mitochondrial biogenesis was monitored through mitochondrial gene quantifications and fluorescence.

Elias Shissler

Faculty Sponsor(s): Dr. William Patrie

Discussant: Dr. Tim Maret

Psychology

TIME: 5:00 - 6:00 PM

**LOCATION: HONORS SEMINAR ROOM,
PRESIDENTS HALL**

Quality Partner Support and PTSD Symptoms in Veterans

This study investigated the types of support partners can provide Veterans, using the categories discussed by Gary Chapman in *The Five Love Languages*, and how these types of support are related to specific PTSD symptom categories: re-experiencing, avoidance, and arousal. The authors predicted that specific PTSD symptom sub-categories reported by a sample of Veterans would be related to varying types of partner support. Through secondary data analysis, an adjusted Independent Supportive Spouse Scale (ISSS) and PTSD Checklist (PCL), which were analyzed according to the specific sub-categories, were used to find several significant relationships. PTSD symptoms were positively related to average ISSS, communicative support, and acts of service. Re-experiencing was positively related to average ISSS and communicative support. Avoidance was positively related to average ISSS. Arousal was positively related to average ISSS, communicative support, words of affirmation, and acts of service.

Heather Hockenberry

Faculty Sponsor(s): Dr. Matthew Dykas, SUNY Oswego

Discussant: Dr. Lynn Baynum

Time Allocation, Injury Likelihood, and Sexual Behavior Differences between Collegiate Female Volleyball Athletes and Non-Athletes

This study examined the differences in time allocations and sexual behaviors among collegiate female volleyball athletes and non-athletes. Athletes spent more time sleeping, less time relaxing, believed they had a higher likelihood of injury, and had fewer sexual partners during their lifetime and during the past twelve months.

Rikki Sargent

Faculty Sponsor(s): Dr. James Griffith

Discussant: Dr. Lynn Baynum

Coping Styles of First-Year College Students

Adolescents often experience a difficult transition from high school to post-secondary education. The major changes associated with the transition can lead to the onset of depression. My research examined two important factors that influence how adolescents react to the transition: coping strategies and locus of control. Understanding how these factors correlate to depressive symptomology among first-year college students can help formulate strategies that can help students make a successful transition to college.

Hannah Strauch

Faculty Sponsor(s): Dr. Suzanne Morin

Discussant: Dr. Lynn Baynum

Social Sciences and Business

TIME: 4:00 - 5:00 PM

**LOCATION: HONORS SEMINAR ROOM,
PRESIDENTS HALL**

The Environmental and Economic Impacts of Commercial Shellfish Aquaculture in Delaware's Inland Bays

This research project analyzed the potential magnitude of the environmental and economic benefits of establishing a commercial shellfish aquaculture industry in Delaware's Inland Bays. To quantify these impacts, a connection was made between Rhode Island's already established and growing aquaculture industry and the potential that lies in Delaware's Inland Bays. Graphical analysis was utilized to reveal the growth in employment and industry value, as well as chart the growth in the number of leases and acreage size. Environmental data on the reduction of harmful nutrient pollution and value of ecosystem services adds to the value of the industry. The data presented analyzes and proposes an innovative turning point in Delaware's state economy, legal framework, and environmental health.

Sarah Latch

Faculty Sponsor(s): Dr. Janet Koscianski

Discussant: Dr. Alison Dagnes

Do Quotas Promote Gender Equality? A Case Study of Five Nations

Gender quotas have been a common intervention used internationally to address women's underrepresentation in governance. Quotas can produce increases in women's representation, but it is less certain that they can help to create gender-balanced institutions and enhance the political status of women as a whole. This research will examine the different roads to legislative gender parity in the United States, the United Kingdom, the Netherlands, Uruguay, and Rwanda. Through pre-policy versus post-policy analysis and a case study approach, conclusions will be drawn about the necessity and effectiveness of quota systems in terms of enhancing the political status of women, including exposure to and experience within the legislature.

Caitlin Lawlor

Faculty Sponsor(s): Dr. Sara Grove

Discussant: Dr. Alison Dagnes

Blind Users and the Accessibility of Banking and Finance Websites and Apps

There is little research on the accessibility of banking and finance websites and apps for blind users. In our study, we analyzed data from a survey of users of these applications. We began by compiling a list of popular banking and finance websites and apps and included them, along with other pertinent topics such as CAPTCHAs, mobile depositing, and money identifiers, in a survey. The survey was distributed to individuals with no residual vision. We have gathered firsthand accounts of users' online experiences, and we will share a more personal picture of the condition of accessibility to these areas for blind users.

Kailee Tressler

Faculty Sponsor(s): Dr. Brian Wentz, Dr. June Pham

Discussant: Dr. Alison Dagnes

INDEPENDENT STUDENT PAPERS



Computer Science/Engineering and Mathematics

TIME: 3:30 - 4:45 PM

LOCATION: 240

Web-Based Data Analysis for the SRBC Water Quality

We present the results of analyzing web-based access to data and rapid information retrieval to share on the web. To ensure the quality of the web-based information retrieval, the reliability, authenticity and integrity of the data should be considered in the design. In addition to that, the prompt service to locate fragments of data from the web-based database and to retrieve information is essential. This research focuses on providing a service of analyzing the water quality of Susquehanna River Basin Commission (SRBC). The website (URL: <http://srbc.cs.ship.edu/SRBC.aspx>) allows a user to access 47 water stations of SRBC along with graphical analysis of the qualitative aspects like pH, temperature, turbidity, dissolved oxygen and specific conductance of water for any specific time frame till 2011 with a time interval from minutes to years.

Joss Steward, Prathyusha Akshintala*, Eswara Sravani Munnangi

Faculty Sponsor(s): Dr. Jeonghwa Lee

Department: Computer Science and Engineering



Big Data Analysis: Step 1 Normality Tests

It is critical to analyze big data accurately for better predictions of future events. Understanding the characteristics of the raw data is the first step in data analysis. This paper proposes to analyze the normality of weather data gathered from 2011 to 2016 by the National Oceanic and Atmospheric Administration's weather station in Harrisburg International Airport. Among many available statistical methods for this analysis, the Anderson-Darling test will be implemented because it enables us to test if our data is drawn from a normal distribution. The test will be performed on several groupings of the data to test its normality. The groupings are as follows: yearly, semiannually, quarterly and monthly. Our results show our data is not normal when grouped yearly, semiannually, quarterly and monthly. However, the month of August seems normally distributed from 2013 to 2015. Based on these results, the proper mathematical formula will be chosen to simulate the mathematical modeling.

Sameer Kotra*, Andrew Gendreau*, Curtis Lamp

Faculty Sponsor(s): Dr. Jeonghwa Lee

Department: Computer Science and Engineering



Primefree Shifted Lucas Sequences of the Second Kind

We say a sequence is primefree if none of its terms are primes. To rule out trivial situations we require that no single prime divides all terms of the sequence. Recently Lenny Jones showed that there existed infinitely many integers k such that both the shifted sequences plus or minus k were primefree for Lucas sequences of the first kind. In this talk we expand upon this by showing that there are infinitely many values of k such that any Lucas sequence of the second kind plus or minus k is primefree.

Tristan Phillips

Faculty Sponsor(s): Dr. Lenny Jones

Department: Mathematics

Counseling and Social Work

TIME: 5:45 - 6:15 PM

LOCATION: 103

Connecting Counselor Education with Community Needs: The Value of Growing Edges Community Counseling Clinic

Growing Edges Community Counseling Clinic offers no-fee counseling services to members of the local community. This training clinic is a function of Shippensburg University's Department of Counseling and College Student Personnel. Utilized as a valued community resource and counselor training tool the Clinic offers experience and supervision to Counseling Students while offering services to individuals who would otherwise go without. With the goals of 1) highlighting the effectiveness of the clinic and 2) shaping the direction of the clinic, the presenters analyzed past collected data and increased the scope of outcome measure protocols. Measuring effectiveness and areas of growth these outcome measures support the value of the clinic in both the education setting and in the community. Presenters will briefly highlight current community partnerships and advocacy programs supported by the clinic.

Kane Britton*, Grant Heydenreich*, Caitlin Oliver*

Faculty Sponsor(s): Dr. Marcy Douglass, Dr. Kurt Kraus

Department: Counseling and College Student Personnel



The Invisible Village: An Exploration of Educational Resiliency among Student Mothers

Female-headed households experience an average poverty rate of 36.1%. For women with children who lack secondary education, the risk is greater. This study focuses on both protective and risk factors that contribute to mothers' educational resiliency providing policy implications to help student mothers be more successful in their educational pursuits.

Courtney Kensinger*

Faculty Sponsor(s): Dr. Dorlisa Minnick

Department: Social Work/Gerontology

English, Exercise Science, and Finance/Supply Chain Management

TIME: 7:00 - 8:15 PM

LOCATION: 226

Nonlinear, Branching, and Beyond: The Future of Narrative Structure

In traditional text, narrative structure follows the classic pattern of exposition, rising action, climax, and resolution. However, with the rise of video games, narrative structure has opened up in such a way that there is a branching effect that occurs as a result of player choice, creating stories with not simply one unified series of actions and events, but a multiplicity of events that are dependent upon certain variables under player control, but with all contingencies scripted by the developers. My research examines the possibilities of future narratives, and whether it is possible to create an entirely organic narrative that adapts to the choices of the reader/player, and how such adaptability will affect how we interpret those texts. The key question is: what is the next natural evolution of narrative structure and how we as readers can engage with these emerging texts?

John Watts

Faculty Sponsor(s): Prof. Neil Connelly, Dr. Shannon Mortimore-Smith

Department: English

Teaching Computer Science K through 12

Knowledge of computers is becoming more and more beneficial in this technologically advance society. Despite this fact, many schools including middle and high schools teach little or no computer classes. In the schools that offer computer science classes, many students do not take the classes because they have no knowledge what it is. In my presentation I will show people why we need computer science classes to be taught in all schools. Children should have exposure to programming classes starting in elementary school up through college. I want to raise the awareness of the lack of computer classes offered in K - 12. In elementary schools we can teach programming by using a simple programming website, Scratch. In high schools, we can increase the number of computer classes offered as electives then children with early exposure can take these classes. I believe it is time to make this change so the next generation will understand how the computers we use every day function.

Derek Belsky

Faculty Sponsor(s): Dr. Sharon Harrow

Department: English

Effects of Texting and Walking on Gait Pattern and Attention to Detail in College-Aged Students

The purpose was to examine the effects of texting and walking on gait parameters and attention to detail. Twenty-four students volunteered to walk through a course that mimicked the crosswalks and sidewalks on campus during three different conditions: control, single-sourced texting, and multi-sourced texting. Signs along the parameter of the course were changed following each condition to gauge attention to detail. Results found there was a significant difference among all gait speed variables ($p < .05$), stance time ($p = .05$), and step length ($p < .01$). Error rates for text message responses nearly double in the

multi-sourced texting trials (17.6% error) when compared to the single-sourced texting trials (8.5% error). Only 2 of the 24 subjects (8.3%) noticed changes to course. These findings suggest texting and walking negatively affects gait parameters and attention to detail. More specifically, gait speed, stance time, and step length were significantly influenced by this dual-task.

Jessica Harding, Joseph Farabaugh, Cassandra Langone, Paige Rippon, Amanda Ruth

Faculty Sponsor(s): Dr. Sally Paulson

Department: Exercise Science

Shippensburg Investment Management Program

The Investment Management Program, "IMP," here at Shippensburg University is one of the only few undergraduate programs in the United States, which provides a unique hands on educational experience in investments. Students in the program make all of the decisions involving management of the investment portfolio, known as the Wiseman Fund, which has been generously donated by the SU Foundation

Anthony Militano, Shawn Snyder, Brian Hoertz, Joseph Devlin, Jorge Santiago, Megan Shaw, Cory McKee

Faculty Sponsor(s): Dr. Hong Rim, Dr. Sarah Bryant, Dr. John Kooti

Department: Finance and Supply Chain Management

History/Philosophy and Sociology/Anthropology

TIME: 7:45 - 8:45 PM

LOCATION: 105

1948: The Last Campaign

Truman, Dewey, Thurmond and Wallace. Four men vied for the highest office in the land, each from their own distinct ideological background. In an age where political parties are often compared as being "two sides of the same coin" it is interesting to examine a time when the major competitors for the Office of President of the United States differed so bitterly on so many issues.

Cameron Schroy

Faculty Sponsor(s): Dr. Steven Burg

Department: History/Philosophy

Pogrom and Exclusion: An Impression of Tsarist Russia's Treatment of Jewish Population since the 15th Century

Tsarist Russia, from Kievan Rus to the Bolsheviks, has subsumed a Jewish population that has waxed and waned, but remained at odds with the body politic and non-Jewish population. Over the centuries, Russian Jews have been excluded from an overall peaceful existence due to antiquated anti-Semitic beliefs, Russian Orthodoxy, and even possibly the collection of autocratic rulers that have reigned for the latter half of the last millennia. This analysis dives into the history of the Jewish population of Russia, the formation and evolution of Russia, and what factors have led to the hindering of Jewish and Russian cultures coalescing.

Shawn Jacobs

Faculty Sponsor(s): Dr. Catherine Clay

Department: History/Philosophy

Foundation for Change; African American Students in Higher Education

Minority students such as African Americans worked as the foundation of change for diversity within the student body. African American student attendance is an important topic that contributes to Shippensburg University history. At the peak of the 1970s Shippensburg University administration worked together to revise policies that allowed the student body to increase its racial diversity and population. A lot of the changes were influenced by Pennsylvania State laws on higher education. The civil rights era paved the way for the dramatic change of the 1970s for minority student. Records of African American students in the early 1900s, as well as critiques from different administrators, and faculty members' of minority attendance were justified as being valuable to the university. African American student presence throughout the years is significant to the university's effort to maintain its goals for the student body.

Nadine Copper

Faculty Sponsor(s): Dr. Brian Ulrich

Department: History/Philosophy

Urban Poverty in Brazil

The research in this paper approaches the topic of urban poverty in Brazil. The original research basis of this paper consists of ethnographies and demographical data collected using unstructured interviewing techniques, a recognized sociological qualitative method. The participants in this study have been selected through snowball sampling of individuals living at or near the poverty line, which involves locating and accessing participants by way of referrals. The primary dependent variable in this research study is poverty, as determined by the current poverty line of no more than ~\$1.90 per day. The independent variables identified prior to data collection are race, education, social support, work history, and access to welfare services. Through examination of the consistency between responses, it may be possible to further isolate the relationships between these and other variables as they apply to poverty rates.

Cody Wilt*

Faculty Sponsor(s): Dr. Barbara Denison

Department: Sociology/Anthropology

Music

TIME: 6:00 - 6:30 PM

LOCATION: 125 RAIDER LOUNGE 6

The Tradition of Welsh Song

Benjamin Anwyll will lecture briefly on the longstanding tradition of choral and harp music in Wales in the last two centuries. He will begin by performing the Welsh national anthem, "Hen Wlad Fy Nhadau", a tune composed by Welsh parlor-harpist James James in 1833 during one of his daily walks along the banks of the Rhondda. When James played the tune for his father Evan, his father was moved to write the famous lyrics that are affixed in the breasts of all modern day Welshmen. The lecture will showcase the Welsh as a pioneering people in spontaneous part-based choral composition and will conclude by celebrating the delightful surprise that emerged from the coal mines of the industrial revolution - that Welsh miners punched their time cards day after day with faces full of soot but hearts full of song.

Benjamin Anwyll

Faculty Sponsor(s): Dr. Margaret Lucia

Department: Music

POSTER SESSION I



Biology

Assessment of the Herpetofaunal Community in Savage Neck Dunes Park, Accomack County, Virginia

Herpetofaunal flora, or reptiles and amphibians, is an integral part of the environment. Savage Neck Dunes Park is a nature preserve in Virginia that exhibits a wide range of habitats such as beach, dunes, maritime pine forest, deciduous temperate forest, reclaimed grasslands, and wetlands. These habitats provide a broad view of the herpetofaunal community in a small area. This unique perspective can provide data such as species variety, abundance, and health and success. This ecological survey will determine baseline information on the herpetofaunal populations of this preserve. It began in October 2015 and will continue into Spring 2016 with data on the species collected using cover boards, turtle traps, funnel traps, drift fences, and dips nets. The study of herpetology impacts every aspect of Biology. This research provides a comprehensive understanding of the herpetofaunal population in this location by gathering data that is critical to determining long-term demographic trends.

Kayla Keller

Faculty Sponsor(s): Dr. Pablo Delis

Poster Location: 18

Are Aberrant tRNAs Degraded by Nuclear Rapid tRNA Decay in *Saccharomyces cerevisiae*?

The main objective of this project is to determine the fate of two different types of aberrant tRNAs, a 5'-end extended isoleucine tRNA and a hypomodified lysine tRNA, that have been identified in *Saccharomyces cerevisiae*. The goal of this project is to determine whether the aberrant tRNAs are degraded by the nuclear rapid tRNA decay pathway, which is mediated by the exonuclease enzyme Rat1. Based on previous work (Kramer and Hopper 2013), we hypothesize that this pathway will degrade the hypomodified lysine tRNA.

Brooke Coder, Katya Luckenbach, Lauryn King

Faculty Sponsor(s): Dr. Emily Kramer

Poster Location: 17

Surveillance for Resistant *Erwinia amylovora* in Adams County Pennsylvania Apple Orchards

Erwinia amylovora is the causative agent of fire blight, a bacterial disease that affects blossoms, shoots, and limbs of fruit trees. Due to the sporadic nature of the infection, treatment of the disease can be difficult. Effective ways to control damage include the use of antimicrobial chemicals, particularly the antibiotic streptomycin. In the last 40 years, streptomycin resistant strains have emerged in orchards in the United States. Presumptive isolates of *E. amylovora* were obtained from the Pennsylvania State University Research and Extension Center. *Erwinia* identification was confirmed with direct colony PCR using primers specific to plasmid Ea29 (pEa29). Positive isolates were screened for streptomycin resistance using a disk diffusion assay. Resistance was evaluated by observation of the presence or absence of a zone of inhibition around each disc. Resistant isolates will be further evaluated for the presence of plasmid mediated and chromosomal genes involved in resistance.

Alyssa Lare, Aleister Oldhouser, Richard Stayer, Preston Ball, Jennifer Yeakle

Faculty Sponsor(s): Dr. Marcie Lehman

Poster Location: 15

Characterization and Microbial Control of *Erwinia amylovora*

Erwinia amylovora, the causative agent of fire blight, is a destructive systemic bacterial disease affecting apple and pear. Disease symptomatology depends on the site of infection and amount of inoculum. The ability of *E. amylovora* to overwinter in cankers allows for the disease to persist across growing seasons with severity changing every year, due to a combination of strain variability and weather conditions. *E. amylovora* isolation was performed on bacterial ooze collected from fire blight samples obtained by Pennsylvania State University Fruit Research and Extension Center (FREC). Positive *E. amylovora* identification was performed on isolated samples using PCR specific primers to a plasmid (pEa29) commonly found within *Erwinia* strains. Isolates were exposed to disk-diffusion assays containing chemical compounds at varying concentrations that are used in the field at FREC. Strain variation, as well as different degrees of chemical control was observed depending on the compound tested.

Hanna Laukaitis*

Faculty Sponsor(s): Dr. Marcie Lehman

Poster Location: 16

Communication/Journalism

Hyper-Connected, Yet Alone

Our paper addresses what students define as excessive social media use. We look at this information because of the explosive growth of social media platforms. It is important to study the habits and behaviors of students even as social media is gradually becoming their communication tool of choice. We hope to be able to find out what the majority of respondents define as "excessive social media usage." Students are hyper-connected to other people across town and even across the country, and yet may be disconnected from the person across the room. We also hope to use this study to find out how excessive social media use can affect daily activities like communicating with a roommate, time spent on studies, and entertainment.

Olusegun Adegboyega-Edun*, Abdulrahman Rakkah*

Faculty Sponsor(s): Dr. Holly Ott

Poster Location: 50

The Impact of Pinterest Use on Female College Student Perceptions of Fashion

The purpose of this research is to examine the impact that Pinterest has on student perception of fashion. This widely used social media platform operates as an online "bulletin board" allowing for users to "pin" findings that inspire them. Pinterest can be used as a creative outlet for expressing individuality through online organization as well as networking among users with shared interests. The question being addressed is whether or not Pinterest has a substantial influence over shaping perceptions of fashion and attire among students. This study uses a questionnaire to survey female Shippensburg University students about their use of Pinterest and the impact their pins have on their perceptions of fashion.

Connor DeStefano*, Heidi Marino*

Faculty Sponsor(s): Dr. Holly Ott

Poster Location: 51

Agenda Setting: How the Media Is Telling Us What to Think About

The news media is society's primary source of information. Be it television, radio, newspaper, or even social media, people turn to these different platforms to stay connected and know what is going on in their communities and beyond. Media professionals get to tell people what is going on, but most importantly they get to tell people what is important by giving precedence to some issues over others. This study, which will be based on a survey of Shippensburg University students, will assess the role of the media in determining what is on the public agenda. Secondly, this research will evaluate students' attitudes toward agenda setting. It will attempt to measure how much students are aware of it and how they feel about it. Understanding this function of the mass media will make people better news consumers, and at the same time it will give news media professionals some insights about consumers' feelings.

Abdoul Karimou Elh Ibrahim Amadou*

Faculty Sponsor(s): Dr. Holly Ott
Poster Location: 52

How Social Media Programs Affect Social Life and Mood Stability

The purpose of this research is to know how people use social media programs and how these programs enable online communication that lowers face-to-face interaction and change social habits, feelings and relationships. This research will examine the affect of using social media programs for a long time and how these programs make people feel as the excessive daily use may lead to lack of confidence and depression when they become unable to use their accounts. It is clear that people spend more time on Facebook, Instagram, and other social media programs. They consider browsing friends' profiles and leaving likes and comments as a real social connection. This potentially leads to loss of social skills with others. In this research I will use questionnaire and research sources to support information which will provide results about these programs.

Sarah Abdulghaffar*

Faculty Sponsor(s): Dr. Holly Ott
Poster Location: 53

Is Social Media Use Related to Social Giving?

Many Americans frequently access Facebook, Pinterest, Instagram, LinkedIn, Google+, and other social media sites many times each day. These sites serve as a primary news source for some. This study examines the relationship between connection frequency and the philanthropic habits of respondents, specifically: "Do Americans who make frequent use of social media donate more frequently to charitable causes?" A questionnaire inquiries about subject frequency of social media usage and frequency of donations to, or volunteer for, charitable causes. This information could help American communications personnel at charitable organizations better gauge social media's influence in attracting donations and volunteers.

Harry Kimmel*

Faculty Sponsor(s): Dr. Holly Ott
Poster Location: 54

Social Media: Why do People Use it?

Social media comes in over twenty different forms, but they all have one thing in common - they are used for communication. The main reason people use social media is to communicate with friends, family, coworkers, customers, and even strangers. But have you ever wondered why people choose to use certain types of social media over others? Does race, age, or gender play a role in social media use? This study surveys Technical Innovation Center (TIC) clients and business contacts over the age of 18 at Hagerstown Community College and analyzes the data collected to better understand why people choose to use certain types of social media over others. By determining the reasons people choose to use certain kinds of social media, we can have a deeper understanding of their preferences, and therefore, will be able to communicate better with them.

Kalina Gipe*

Faculty Sponsor(s): Dr. Holly Ott
Poster Location: 59

Is Social Media Reshaping Nonprofit Organizations?

Over the last decade social media has created dramatic shifts throughout society. Social media has proven to be so powerful that businesses are implementing them into their communication and marketing strategies. One sector that noticed many positive changes through social media is nonprofit organizations. It is pertinent that nonprofit organizations have a strong online presence because their causes often rely on supporters. With the help of social media, nonprofits have increased funds, deepened relationships and engagement, and have become successful innovators. A survey questionnaire will be administered to Shippensburg University students to examine how nonprofit organizations are using social media to engage with college students.

Britni Greenleaf*

Faculty Sponsor(s): Dr. Holly Ott
Poster Location: 60

The Effects of Technology on the Way People Get the News

With technological advances, there has been an immense impact on print media and the various ways in which people prefer to get the news. This research study will include a survey of Shippensburg University students to try to figure out how they get the most recent news. There are a vast number of ways that people get the news, with social media seemingly the most popular option. The goal of this study is to find out how and where people prefer to get updates on current events, and which social media sites, if any, are frequently used for news purposes.

Katherine Turner*

Faculty Sponsor(s): Dr. Holly Ott
Poster Location: 61

Computer Science and Engineering

Bluetooth Smart Outlet

Our team planned and created a bluetooth-enabled wall outlet that can be controlled from a bluetooth application on a mobile phone.

Logan Walthers, Josiah Knoll, Jeremiah White

Faculty Sponsor(s): Dr. Thomas Briggs

Poster Location: 2

Fabricated Brushless DC Motor Controller

The purpose of this project was to convert a working breadboard layout into a working PCB by walking through the steps to fabrication. In addition to retaining the same functionality of being able to control a brushless DC motor with finesse.

Michael Zimmerman, Jared Good

Faculty Sponsor(s): Dr. Thomas Briggs

Poster Location: 4

Bluetooth Controlled Door Lock

The engineering design process is a necessity in designing a microcontroller project. The idea for this project was the development of a Bluetooth controlled door lock. Following the process, a set of requirements was established to be used as project goals. From the requirements, a design concept was devised via accessible hardware, available tools, and supplementary research. Using the design concept, printed circuit board schematics and programming algorithms were designed to achieve all projects goals. These preliminary designs were used to fabricate a prototype. The prototype was tested to ensure operation according to established project goals. After the prototyping stage, an improved design was produced, and the process was repeated. By following the engineering design process, a Bluetooth controlled door lock was able to be fabricated and enhanced.

Scott Keller, Jackson Culver, John Kuhn

Faculty Sponsor(s): Dr. Thomas Briggs

Poster Location: 6

Design, Development, and Implementation of Water Quality Sensors for Real-Time Data Collection/Observation of Global Climate Change

As the effects of Global Climate Change and rising sea levels become an increasing concern, methods to collect data efficiently is of the utmost importance. The development of environmental sensors can be utilized to measure various characteristics of water and air quality along the coast. Currently, several sensors are located near NASA's Wallops Island Flight Facility; however, the sensors there cost thousands of dollars and lack a network to communicate. Using the lab located on campus, new sensors can be developed that have the ability to measure more characteristics with increased accuracy all while creating a network mesh of nodes that communicate, in real-time, to a centralized computer system. All this can be done at five percent of the current cost. With the help of 3D printing rapid prototype development and in house printed circuit board fabrication, these environmental data sensors have the potential to make the Wallops Island area the most observed coastline in the world.

Tyler Garrett, Christopher Jeffery, David Kinna

Faculty Sponsor(s): Dr. Thomas Briggs, Dr. Sean Cornell, Dr. Sangkook Lee

Poster Location: 7

Developing and Designing an Actograph for Mosquito Activity Monitoring

Our project consists of working as a project team to design, build, code, debug, troubleshoot, and finish to completion a working actograph that will be able to model mosquito movements (specifically *Aedes aegypti*) to aid the biology department's research. The mosquitoes will reside in a square plastic tube within an apparatus fitted with sensors that will create a break beam. These sensors will send voltage of the receivers to a controller that will output that data into ranges of activity to be sent over USB to a computer, which will use a program to control parameters of tests, including sensitivity of the sensors and how long they track.

Logan Walthers, Otto Wallenmeyer, Jared Good, Tyler Garrett, David Kinna, Michael Zimmerman, John Kuhn, Jackson Culver, Jeremiah White

Faculty Sponsor(s): Dr. Thomas Briggs

Poster Location: 3

Click Game

Click Game is exactly what it sounds like, a game where you click on things. The point of the game is to click on the circles that appear on the screen as fast as you can to rack up points. You have sixty seconds to earn points until the game comes to an end. There are three levels, and each of them include a circle that appears in a random position after it is destroyed. Level one has a circle that is stationary, level two has a circle that moves around, and level three has a circle that moves around at a greater speed than the second level. The game was made using GameMaker and there is only one type of input, the left button on the mouse.

Nathaniel Manning

Faculty Sponsor(s): Dr. C. Dudley Girard

Poster Location: 1

Freescale Cup Car

Our project is comprised of constructing and programming a 1/18th scale car designed to navigate a track. The car is a standard size and power 1/18th scale car and operates completely autonomously. It came as a TFC-kit purchased from Freescale for the competition and was delivered in a disassembled state, requiring assembly. Additionally, the kit required the fabrication of many custom chassis parts, which we designed and printed using a 3D printer. The car is limited to using a Freescale microcontroller for all processing and control, along with a camera that scans a line of 128 pixels and returns grey scale values. The code to control the car was developed in the CodeWarrior IDE and aside from the basic functions to access peripherals, was developed solely by the team. The track consists of 2 foot wide sections of a white plastic that is lined with 1 inch thick black tape on the edges, and may include curves, intersections, and hills.

Jared Good, Joss Steward

Faculty Sponsor(s): Dr. C. Dudley Girard

Poster Location: 5

Economics

The Dodd-Frank Wall Street Reform and Consumer Protection Act Analyzed

This research analyzes the impact the Dodd-Frank Consumer Protection and Wall Street Reform Act (Dodd-Frank Act) has had on the banking industry since its inception. This paper investigates several key components of the Dodd-Frank Act by analyzing their impact on the industry and by providing updates on their progress of completing their intended goals. The regulations that are analyzed are the Consumer Financial Protection Bureau, the Volcker Rule, the Financial Stability Oversight Council, derivative regulation, and credit rating agency reform. The findings of this paper allow banks, businesses, and readers to better understand the regulatory framework that will drive global finance and ultimately affect their operations and finances.

Brooke Moyer

Faculty Sponsor(s): Dr. Hamid Bastin
Poster Location: 47

US Bank Profitability and the Economic Environment

This research investigates the profitability of five of the largest US banks by assets. We utilize the public quarterly financial records from the U.S. Securities and Exchange Commission (SEC) to quantitatively analyze the impact that deposits, the federal funds rate, and other variables have on bank's profitability. Outcomes from this research will allow bank managers, research analysts, and the general investing public to learn how the economic environment and the company's balance sheet affect bank profitability.

Brooke Moyer

Faculty Sponsor(s): Dr. Freddy Siahaan
Poster Location: 48

The Impact That Dividends Have on Stock Price Volatility and Relative Trading Volume

This paper is meant to shed light on the degree of accuracy of the relevance dividend theory. That is the daily price volatility and relative trading volume are directly impacted after the ex-dividend date. By using data on the five largest large-cap companies with no stock splits and regularly paid dividends in the past five years and regression analysis, we investigated if the price volatility and relative trading volume are impacted right after the ex-dividend date. Based on the literature on this topic, we expect to have a positive correlation between the timing of the ex-dividend date and the stock price volatility.

Cory McKee

Faculty Sponsor(s): Dr. Freddy Siahaan
Poster Location: 49

Analysis of Variance of Industry Diversification and Profitability

This paper examines the correlation between the diversification of the industries in which a business participates and the profitability of that business. Specifically, this paper uses the analysis of variance (ANOVA) and multiple analysis of variance (MANOVA) methods to examine the differences in profitability among related diversification, unrelated diversification, both related and unrelated diversification, and undiversified firms. The data on publicly-traded companies

analyzed in this paper were gathered from Standard and Poor's data base, Compustat. The findings of this paper are to offer guidance for businesses to develop the most profitable strategies with regard to diversification.

David Heath

Faculty Sponsor(s): Dr. Freddy Siahaan
Poster Location: 56

The Effect of Players' Characteristics and Salaries on NBA Teams' Winning Percentage

This paper explores the connection between the winning percentages of NBA teams and the characteristics of their players, along with salaries and overall payrolls over the last three seasons. The goal of the research is to discover relationships between how effective NBA teams are on the court and the physical characteristics of the players on their roster, and how they are being paid. This idea is inspired by the rise in analytics and Sabermetrics in the front offices of professional sports franchises. The data used for this research was acquired from the databases of ESPN.com, NBA.com, and Forbes. Specifically, the data that is being used includes teams' winning percentages, average player salary, average player age, average player experience, average player height, players' ethnicities, and team payroll on a yearly basis from the 2012-2013 season to the 2014-2015 season.

Jesse Bushman

Faculty Sponsor(s): Dr. Freddy Siahaan
Poster Location: 57

Apple (Not the Fruit): Stock Volatility Analysis

Apple (Not the Fruit): Stock Volatility Analysis This research investigates the volatility of Apple, the largest company in the world in terms of market capitalization. By using the data from Yahoo.com and apple.com websites, this paper analyzes the volatility of the stock caused by certain events related to Apple both internal and external. We expect to be able to learn more on the volatility of certain stocks, especially for the S&P 500 companies, by looking at all of the publicly available information.

Travis Dasher

Faculty Sponsor(s): Dr. Freddy Siahaan
Poster Location: 58

A Game-Theoretical Analysis of Telecommunication Connectedness and Propensity Toward Military Conflict

This paper offers a game-theoretical analysis of a Middle Eastern nation's global and local connectedness and its propensity toward military conflict. Specifically, this paper analyzes telecommunications expenditure and penetration for various Middle Eastern nations, identifying the relationship between a country's connectedness and the probability of that nation engaging in military conflict. The findings of this paper offer insight into how telecommunications policy can influence the likelihood of military conflict within a region.

David Heath

Faculty Sponsor(s): Dr. Andrew Vassallo
Poster Location: 55

Exercise Science

Comparing Short Physical Performance Battery Results in Active vs. Non-Active Geriatric Individuals

Older adults experience age-related declines in skeletal muscle; staying active throughout life can decrease this risk. **PURPOSE:** To determine if an increase in daily physical activity would lead to improvements on the Short Physical Performance Battery. **METHODS:** Twenty-one healthy individuals self-selected into either the walking experimental group or the control group. Individuals were tested monthly for the following variables over the first three months of the program: 8' walk at a habitual pace, time to complete five chair stands, and static balance. A one-way ANOVA was used to assess baseline differences between groups. The remaining analyses were conducted using a 2 (Condition) x 4 (Time) repeated measures ANOVA. **RESULTS:** No significant differences at baseline between the two groups were observed. **CONCLUSION:** Both groups improved on measures of gait speed and chair stands. While there were no significant group differences, the walking group improved at a greater rate.

Morgan Horowitz

Faculty Sponsor(s): Dr. Samuel Forlenza

Poster Location: 28

Changes in Balance Measures During a Pedometer-Based Senior Citizen Walking Program

PURPOSE: Balance is an important component of senior citizens' overall wellness. The purpose of this study was to assess the effect of a pedometer-based walking program on balance measures. **METHODS:** Sixteen senior citizens participated in a walking group, while five participated in a non-walking control group. The assessments included the Balance Self-Efficacy Scale (BSE), Single-Leg Balance (SLB), and Get-Up-and-Go (GTAG). Differences between baseline and the three month assessment for each measure were tested for statistical significance using repeated measures ANOVA. **RESULTS:** Differences were found between the walking and control groups for SLB and GTAG at both baseline and three months. The walking and control groups did not differ at baseline on BSE, but they were significantly different at the three-month assessment. **CONCLUSION:** After three months in a pedometer-based walking program, it is possible to identify differences between walking and control groups on balance measures.

Tyler Cover, Joseph Farabaugh, Morgan Horowitz, Hector Raya

Faculty Sponsor(s): Dr. Ben Meyer

Poster Location: 27

Differences between an Aerobic and Yoga Group Exercise on Mood, Stress, and Group Cohesion

The purpose of this study was to observe the psychological benefits including mood stress and group cohesion associated with participating in two different group exercise classes. Subjects were recruited from group fitness classes offered at the university recreation center. 9 subjects participated in the Yoga class and 9 participated in the Zumba® class. Prior to the class, subjects completed the Positive and Negative Affect Schedule. Following the class, subjects completed the PANAS, Dundee Stress State Questionnaire, and the Physical Activity Group Exercise Questionnaire. A two-way ANOVA with repeated measures and a one-way ANOVA were used to measure the variables. There was a significant difference between the groups on Group Integration-Task, $p = .01$, and the Group Integration-Social, $p = .03$. The study showed participants in the Zumba® class had higher perceptions of closeness and similarity associated with the task and social aspects of the exercise class.

Amanda Kuzo, Kylil Morales, Emily Slabonik, Zach Metz, Ryan Willard

Faculty Sponsor(s): Dr. Sally Paulson

Poster Location: 23

Assessment of Acute Balance and Agility Following Submaximal Plyometrics and Cycling

The purpose was to examine the acute exercise effects of either a plyometrics or cycling protocol on balance and agility in a college-age sample. Eleven subjects participated in this study (age: 21.36 ± 0.67 yrs; height: 171.17 ± 7.98 cm; mass: 72.26 ± 7.09 kg; body fat: 17.24 ± 8.97 %). Each subject participated in an 8-minute cycling protocol and a plyometrics protocol on two different days at least 48 hours apart. The subject's agility and balance was taken pre and post exercise protocol on both testing days by way of T-test, standing one leg balance, and Y-Balance test. The data were analyzed using descriptive statistics and a one-way ANOVA with repeated measures. No statistically significant differences were seen between exercise conditions. There was a statistically significant difference between pre and posttest of the T-test and left leg Y-balance. Overall, exercise had a positive influence on agility and left leg Y-balance regardless of the type of exercise protocol.

Erica Miller, Samantha Cowan, Amanda Kuzo

Faculty Sponsor(s): Dr. Sally Paulson, Dr. Russell Robinson

Poster Location: 24

Effects of a Six-Month Walking Intervention on the Physical Activity Measures among Older Adults

The purpose was to evaluate a six-month, pedometer-based walking program on the physical activity level of older adults. Twenty-one older adults volunteered; 16 in the walking group (WG) and 5 in the control group (CON). Daily step frequency (SF) was used to determine baseline activity level. The WG followed a protocol designed to increase SF weekly by 1,000 steps until they reached a goal of 10,000 steps/day. The CON was asked to continue their normal activity. The first 3 months of data were analyzed. Initially, there was not a difference between the groups ($p = .053$). The interaction for group and time was not significant ($p = .059$). There were significant main effects for group ($p < .05$) and time ($p = .03$). Independent t tests yielded a significant difference between the groups at week 4 ($p < .01$), and week 12 ($p < .01$). The first 12 weeks of the study have shown that implementing a pedometer-based walking program is an effective way of increasing physical activity of older adults.

Joseph Farabaugh, Tyler Cover, Morgan Horowitz, Hector Raya

Faculty Sponsor(s): Dr. Sally Paulson

Poster Location: 26

Effect of a Walking Program on Functional Fitness Measures in Older Adults

Increasing physical activity in elderly can significantly affect functional fitness and daily living activities. Purpose: To identify functional fitness changes in older adults through a 6-month walking program. Methods: 21 healthy individuals (age: 72.4 ± 6.1 yrs; ht: 158.9 ± 6.6 cm; wt: 81.1 ± 12.7 kg; BMI: 31.9 ± 0.9) self-selected into either a walking (WG) or control (CON) group. WG group were assigned a daily step goal. Each month, subjects were evaluated using: 6 min walk test, a 20 m walk at a maximum pace, 30 s chair stands, and a get-up-and-go task. A two-way ANOVA with repeated measures was used to make group and time (baseline vs. month 3) comparisons. Results: 3 months of intervention improved many of the functional fitness measures. Conclusion: The preliminary findings suggest that a three-month walking program for older adults can significantly improve some of their functional fitness measures, which may aid in their activities of daily living.

Hector Raya, Tyler Cover, Joseph Farabaugh, Morgan Horowitz

Faculty Sponsor(s): Dr. Joohee Sanders

Poster Location: 25

Geography/Earth Science

Stratigraphic, Sedimentologic, and Paleontological Analysis of a Lower Pennsylvanian Rock Core from Brisbin, Pennsylvania

A rock core was obtained from the Pennsylvania Topographical and Geologic Survey from Brisbin, Pennsylvania, located just north of Houtzdale. This area is actively mined along the eastern edge of the western Pennsylvania coal fields. The core extends about 55 meters in depth and crosses through several coal-bearing intervals from the lower Pennsylvanian strata. The area of central and eastern Pennsylvania experienced uplift during the Alleghenian Orogeny while western

Pennsylvania was still marine and covered by ocean waters. The purpose of this research is to evaluate the evidence for establishing the depositional history of the rock succession in the core. This research will help us to find out if the rocks were deposited at or near sea-level under the influence of coastal processes or if they were deposited in inland areas and influenced by lacustrine processes. The core is being examined for color, lithology, fossils and other depositional indicators which will help determine the processes that led to its deposition.

Katherine Cromwell

Faculty Sponsor(s): Dr. Sean Cornell

Poster Location: 65

A Suitability Analysis of Potential Wetland Mitigation Sites in Delaware County, Pennsylvania

State and Federal regulations require compensatory mitigation for wetlands lost during land development. One way to mitigate for wetland loss is to create a wetland site. This study uses GIS in order to locate the most suitable sites to create a wetland mitigation site in Delaware County, Pennsylvania. Factors that are important for choosing a mitigation site include land cover type, soils, proximity to existing wetlands, and slope. Using GIS, these factors were ranked and weighted based on suitability for the creation of a wetland mitigation site. The majority of county falls within the moderately low suitability class, with approximately 10 percent of the county falling in the high suitability class. Sites with high suitability were distributed throughout the county, with a higher density of suitable sites in the southwest portion of the county, as it is less developed. Similar methods could be applied at the watershed scale in order to aid in watershed restoration efforts.

Courtney Papinchak*

Faculty Sponsor(s): Dr. Scott Drzyzga

Poster Location: 66

Anisotropic Groundwater Flow Conditions in Pennsylvania's Cumberland Valley Carbonates

The influence of bedrock on groundwater in Cumberland Valley was studied to better understand groundwater patterns. The Valley bedrock consists of deformed Ordovician carbonates that strike NE/SW. Previous studies show a flow path from South Mountain, across the Valley to the Conodoguinet Creek. However, recent dye traces revealed patterns nearly parallel to strike. In an attempt to predict groundwater routes, a model was prepared by comparing mean groundwater velocity from pump tests to the velocity of dye tracer tests. The water table map was compressed to a 1:100 ratio and groundwater flow lines were drawn perpendicular to compressed contours. Flow lines and contours were grouped and the map was decompressed. Local patterns demonstrated strike oriented flow, corresponding with tracer test results. Lithology changes, strike and dip angles, and hydraulic pressure as a result of structure were found to be the most influential controls on groundwater behavior in the Valley.

Katie Pressley*

Faculty Sponsor(s): Dr. Tom Feeney

Poster Location: 62

Synchronized Analysis of Three Limestone Springs in Pennsylvania's Cumberland Valley

Limestone springs represent the outflow of water from an aquifer; a detailed study can reveal the inner make-up of the hidden aquifer. Three major springs in Cumberland County have been observed periodically in an effort to understand the Valley's limestone aquifer. Due to minimal funding the springs weren't monitored simultaneously. In spring 2015 University Tech Fee funds provided resources for additional devices that allowed each spring to be observed at the same time. The instruments were coordinated to measure water temperature, conductance, and water level every 15 minutes; water levels were later converted to flow based upon isolated precise measurements of flow. The hydrologic measurements were compared to rainfall data collected every 15 minutes at the University weather station. Subdued spring response suggests a diffuse recharge area involving South Mountain's colluvial apron, whereas a sharp, flashy, response indicates rapid recharge and conduit flow through the limestone.

Doulton Campbell

Faculty Sponsor(s): Dr. Tom Feeney
Poster Location: 67

Challenges of Point-to-Point Tracing in Karst Aquifers: A Time-of-Travel Study in Pennsylvania's Cumberland Valley

Groundwater in the Cumberland Valley, traveling at unknown speeds and directions through a vast network of caves and conduits in the limestone bedrock, provides water to 1000s of people. In some places entire surface streams disappear into the bedrock (swallet), vanishing into the groundwater system with no knowledge of where it might resurface. One way to understand these systems is by dye tracing: placing a nontoxic dye into a swallow and monitoring potential outflow points. This study represents the third attempt to inject dye into a small roadside stream along Ott Road that was completely captured by a bedrock fracture. Two ISCO automatic water samplers were placed at potential dye outfall sites, while activated carbon packets were placed at several other springs and creeks. Analysis of 34 water samples with a Shimadzu spectrofluorometer did not detect any dye two weeks after injection. Too little dye, excessive clay, or time are potential causes for the lack of detection.

Michael Stoehr*

Faculty Sponsor(s): Dr. Tom Feeney
Poster Location: 68

Influence of Rock Glaciers in Northern Chile

This paper examines the impact of rock glaciers on stream flow rates of watersheds in the Arica and Tarapaca regions of northern Chile. Three data sets were collected and analyzed: 1) Stream gauge locations and monthly average stream flow (3m/s) data from the Chilean Ministerio de Obras Publicas was collected for January 1990 through December 1999; 2) a USGS digital elevation model (DEM) for UTM 19 south

was used to derive streams and delineate watersheds in ArcGIS; 3) the location and extent of rock glaciers were manually digitized. To examine rock glacier influences on flow rates, the watersheds were paired based on watershed size and number of existing rock glaciers; some watersheds had no rock glaciers, while others had 2-3. This research begins to examine the impact and importance of rock glacier's hydrologic cycle and its value as a waterstore.

Eve Webster*

Faculty Sponsor(s): Dr. Claire Jantz
Poster Location: 63

Summer Storm Run Off Effects on Stream Temperatures in a Coldwater Fishery

The necessity to study the effects of heated stormwater on a cold water fisheries has become increasingly important, especially in areas where advancing urbanization results in increased impervious surfaces. The stormwater that comes into contact with impervious surfaces has the potential to be heated and discharged at a temperature higher than the temperature of the receiving stream. Burd Run, in Shippensburg Pennsylvania, is an ideal site to study these effects due to the large amount of urbanization occurring within the watershed. This study hypothesizes that two stormwater discharge sites on the Shippensburg University campus will contribute to the presence of heated storm runoff right before discharge and increase downstream temperature following a storm runoff event. Temperature data loggers were installed at various sites to provide real time data collection during the study period (May-September). The data was analyzed to determine potential effects of storm runoff on Burd Run.

Alex Kostik*

Faculty Sponsor(s): Dr. Christopher Woltemade
Poster Location: 64

Information Technology for Business

University Cybersecurity

One of the hot topics in our world today is the issue of cybersecurity. Most computers that people use will most likely be connected to a network to allow more effective exchange of information. However, with this easy access to information comes security issues. We will be exploring cybersecurity as it pertains to universities and analyzing best practices and formulating modules for the education of these best practices. Universities are particularly vulnerable due to the fact that they have to service so many faculty and students on a day-to-day basis. We are consulting with those who focus on these threats to the sensitive data at universities, and also learning more about the specific types of attacks that can occur to either steal information or leave the network inaccessible to users. Our goal is to disseminate as much information about these threats as we can without overwhelming students and faculty and staff, while still getting important information across to them.

Jacob Painter

Faculty Sponsor(s): Dr. Irma Hunt
Poster Location: 21

Management/Marketing

Use of an Immersive Exercise to Increase Student Awareness of Risky Decision-Making

Immersive exercises recreate significant historical events while engaging participants in open reflection and dialogue. Grounded in experiential learning theory, immersive exercises are ideal for helping participants understand situated action in dangerous work contexts, yet are relatively unexplored in psychology. We used visual material and an actual scale terrain model to recreate a wilderness plane crash. One hundred and seventy participants provided qualitative and quantitative information; we evaluate the efficacy of the experiential method.

Colleen Hanson

Faculty Sponsor(s): Dr. Wendy Becker

Poster Location: 22

Analysis of the Student Experience: Determining Student Satisfaction in a Lecture-Lab Management Classroom

Management professors Drs. Nathan Goates and Blake Hargrove have been teaching Organizational Behavior (MGT 305) separately for years. This spring they introduced a new, lecture-lab model of MGT 305 to students in place of their traditional classes. In this model, Drs. Goates and Hargrove co-teach a large lecture style class, which then breaks up into small-group discussion based labs. This project analyzes the qualitative effects of restructuring the course on student experience and satisfaction. I conducted identical surveys in three groups: students taking Dr. Goates' fall 2015 classes, those taking Dr. Hargrove's fall 2015 classes, and those taking the joint course in spring 2016. I then analyzed the mean student satisfaction of each group so as to compare the effects of the different teaching styles on overall student satisfaction. I conducted my research alongside Josh Varone, the SI for a related project measuring student learning and performance in the different style courses.

Audrey McGarrell, Joshua Varone

Faculty Sponsor(s): Dr. Nathan Goates

Poster Location: 12

Analysis of Student Learning: Determining the Effectiveness of a Lecture-Lab Classroom Model in Management

The division of college courses into lecture and lab portions has been longstanding in science departments, but does not widely extend into other fields. This structure provides the same material to all students in the lecture portion, but the lab time allows a much more involved, hands-on learning experience. The purpose of this research is to analyze the effectiveness of such a class structure in the management classroom. This innovative, new classroom experience is being piloted in the current semester, the spring of 2016. Using data collected from this pilot, as well as archival data from previous semesters, we seek to analyze the differences between the new lecture-lab classroom model and the traditional classroom model, conducting a quantitative analysis of student achievement and knowledge retention. With this research, the goal is to determine if this new model is more effective for student learning than a traditional method.

Joshua Varone, Audrey McGarrell

Faculty Sponsor(s): Dr. Nathan Goates

Poster Location: 13

Psychological Characteristics Moderating Academic Performance

This project investigates individual characteristics predicting student academic performance. The existing literature supports the conclusion that certain individual characteristics are related to student success. For example, Poropat (2009) presented meta-analytic findings which correlated certain personality traits (conscientiousness, agreeableness, and openness) to academic success. Rather than the traditional approach of linking individual characteristics to performance, this study investigates characteristics in interaction. Judge, Erez, Bono, and Thorenson (2003) introduced a construct called core self-esteem. To investigate these questions, we used archival self-report survey data regarding individual characteristics and objective performance data. This study presents findings concerning the interaction between core self-esteem and individual characteristics as predictors of student academic performance.

Jacqueline Rabedeau, Briana Giovenco

Faculty Sponsor(s): Dr. M. Blake Hargrove

Poster Location: 14

Mathematics

Gauss and the Arithmetic-Geometric Mean: A Hidden Relationship to Pi

So often, many different disciplines in mathematics are tied together in ways that go unnoticed. Experimentation in patterns of math have led the discovery of unveiled connections. A look at Carl Friedrich Gauss' research in function theory draws connections between the arc length of the lemniscate function, algorithms for the geometric and arithmetic means, and how they relate to pi. After looking into the history of this discovery in Gauss' mathematical diary and expanding on the mathematical proofs behind it, these relationships are then solidified and depicted using a computer algebra system.

Haley Jones

Faculty Sponsor(s): Dr. Douglas Ensley

Poster Location: 8

Optimal Roster Structure in Hockey

The goal of my research is to identify if in professional hockey, performance differences exist when teams use a non-traditional roster format. The standard roster structure for each game in hockey consists of twelve forwards and six defensemen, however the usage of only eleven forwards in exchange for an extra defenseman has been a lineup recently employed with much frequency by the Tampa Bay Lightning over the past few seasons. My research objective is to analyze recent game data to determine if structuring game day rosters in this progressive format attains a measurable advantage.

Eric Cantor

Faculty Sponsor(s): Dr. Douglas Ensley

Poster Location: 9

Formative Assessment Fun with Tree Counting, Security Cameras, and More

Challenging students in a way that is both productive and engaging can be a challenge in itself. We'll share a free source of lesson plans featuring rich tasks for middle school students. The goal is formative assessment that includes the Standards for Mathematical Practice. Through our collaborative experience, we have used multiple lessons to further student knowledge and promote higher-level thinking. Join us to learn about our favorite lessons and their impact on student concept knowledge and understanding.

Emily Owens, Matthew Christman, Victoria Tomlinson

Faculty Sponsor(s): Dr. Dave Kennedy

Poster Location: 10

Calculating the Moduli That Produce a Given Period of the Fibonacci Sequence

In the Fibonacci sequence 1, 1, 2, 3, 5, 8, 13, 21, ... every term is the sum of the previous two. We study the Fibonacci sequence in modular or "clock" arithmetic: for example, modulo 4, the Fibonacci sequence becomes 1, 1, 2, 3, 1, 0, 1, 1, 2, ... and repeats periodically forever. The period of the Fibonacci sequence modulo 4 is 6. In my research, I study which moduli can produce a given period. For example, it turns out that a period of 6 is produced only by the modulus 4, but a period of 24 is produced by 10 different moduli. In general, given a period x , how many moduli produce period x ? Can we compute them explicitly?

Alex Dishong

Faculty Sponsor(s): Dr. Marc Renault

Poster Location: 11

Military Science ROTC

A Century of Leadership: The 100th Anniversary of the Army ROTC Program

The 100th Anniversary of the U.S. Army Reserve Officer Training Corps marks a monumental milestone for the U.S. Army and the Armed Forces as a whole. The ROTC program was founded in 1916 as a reaction to the escalation of the First World War. The program continued to grow through the Second World War and became the cornerstone of Army officer education by the end of the Vietnam Conflict. Today the program upholds its tradition of excellence in the development of the most recent generation of Army officers. Three Shippensburg University cadets will examine the national history of the ROTC program, past and present, as well as the program's history at Shippensburg University.

Devon Newcomer, Brandon Krehling, Sam Soliday

Faculty Sponsor(s): LTC Matthew Sober

Poster Location: 19

Psychology

Cell Phone Use

A survey was given to college students concerning the use of cell phones and emotional responses to cell phone use. Special attention was given to distraction caused by cell phone use in classes and in interaction with others.

Jenna Walton*, Johnny Minguez

Faculty Sponsor(s): Dr. Angela Bartoli

Poster Location: 31

The Effects of Prime Type, Duration, and Location on Word/Nonword Target Identification

Can people identify words outside of attention and can very brief, masked ("subliminal") prime words influence information processing? Our study investigates prime duration and prime attention influences on target (word/nonword) identification. Undergraduate students (N=20) enrolled in psychology courses at Shippensburg University participated in exchange for extra credit. On each trial, a briefly presented (7 or 56 millisecond) prime stimulus occurred at an attended or unattended location. It was followed by pattern masks to make the prime difficult to see. The target always appeared at the attended location. The experiment consisted of 8 blocks of 32 trials. The location of the prime, type of prime and target, and duration of prime were randomly determined. The results supported previous findings on attention and priming effects (greater priming at attended locations); however, we did find some influence of unattended primes that we are currently investigating in a follow-up study.

Caitlyn Findley*

Faculty Sponsor(s): Dr. Steven Haase

Poster Location: 40

Emotion Regulation and Pain

Evidence suggests some pain medication not only reduces a person's experience of physical pain, but also of social pain. The common pathway by which this occurs is not clear, but one intriguing possibility is via emotion regulation. As a first test of this idea, we examined subjects' history of medical issues, pain medication use and personal pain history, measured by self-report, in relation to emotion regulation ability, measured both physiologically and via self-report. Results from self-report measures of emotion regulation, but not physiological measures, suggest one's history of medical issues and current pain levels may be related to one's current abilities to regulate their emotions.

Keri Gladhill

Faculty Sponsor(s): Dr. Robert Hale

Poster Location: 39

Coping Styles in First Year Transitioning College Students

For many adolescents, the transition from high school to post-secondary education poses many difficulties and changes. In response to this transition, adolescents use coping styles as a way to manage these changes. However, coping strategies can be both positive and negative. The research being presented explores the correlation between these coping strategies and depressive symptomatology. By exploring this correlation for any significance, the result will be a better understanding of why students fail to adapt and achieve in college, as opposed to their peers who succeed. Another point of interest is the possibility of an adolescent's locus-of-control in determining how they cope, and ultimately if this has an effect on depressive symptomatology. Overall, understanding the correlation between coping strategies, depressive symptomatology, and locus-of-control is the next step to understanding why some students transition effectively while other students find difficulty.

Hannah Strauch, Caitlin Simmons

Faculty Sponsor(s): Dr. Suzanne Morin

Poster Location: 29

Coping Mechanisms as a Mediator between Parent-Adolescent Attachment and Peer Relationships

The experiences adolescents have with peers influence many aspects of their lives including their cognitive, social, and emotional functioning. Therefore, it is important to investigate factors that lead to adaptive peer relationships. Research has shown that secure parent-adolescent attachment is related to higher quality peer relationships. However, there is very little attention to mechanisms that may explain why and how these variables are related. Coping mechanisms may be potential mediators. Previous research has shown that secure attachment is related to the use of effective coping strategies. There is also evidence that people who effectively manage stress and emotions are more competent with their peers. Thus, attachment relationships may foster effective coping which then influences later peer relationships. The purpose of this study is to examine coping mechanisms as mediators of the link between attachment security and peer relationships.

Jeffrey Hughes

Faculty Sponsor(s): Dr. Ashley Seibert

Poster Location: 30

Social Work/Gerontology

Success in Drug and Alcohol Treatment

The purpose of this study is to investigate potential factors that may increase success in drug and alcohol treatment at Pyramid Healthcare. Mental health and substance abuse have been found to have a strong relationship with one another. Client engagement in mental services will be explored as a factor that aids in success of drug and alcohol treatment.

Kinsey Sprecher

Faculty Sponsor(s): Dr. Jennifer Clements

Poster Location: 43

Correlation of Child Sexual Abuse Victims and Individuals with Disabilities

The purpose of this study is to explore a variety of articles and databases that include research conducted on sexual abuse victims across the globe, as well as closed cases on sexual abuse victims in Northumberland County. The articles will define what sexual abuse is, along with defining intellectual disabilities. Wissink, van Vugt, Moonen, Stams and Hendriks (2015) have found that children with intellectual disabilities (ID) are more at risk of being sexually abused, as well as becoming perpetrators of abuse themselves. There are countless factors that may place an individual at a higher risk for sexual exposure. This study will examine some of the risk factors for sexual abuse, identify some of the impacts that sexual abuse may have on a victim, as well as proposing potential resources that may minimize the sexual abuse of children with intellectual and physical disabilities.

Sarah Neff

Faculty Sponsor(s): Dr. Jennifer Clements

Poster Location: 44

Trends in Diagnosis of Special Needs Children at the Carlisle Army Barracks

The purpose of this research is to investigate the trends in diagnosis of special needs children over the past three years at the Carlisle Army Barracks. All participants were members of the Exceptional Family Members Program. This program serves service member families with children that have special needs. This research looked specifically at behavioral, dietary and neurological special needs. Trends were looked at by category of diagnosis and as an individual diagnosis.

Skylar Guest

Faculty Sponsor(s): Dr. Jennifer Clements

Poster Location: 45

Determining the Benefits and Effectiveness of Healthy Living through the LifeFit Program at UCP Central Pennsylvania

The purpose of this study is to explore the benefits of healthy living and daily exercise in the lives of individuals with disabilities. According to the US Census Bureau, nearly 19% of the population has a disability. Due to the prevalence of individuals with disabilities in the US, it is vital that information pertaining to health and wellness is taught to them. The research looks at body mass index (BMI), blood pressure, and waist/hip ratio over a period of time in order to determine the effectiveness of the LifeFit program at UCP Central PA.

Erin Longfellow

Faculty Sponsor(s): Dr. Jayleen Galarza

Poster Location: 32

Does Education Impact the Rate of Incarceration?

One topic that has been brought to my attention while working at Franklin County Jail was if a person had a high school diploma or general education development (G.E.D) and the severity of their crime(s) committed. According to Harlow (2003), "Numbers of prison inmates without a high school education increased from 1991-1997. The main reason that jail inmates dropped out of school was behavior or academic problems." This topic is believed to be one of the main reasons that people are more likely to commit a crime. Lochner and Moretti (2001) reported, "Overall, the estimates suggest that completing high school reduces the probability of incarceration by about .76 percentage points for whites and 3.4 percentage points for blacks." The purpose of the study is to investigate the inmate's level of education and their likelihood of being incarcerated.

Ashley Fitzpatrick

Faculty Sponsor(s): Dr. Jayleen Galarza

Poster Location: 34

Truancy in Alternative Education

The purpose of this study is to explore student attendance rates in the school year of 2014-2015, and determine if they are affected by Truancy Elimination Plans or the achievement of All-Star weekly level status. Another purpose of this study is to inform the staff and parents of the correlation between students' attendance rates. The researcher will protect the participants by keeping their names confidential through using numbers instead of names. The instrument the researcher will be using is from preexisting data in a database, including TEP plans, TALID points, and attendance records. If research can be conducted to determine a correlation between students' attendance and incentives, it will provide evidence that River Rock Academy is positively increasing attendance rates for students.

Christina Brislin

Faculty Sponsor(s): Dr. Jayleen Galarza

Poster Location: 35

The Effectiveness of Behavior Interventions on Children in Privately Licensed Academic Classrooms

The purpose of this study is to explore the effectiveness of behavior interventions on children who are enrolled in privately licensed academic classrooms, specifically those in alternative education facilities.

Katlyn Williams

Faculty Sponsor(s): Dr. Jayleen Galarza

Poster Location: 42

The Effects of Compassion Fatigue, Vicarious Trauma, and Burnout among Helping Professionals at the YWCA Greater Harrisburg

Helping professionals work with individuals and groups that have been through a variety of traumatic experiences which sometimes causes them to experience feelings such as compassion fatigue, vicarious trauma, and burnout. In short, these negative feelings result in a workers inability to empathize with their clients effectively, requiring them to exercise self-care and utilize supportive resources. The staff of the YWCA Greater Harrisburg were given a survey to explore their experience with compassion fatigue, vicarious trauma, and burnout while at this agency. They were also asked about what services their agency offers to the employees and what ways could the administration enhance those services.

Alicia Rivera

Faculty Sponsor(s): Dr. Jayleen Galarza

Poster Location: 46

Factors That Impede Permanency

The topic of this study is the importance of placement permanency in child welfare agencies. There are many children that are placed in foster care, kinship and residential treatment centers each year. One of the main goals for child welfare agencies is to place children in safe, permanent homes. Research has shown that there are factors that impact the amount of time that children spend in care. Children in certain demographics tend to remain in care longer than others. The purpose of this study is to find what factors impact permanency placement at Franklin County Children and Youth Services. Finding what factors impact the length of time children spend in care could improve permanency rates for child welfare agencies.

Danielle Seaks

Faculty Sponsor(s): Dr. Charlene Lane

Poster Location: 33

Head Start Brigance Screening

Head Start began in 1965 as a program to provide low-income families with various services including education, health, nutrition, social services and more. The program promotes school readiness and family involvement in learning. Children enrolled in the program are given Brigance screenings in order to determine where they are developmentally. For the purpose of this study, Head Start children's race/ethnicity and their Brigance scores will be the focus. Research will be conducted in order to determine if there is a significant relationship between race/ethnicity and Brigance scores. This study could potentially provide Head Start with important information regarding differences seen in children enrolled in the program.

Julie LaBar

Faculty Sponsor(s): Dr. Charlene Lane

Poster Location: 36

Factors That Impact Attendance at Franklin County Head Start

Head Start is a federally and state funded program that provides free education and community resources to children as early as six weeks of age. Attendance is a major issue in the classrooms, and due to federal funding, Head Start is required to remove children who attend less than eighty-five percent of school days for three months, and fill these spots with children that are on the wait list. The purpose of this study is to investigate the factors that cause a child to fall below eighty-five percent attendance for more than three months at Franklin County Head Start. Some of these factors include the race or ethnicity of the family, the family's primary language, the family's yearly income, environmental risks that the child and the family experience, and the number of services that the family receives. These factors will then be compared to the number of months that the child falls below eighty-five percent.

Elizabeth Kumpf

Faculty Sponsor(s): Dr. Charlene Lane
Poster Location: 37

Does Attendance at Head Start Affect Literacy Outcomes?

Head Start is a federally-funded program for low income families. This program focuses on the school readiness of children ages 3 to 5 by providing comprehensive programs and services. These programs and services encourage parent involvement while supporting the mental, social, and emotional development of children. One of the key components in the Head Start program is building children's literacy skills. Literacy is a major factor in a child's overall development. It plays a key role in the development of social skills, independence, academic achievement, and high productivity as an adult. Because early education lays the foundation for success, attendance rate is very important. When children go to school regularly, they have the opportunity to learn and develop new skills that frequent absences could prevent. The purpose of this study is to investigate if attendance affects literacy outcomes in Head Start children.

Tierra Stallings

Faculty Sponsor(s): Dr. Charlene Lane
Poster Location: 38

Recidivism in Residential Treatment Facilities

Dr. Ellen Taliaferro once stated "trauma leaves 'fingerprints' on the victim. These don't fade when the bruises do". Trauma is described as "experiences or situations that are emotionally painful and distressing, and that overwhelm people's ability to cope, leaving them powerless" (McEwen, 2007). There are several types of trauma such as sexual abuse, physical abuse, emotional abuse, neglect, accidents, natural disasters and bullying. Trauma is an important topic because it affects everyone differently. The prevalence of trauma occurs frequently and a wide variety of people are affected by their traumatic experience. For instance, "26% children in the United States will witness or experience a traumatic event before they turn four" (Briggs-Gowan, Ford, Fraleigh, McCarthy, and Carter, 2010). Numerous children who have experienced trauma are receiving help by being admitted to mental health facilities.

Nancy Rudnick

Faculty Sponsor(s): Dr. Charlene Lane
Poster Location: 41

Unsuccessful Court Mandated Substance Abuse Clients

This research study is designed to find the reason behind why criminal justice mandated clients are mostly unsuccessful in substance abuse treatment. Research will be looking at pre-existing data from closed client cases to gather information. The information being gathered will consist of the reason why a client was discharged from the program and if the client's environmental system in his or her life had a positive or negative affect on treatment. Research collection has been approved by the Committee on Research on Human Subjects, Department of Psychology.

Nicole McFadden

Faculty Sponsor(s): Dr. Jennifer Clements
Poster Location: 69

Sociology/Anthropology

The Perception of Campus Safety in Relation to an Active Shooter

The frequency that mass shootings and active shooters appear in the news is ever increasing. With 28 more reported school shootings between 1990 and 2014 than in the prior 240 years, these events have taken a significant toll on institutions and the societies where they reside (Duplechain and Morris 2014). This research project surveys over 50 individuals at Shippensburg University to determine the perceived safety of students. The research evaluates student feelings, outlooks and attitudes about the likelihood of an active shooter situation on campus. The intent of this project is to help improve school safety procedures by sharing the findings with the Shippensburg University community and administration.

Chase Angle

Faculty Sponsor(s): Dr. Ying Yang
Poster Location: 70

Supply Chain Management

Logistics Challenges in China

The world's largest platform for global trade, Alibaba, is an e-commerce company that provides the largest Chinese supplier base. Each year on November 11th, Alibaba promotes Single's Day, a twist on Valentine's Day. Single's Day has become China's version of Cyber Monday, only now Alibaba is focusing on attracting United States retailers to China. On November 11, 2015, sales were recorded at \$14.3 billion. With a sales volume this high, Alibaba has to have an effective and efficient logistics strategy. Their logistics strategy must include predictive analytics, massive upscaling, short term contracts, and a collaborative logistics network. The real question here is, what can be learned from Alibaba's logistics strategy and how can this information be used to improve current logistics practices in the United States.

Kylie Thomas

Faculty Sponsor(s): Dr. Robert Setaputra
Poster Location: 20

POSTER SESSION II



Biology

Thermal Analysis of the Eastern Garter Snake, *Thamnophis sirtalis*, at the Shippensburg University Campus, Cumberland County, Pennsylvania

Climate change, result of human activities, threatens species who are adapted to particular environments. Snakes are ectotherms, as they regulate their body temperature with the help of their specific environment. As an extension of a five-year study on Shippensburg University's campus (SU) snake community, this research examines thermal aspects of the Eastern Garter Snake (*Thamnophis sirtalis*), a common Pennsylvania species. Using 45 cover boards along the eastern side of Shippensburg University campus, from October (2015) to April (2016), we recorded air, board, substrate, snake skin, and snake body temperatures of individuals captured under such boards. Additional snake data (e.g. body length, tail length, sex) were also recorded. This research will identify relationships between board and snake body temperatures in *T. sirtalis*, and also its thermal thresholds. In the SU campus snake community, future studies should address these thermal relationships in other species

Wesley Smith, Brooke Hall

Faculty Sponsor(s): Dr. Pablo Delis

Poster Location: 62

Assessment of Factors Affecting Radio Telemetry Techniques Applied to Eastern Box Turtles in Letterkenny Army Depot

Biological Radiotelemetry is a field technique utilized to locate wild animals. This technique uses radiowaves sent from transmitters (TRs), attached to animals, detectable by an antenna and an electronic receiver (RE) held by a researcher. This study examines the effect of some physical factors (depth, elevation, distance, and habitat type) on radio signal strength. These factors may lower the ability to detect the TRs and thus locate the animals. It is expected that with greater depths, higher elevations, farther distances, and rockier habitats, the signal strength will be reduced. At Letterkenny Army Depot and using an analog RE, six RTs will be set at depths of 0 to 50 cm, distances from 5 to 500 m, elevations from 5 to 20 m, and in wooded, rocky, and open habitats to evaluate changes in signal strength. This study will enable researchers to better understand the challenges of field studies that use radiotelemetry and potentially also help them increase their efficacy.

Kelly Babashan

Faculty Sponsor(s): Dr. Pablo Delis

Poster Location: 63

Long Term Survey of Anuran Communities in Letterkenny Army Depot, Franklin County, Pennsylvania

Wetlands are essential habitats for the reproduction of anurans, frogs and toads. Anurans are considered bioindicators and signal the quality of such ecosystems. This study is a continuation of a long term research on anuran communities, started in 2012, in Letterkenny Army Depot (LEAD), Franklin Co., South-Central Pennsylvania. We assessed the diversity of anurans at LEAD by recording male vocalizations using automated recording systems, Froglogger, at two sites, Wally and Twin

Ponds, characterized by lower and higher elevation respectively. Sound files from 2013, March-July, were analyzed using Song Scope software to study species presence and temporal activity patterns. While previous data have reported the callings of *Anaxyrus americanus*, *Lithobates catesbeianus*, *L. clamitans*, *L. palustris*, *Hyla versicolor*, *Pseudacris crucifer*, and *P. feriarum* occurring at these sites, now we address the relative calling activity levels of the species, a reflection of male densities.

Jillian Onyskiw

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

Poster Location: 64

Assessment of Adult Marbled Salamanders Migration from Breeding Pond (Missile Pond) in Letterkenny Army Depot

Amphibians are common species inhabitants of wetlands. Mole salamanders are distinct members of the amphibian community in Pennsylvania. Marbled salamanders, *Ambystoma opacum*, are the smallest of the mole salamanders and are found in most of Pennsylvania but absent from the northwest portion of the state. It is unsure how and to what extent the females disperse once they leave the pond, but it has been shown that they use migration corridors. In 2015, we examined amphibian dispersal from a known pond using pit fall traps and drift fences. Our data show that *A. opacum* do travel higher in elevation when leaving the pond. Additional findings on other amphibians suggest that there may be other salamanders and frogs using the same breeding pond. This research will expand our knowledge on marbled salamanders' behavior outside of the breeding season along with the other amphibian species found at this site. Future research conducted in 2016 might corroborate our preliminary findings.

Erika Coover, Sarah Flick

Faculty Sponsor(s): Dr. Pablo Delis

Poster Location: 65

Ecological Study of Amphibian and Reptile Populations in a Restored Wetland in South-Central Pennsylvania

Amphibian and reptile populations have declined worldwide, and habitat loss or degradation is considered to be a leading cause. The restoration of wetland habitats is an important strategy in preserving these species. A wetland restoration project near Newburg, Pennsylvania converted agricultural fields into a complex of shallow ponds and wetlands. Restoration activities ran from 2011 through 2014. We sampled amphibians and reptiles in 2015. Methods include visual surveys, checking cover boards and frog tubes, and trapping turtles with baited traps. We found three turtle species, three snake species, seven anuran species, and one species of salamander. Based on the diversity of species and indications of successful reproduction by several species, the restored wetland appears to be providing suitable habitat for a variety of amphibian and reptile species. Research will continue in 2016 and beyond, which will allow us to estimate population sizes and determine long term dynamics.

Emily Sarver, Paul Christman, Alyssa Hay, Brandon Mullen, Riley Papsen

Faculty Sponsor(s): Dr. Tim Maret

Poster Location: 60

Ecological Interactions between Virginia bluebells, a Native Floodplain Plant Species, and Lesser Celandine, a Non-Native Invader

Lesser celandine, *Ranunculus ficaria*, is an invasive species from Eurasia that has dramatically increased its range in the northeastern United States. It is rapidly becoming a common floodplain species along many streams in southcentral Pennsylvania. We are investigating interactions between *R. ficaria* and a native floodplain species, the Virginia bluebell, *Mertensia virginica*. In spring 2014, we established a series of quadrats along a section of the Conodoguinet Creek near Newburg, Pennsylvania. In one set of quadrats, we are monitoring year to year changes in the abundance of *R. ficaria* and *M. virginica*. In a second set of quadrats, we are investigating the effectiveness of chemical control of *R. ficaria* by comparing differences in plant abundances between control plots and plots in which *R. ficaria* is sprayed every spring with the herbicide glyphosate. Data are collected every spring, and will continue for several years. We present a comparison of results from 2014 and 2015.

Kate Destafano, Alyssa Hay, Emily Sarver

Faculty Sponsor(s): Dr. Tim Maret, Dr. Heather Sahli
Poster Location: 59

The Effects of Forest Change on Leaf Processing in Vernal Pond Ecosystems

Forests in the northeastern United States are undergoing a change in tree species composition. Red maple (*Acer rubrum*), is increasing in abundance, while oak (*Quercus sp.*) is decreasing. Leaves are a source of energy for forested aquatic ecosystems. Leaves are colonized by microorganisms, which provide food to other aquatic organisms. Leaves with high levels of tannin and lignin usually take longer to decompose than those with low levels. As a result, we expect maple leaves to decompose rapidly, while oak leaves should decompose more slowly. We collected leaves last fall and set up several large mesocosms. Additional mesocosms were set up in the spring. Leaves are sampled weekly and analyzed for mass loss and carbon and nitrogen composition. In addition, we are measuring water chemistry weekly. Our results will provide information that will be useful in managing forests and aquatic ecosystems in a changing world.

Brandon Mullen, Drew Yauneridge

Faculty Sponsor(s): Dr. Tim Maret
Poster Location: 61

Chemistry

Synthesis and Crystal Structure of a Two Dimensional Terbium-Aluminum Metallacrown-Like Compound

Metallacrowns (MCs) are macrocyclic complexes with a M-N-O repeating unit that composes the ring of the molecule. Metallacrowns have potential uses as single-molecule magnets, antimicrobial agents, and building blocks for larger dimensionality materials. The chemical and physical properties of metallacrowns can be easily fine-tuned by reliably replacing the central cavity metal ions, ring metals ions, and metallacrown framework ligands. The ability to deliberately manipulate and tune properties of coordination complexes is difficult in inorganic chemistry syntheses; however, the self-assembled metallacrown molecules provide a platform to investigate the variation of the

different molecular components. Reported here is a metallacrown-like compound that assembles in a two-dimensional network. The two-dimensional network and packing of the molecules will be presented, and the physical properties of the aluminum metallacrown-like two-dimensional network will be described.

Gerard Van Trieste

Faculty Sponsor(s): Dr. Curtis Zaleski
Poster Location: 56

Ring Metal Substitution of 12-Metallacrown-4 Compounds

Single-molecule magnets (SMMs) the ability to store data, much like computer hard drives, but are able to do so with far fewer atoms. Unfortunately the operating temperature for most SMMs are extremely low, approximately near 10 K. In order to raise the operating temperatures various compounds have been synthesized that show SMM tendencies. One class of compounds synthesized that shows SMM qualities are metallacrowns (MC). One type of metallacrown that will be investigated in particular is a manganese-based 12-MC-4 complex. To better understand the magnetic behavior the components of the metallacrown framework, the components must be systematically altered.

Ian Kuhn

Faculty Sponsor(s): Dr. Curtis Zaleski
Poster Location: 57

Synthesis and Crystal Structure of a Two-Dimensional Network of Aluminum Metallacrowns

Metallacrowns (MCs) are molecules with a ring M-N-O repeat unit. The ring metal ion is generally a paramagnetic; however, to fully understand the magnetic properties of a molecule it is useful to replace the paramagnetic metal ions with diamagnetic ions. In the parent Dy[12-MCMn(III)N(shi)-4]³⁺ complex, manganese(III) ions compose the MC ring, and they magnetically couple with the central dysprosium(III) ion. This precludes understanding the magnetic effect of the Dy(III) ion on the metallacrown. Presented herein we demonstrate that the Mn(III) ions can be replaced with diamagnetic Al(III) ions. However, the use of aluminum does not lead to an individual 12-MC-4 molecule. Instead the compound self-assembles into a two-dimensional polymer where sodium ions and N,N-dimethylformamide bridge metallacrown-like subunits to produce a network. The structural characteristics for this two-dimensional metallacrown will be presented.

Jordan Travis

Faculty Sponsor(s): Dr. Curtis Zaleski
Poster Location: 58

Communication/Journalism

Response to Death in the Media

When one becomes conscientious of his or her own death, or mortality salience, he or she may experience varying emotions. Research supports that exposure to death in the context of differing worldviews may contribute to increased anxiety or negative emotions regarding one's perception of death. When worldviews are supported or threatened, one's reaction to mortality salience may be impacted. In the context of media, mortality salience and emotional reactions to the exposure to death when one views the media can be evaluated. This research will evaluate whether or not individuals have an increase in anxiety or other negative emotions when exposed to death in the media. This study allows for evaluation of the impact of exposure of death in the media on mortality salience in subjects surveyed.

Anna Hykes*

Faculty Sponsor(s): Dr. Holly Ott

Poster Location: 15

Exploring the Impact of Advertising on Social Media Followings

In today's social media-driven world, the public's ability to be influenced by and to interact with persons of note (i.e. celebrities and public officials) is greater than ever. This study will be dual-focused, first on the nature of the types of advertising and social media branding that a user interacts with most often. Secondly, if a social media user sees a public figure in advertising, would that have an impact on the opinion they hold? There will be a focus on the types of advertising used, such as "overt" advertising—television commercials, internet ads and "native" advertising—and those ads that appear as "sponsored content" in various media. Responses will then be reviewed against one another to attempt to find a relationship between the advertising types most often experienced, the public figures who appear in said advertising and those public figures that are followed most often by social media users.

Shawn Gilgore*, Perry Mattern*

Faculty Sponsor(s): Dr. Holly Ott

Poster Location: 16

Social Media Advertising: Leveraging Social Media Platforms to Boost Consumer Interest

According to consumer insight service Experian Simmons, more than 98 percent of college-aged students use social media. This has created a new avenue for advertisers to reach their target audience. Today, geo-targeted advertisements have the ability to directly reach a company's audience. While the reach may be there, just how effective are these social media advertisements in driving consumer interest? This research study will look to observe this question. This research study will also examine which platforms are most effective in boosting consumer interest through social media advertising. This study will focus on how likely social media advertisements will increase a consumer's interest in a product or service and which platforms are most enticing. The chosen method for this study will be a questionnaire to survey SU students about how often social media advertisements increase their interest regarding a service or product and which social media channels are most effective.

Kristin Kellum*

Faculty Sponsor(s): Dr. Holly Ott

Poster Location: 17

Counseling and College Student Personnel

This Little Light of Mine

A creative workshop series that highlights the benefits and importance of creative art therapy for client's suffering from grief, trauma, and addiction.

Andrea Geesaman*

Faculty Sponsor(s): Dr. Kurt Kraus

Poster Location: 1

The Lived Experiences of Students That Obtained Off-Campus Employment within Their First Academic Year at College: A Qualitative Investigation

The purpose of this qualitative study was to gain knowledge of the lived experiences of first year college students who held an off-campus job during their first academic year and their ability to become involved on campus, if they chose to do so. Research shows that there is a connection to the number of hours worked off-campus and the amount involvement on-campus in clubs or organizations, but this study further examined the experiences of the participants and how they were able to balance the time commitments of being a student, working, and leisure time at Shippensburg University.

Brandy Lautsbaugh*

Faculty Sponsor(s): Dr. Matthew Shupp

Poster Location: 2

Criminal Justice

Breaking the Chains: An Examination of Legislation Pertaining to Human Trafficking in the United States

Prior to the passing of The Trafficking Victims Protection Act of 2000 (TVPA), Human Trafficking cases were rarely prosecuted due to the lack of legislation in regards to this area of crime. Without the proper guidelines and laws in place, criminal justice agencies were hard pressed to define and take legal action in these cases correctly. However, when the TVPA was passed into law, this opened up the possibilities for criminal justice agencies throughout the United States. The goal of this research is to analyze all levels of legislation that pertains to Human Trafficking passed at the state level and compare and contrast the legislative packets.

Michael Chubb

Faculty Sponsor(s): Dr. Michele Bratina

Poster Location: 55

Confrontational Homicide

Males, as a gender, are the primary perpetrators of homicide. When breaking down the demographics of homicide, males are the gross majority of offenders. In some cases, the number of female offenders is so insignificant that some forms of homicide are considered to be nearly exclusive to males. Take for instance the subset of homicide known as confrontational. This form of homicide is dominated by males that it has been linked to the issue of masculine violence. Although I will conceptualize confrontational homicide later in this discussion, it is important to note that this style of homicide is solemnly understood, yet it contributes to a rather extensive social issue in the United States and throughout different parts of the world. Within this literature review I will identify explanations as to why confrontational homicide is so male oriented, as well as externalities that contribute to this form of homicide outside of the triggering altercation.

Gregory Fry

Faculty Sponsor(s): Dr. Matthew Fetzter
Poster Location: 54

Gun Control Legislation in the United States

This research aims to address whether the implementation of certain aspects of gun control have any type of influence on violent crimes. Gun control has become a highly politicized interest in today's society with the increase of mass shootings. By examining whether gun control is effective or not can play an important role in adding more laws or shifting focus to an additional expectations of violent crimes. I will discuss eight dominant types of gun control legislation consisting of waiting periods, bans on certain firearms or ammunition, concealed weapon carry laws, restrictions on who can get a firearm, registration and licensing of owners, zero-tolerance laws, and a combination of laws.

Bryan Walter

Faculty Sponsor(s): Dr. Matthew Fetzter
Poster Location: 53

Disability Studies

An Investigation into the Physical Accessibility of Shippensburg University

Researchers examined physical accessibility on Shippensburg University's Campus. This study surveyed five top-rated buildings on campus, and logged the number of accessible and inaccessible entrances, elevators, and bathrooms. This current study raises awareness of inaccessibility on the campus of a State University.

Rikki Sargent

Faculty Sponsor(s): Dr. Cheryl Zaccagnini
Poster Location: 5

Economics

The Relationship between Weather and Crime in Metropolitan Areas

With the ever growing concern over public safety, researchers are looking to find factors that influence criminal behavior and activity. This research project studies correlations between weather and crime data from Pennsylvania metropolitan areas. By utilizing criminal data from government and municipal databases and weather data from Weather Underground, I hope to identify aspects of weather that can influence the frequency and severity of crimes committed.

Chase Angle

Faculty Sponsor(s): Dr. Freddy Siahaan, Dr. Benjamin Galluzzo
Poster Location: 19

Retention Rates at Shippensburg University

The purpose of this research is to identify factors that affect retention rates at Shippensburg University. By using data provided by the Office of Institutional Research and Planning, we assess how all of the relevant variables, such as the enrollment, students' characteristics, and faculty-student ration may affect the retention rates. The findings of this paper may give guidance on how to maintain high retention rates at Shippensburg University.

Zoleka Mekile

Faculty Sponsor(s): Dr. Freddy Siahaan
Poster Location: 20

Economic Model for Mortgage Delinquency Rates

This research is to find an historic model for mortgage delinquency rates in the U.S. The time-series parameters used to build the model are unemployment rate, consumer confidence index, 30-year Freddie Mac interest rates, housing price index, real GDP growth, and personal disposable income. The time period of 25 years (1990–2015) covers a number of ups and downs in the U.S. economy. The effects represented during this time period include the rise of the Internet and the Dot com bust, the financial crisis in 2008, and globalization with trade agreements like NAFTA. This research may, if any, shed light on predicting mortgage delinquency.

Gregory Eves

Faculty Sponsor(s): Dr. Freddy Siahaan
Poster Location: 21

Monetary Policy and U.S. Stock Markets

This research investigates the impact of monetary policy on the U.S. stock markets. For statistical data on the S&P 500 and the Dow Jones Industrial Average, we used information from Yahoo Finance. Data for the Federal Reserve Funds Rate came from economic research of the Board of Governors of the Federal Reserve System. Given the understanding that there are other factors affecting the stock markets, we extracted data from the Bureau of Labor Statistics for unemployment, and the Bureau of Economic Analysis for our data on real GDP. Through the means of regression analysis, we expect there is a correlation between monetary policy and the volatility in the stock markets.

Michael Banwell

Faculty Sponsor(s): Dr. Freddy Siahaan
Poster Location: 22

Do Natural Disasters have an Affect on Insurance Company Stock Prices?

This research is to investigate if natural disasters affect the stock price of an insurance company. In particular, we analyzed the correlation between MetLife's stock price and the occurrences of natural disasters in the U.S. By using data from MetLife's financial statements, Yahoo Finance, and the NOAA website, we ran a regression analysis of MetLife's stock price on the occurrences of natural disasters. We anticipate that MetLife's stock price decreased after natural disasters.

Derek Murr

Faculty Sponsor(s): Dr. Freddy Siahahaan
Poster Location: 31

Effect of GPD and Population on Olympic Medal Count

This paper will analyze the correlation between a country's Olympic medal count from a given year compared to its population and GDP. We take look at every country that has participated in the games over the last 50 years. This allows us to see what kind of advantage a higher population or GDP has played in the Olympics, as well as which is the more powerful Advantage. The research will be conducted using the GDP and population of each participating country in each given Olympic year, and analyzed in a STATA program to put a value to the weight of these two variables.

Kieran Sutton

Faculty Sponsor(s): Dr. Freddy Siahahaan
Poster Location: 30

Obesity vs. the Hospital Visits of Youth

There has been evidence that obesity significantly impacts health status as we age. However, this holds the implicit assumption that obesity matters the most only in middle to old age. Using data from NLSY97 from the BLS, we are using panel data regression analysis to explore the correlation between obesity and the number of annual health care visits. Based on earlier studies, we expect that obesity does increase the frequency of youth's hospital visits.

Curtis Lamp

Faculty Sponsor(s): Dr. Freddy Siahahaan
Poster Location: 29

Exercise Science

Effects of Glucose and Bicarbonate as Recovery Methods for In-Season Competitive Swim Training

Athletes in the sport of swimming train at volumes that can lead to overtraining. Ergogenic aids, such as carbohydrate (CHO) and sodium bicarbonate (BC), supplementation have been proposed as methods to promote recovery in intense daily swim training. The purpose of the study was to determine the effectiveness of CHO and BC as recovery methods for swim training. Eighteen collegiate swimmers participated in a two week study, 12 males and 6 females. Subjects were divided into three groups, receiving high CHO beverage and placebo (PL) capsules, receiving PL beverage and PL capsules, and receiving high CHO

beverage and BC capsules. Subjects completed a 100 yard maximal swim, two-repeat Wingate bout, hand grip dynamometer, and PANAS evaluation pretest and posttest of the two week recovery intervention. It was determined the dosage of CHO and BC administered were not effective as recovery methods for swim training.

Stefan Szilagyi, Carolyn Meier

Faculty Sponsor(s): Dr. William (Turi) Braun
Poster Location: 73

Comparison of Astrand VO2max Prediction to a Graded Leg Ergometry VO2 Max Test in Endurance Athletes

The human body adapts to high aerobic endurance training in various ways within the cardiovascular and respiratory systems. **PURPOSE:** To determine whether the Astrand submaximal protocol over/under estimated the prediction of the VO2max in aerobically trained athletes. **METHODS:** Subjects were tested on two protocols: 1) the Astrand and 2) True VO2max test. Both tests were performed on cycle ergometers with fixed RPM (revolutions per minutes), with the Astrand maintaining a constant workload while the True VO2max test had an increasing workload. **RESULTS:** There was no significant difference ($p=0.05$) between the Astrand predicted VO2 (57.6 ml/kg/min ± 8.374) and the actual True VO2max test VO2 (50.05 ml/kg/min ± 8.623). **CONCLUSION:** There was no significant difference between the true VO2max values and those that were predicted using the Astrand protocol. This indicates that the Astrand protocol does not over/under predict the actual VO2max for aerobically trained individuals.

Lucas Van Horn

Faculty Sponsor(s): Dr. William (Turi) Braun, Dr. Joohee Sanders
Poster Location: 66

Ability of Fitness Trackers to Accurately Measure Caloric Expenditure of College-Aged Students during Submaximal Exercise

The purpose of this study was to determine the accuracy of caloric expenditure measured by the Fitbit One™ and Jawbone UP MOVE™ when compared to a metabolic cart. Nineteen college-aged subjects completed two protocols: walking one mile at 3.0 mph, 0% grade and one mile at 3.0 mph, 3% grade. When comparing caloric expenditure on a flat surface to a graded surface, there was a statistically significant interaction, $F = 9.10$, $p = .00$. There were statistically significant differences between the Fitbit One™ and Jawbone UP MOVE™, $p = .00$, and the Jawbone UP MOVE™ and Metabolic Cart, $p = .00$. When comparing the caloric expenditure between groups on a flat surface, there was no significant interaction found, $F = 0.22$, $p > .05$. Lastly, when comparing caloric expenditures after walking on a graded surface, no significant interaction was found, $F = 0.20$, $p > .05$. This study showed that the Fitbit One™ is more accurate in measuring caloric expenditure on both flat and graded surfaces.

Michelle Schultz, Shaniece Jackson, Rebecca Campbell, Caitlyn Deeter, Norman Dorsey-Poles

Faculty Sponsor(s): Dr. Sally Paulson, Dr. William (Turi) Braun
Poster Location: 67

The Effects of Foam Rolling vs. Dynamic Stretching on Anaerobic Performance

PURPOSE: To examine the impact of warm-up foam rolling as compared to dynamic stretching on anaerobic performance. **METHODS:** Ten college students (6 male and 4 females, ages 19 to 22). Three tests were used to assess anaerobic power; vertical jump (VJ), broad jump (BJ) and a 20 yard sprint (ST). Dynamic stretching and foam rolling data collection occurred on two separate days with at least a day of rest between each. Each subject performed a warm-up protocol prior to each of the interventions. **RESULTS:** There were no significant differences ($p > .05$) for either intervention for all three tests of anaerobic power. **CONCLUSION:** There were no differences in anaerobic performance between each of the pre-performance techniques. Expected differences because of the dynamic warm-up did not occur. Perhaps the dynamic stretching protocol needs to be more controlled and specific for each of the tests.

Jesse Lawton, Sydney Kline*, Ricky Pabon*, Steve Owens, Zach Carter

Faculty Sponsor(s): Dr. Joohee Sanders, Dr. Russell Robinson
Poster Location: 72

Geography/Earth Science

Analysis of Engineered Oyster Reefs Using 3D Structure-From-Motion Photogrammetry: Preliminary Approach, Methods, and Techniques for Quantifying Reef Growth

Photogrammetric methods have been used in geologic and environmental applications for more than three decades. With the growing availability of low-cost devices and emerging software, these methods can be applied to wider variety of projects. Here it is being used to develop new methods for investigating metrics of oyster reef health, growth, and recovery. In this study, photogrammetric methods are applied to the investigation of constructed oyster reefs in the coastal bays of Virginia. The castles provide local substrates for oyster recruitment, and ultimately help stimulate oyster recovery. In this preliminary study, photogrammetry is accomplished through the use of Agisoft PhotoScan Software to produce a 3D point cloud using algorithms that auto-detect fixed feature points. By combining the camera position and triangulation of these fixed points, a dense 3D geometric surface can be created. The X, Y, and Z values are then exported into ArcScene for analysis.

Patrick Peck

Faculty Sponsor(s): Dr. Sean Cornell
Poster Location: 8

Mechanical (Freeze-Thaw and Thermal Expansion-Contraction) Weathering Experiments on Jurassic Diabase from the Gettysburg Basin and the Role of Rock Textures in Formation of Fractures

Prominent features of the Gettysburg rift basin include ridges, knobs, crevices, boulder fields, etc. formed in Jurassic diabase. This study examined the role of rock texture and mineralogy on the formation of fractures which are exploited by surface weathering processes. Freeze-thaw are said to exploit regional flexure-formed joints as well

as pre-existing microfracture networks. To explore these processes, replicate samples with different grain sizes were cut, hand-polished, and thin sections were prepared for petrographic analyses. Samples are undergoing freeze-thaw trials to initiate fracture development through thermal contraction and expansion. Initial trial results show a more complex process takes place; it is not yet known how different textures will respond to these results. It is hypothesized that coarser grain sizes will be less susceptible to microfracture development due to higher yield strengths associated with interlocking fabrics of more slowly cooled intrusive rocks.

Emery Saylor

Faculty Sponsor(s): Dr. Sean Cornell
Poster Location: 9

Investigating Yield and Sustainability of Different Potato Varieties at the Shippensburg University Farm

At the Shippensburg University Campus Community Farm (CCF) we grew potatoes both inside above ground steel cages and in traditional in ground beds during 2015. Our initial objective was to determine the relative yield of potatoes grown in these conditions, but did not initially control for specific variables. Although data analysis is not yet complete for the pilot project, there was a marked difference in yield. We also noted differences in above/below grounds pests during the growing season, as well as differences in ease of harvest. Harvesting potatoes from raised bins is much faster, cleaner, and efficient. It may also reduce disease or fungus transmission from one crop year to the next. Therefore if yields were higher for above ground potatoes, it would be a more sustainable option for growing these tubers in the future.

Aaron Einstein

Faculty Sponsor(s): Dr. Sean Cornell
Poster Location: 10

Calculating the Habitat Area of *Myotis lucifugus* Affected by the Spatial Distribution of White-Nose Syndrome in the United States

White-nose syndrome (WNS), caused by *Pseudogymnoascus destructans*, has caused high mortality rates in hibernating North American bat species since it was first recorded in Schoharie County, New York in February 2006. *Myotis lucifugus*, commonly known as the little brown bat, has been experiencing a significant population decline where more than 90% of individuals inflicted with WNS do not survive winter. Using GIS analysis techniques and WNS distribution data from Bat Conservation International, the pattern of the spread of the disease and the percentage of affected *M. lucifugus* habitat were determined. As of early 2015, WNS had reached 30 states, and the total affected habitat of *M. lucifugus* in the Eastern United States was 20.57%. Due to the recent discovery of WNS, it is likely not all occurrences have been recorded, so more areas may have been affected. Further research may include comparing the configuration of the spread of WNS with the distribution of karst environments.

Eric Gebert

Faculty Sponsor(s): Dr. Scott Drzyzga
Poster Location: 11

Education, Population, and UFOs

The first Unidentified Flying Object (UFO) sighting to be officially recorded in the United States occurred over the Charles River in Boston during 1639. John Winthrop, the governor at the time, made an entry about it in his personal journal. Since then, tens of thousands of sightings have occurred in all regions of the United States. The purpose of this study was to determine if UFO sightings are dependent on population density as well as levels of educational attainment in order to explain the distribution of occurrences. This was completed by using the Location Quotient for each county in the country using both criteria to separate areas of low, medium, and high amounts of sightings per population to view the distribution.

Carl Seils

Faculty Sponsor(s): Dr. Scott Drzyzga

Poster Location: 12

Economic Study of the Transportation and Warehousing Industry through the I-81 Corridor

This research presents an economic study of the Transportation and Warehousing industry's dynamics along the interstate I-81 corridor through the recession of 2007-2009. The interstate I-81 corridor is a major transportation and warehousing artery in the northeastern United States used to deliver goods to nearly one fifth of the U.S. population. The corridor encompasses five states and a total of 36 counties that are within one mile of the interstate. The recent recession of 2007-2009 has provided an opportunity to determine the extent to which industries suffered economic decline, and subsequent recovery, through such a destabilizing time period. This research will focus on a number of variables that relate to the economic health of the counties in the I-81 corridor region, with a specific focus on Transportation and Warehousing during the ten year period, 2003-2013. That time span captures pre-recession, peak, and post-recession aspects of the region and industry.

Michael Benham

Faculty Sponsor(s): Dr. Kurt Fuellhart

Poster Location: 13

Thermal Variation of Land Use/Land Cover Types in Shippensburg, Pennsylvania

Land Use/Land Cover (LULC) thermal differences are the foundation of Urban Heat Islands. Urban Heat Islands occur in cities where LULC has been modified from its natural condition. Each LULC type has a unique impact on the local climate. Throughout multiple 24-hour periods, in fall, winter, and spring, thermal infrared images were taken of Shippensburg. Shippensburg, located in South-Central Pennsylvania, is primarily dominated by westerly winds along with a continental-temperate climate region. To measure LULC temperature differences, specific LULC types were emphasized: Front Field of Old Main, Steam Plant, Steam Plant Parking Lot, Eckles Field, and the Orange St. Church. Throughout each night, measureable LULC temperature differences existed, but the differences were not consistent during the diurnal cycle. Results suggest that varying LULC structures create multiple different temperature zones in Shippensburg.

Braden Bruning

Faculty Sponsor(s): Dr. Timothy Hawkins

Poster Location: 14

Sustainable Pennsylvania Community Certification for the Borough of Chambersburg: An Assessment of Policies and Practices for a Sustainable Community in South-Central Pennsylvania

The main purpose of this research project is to assist the Borough of Chambersburg with their goal of reaching either the Silver or Gold achievement level for the Sustainable Pennsylvania Community Certification. This certification is intended to recognize local/municipal governments in the state of Pennsylvania for enacting the policies and practices of sustainability for their communities' growth. However, sustainability can be a fairly complex concept to tackle, and understanding what sustainable communities are or how they operate may seem confusing or unattainable for some communities. This research proposal will also discuss what sustainability is, what sustainable communities are, give background on the Sustainable Pennsylvania Community Certification, and identify another local municipality that has already attained a high level of certification.

Carla Johns

Faculty Sponsor(s): Dr. Claire Jantz

Poster Location: 7

History/Philosophy

Canada or Sweden?

My poster presentation will be about the draft during the Vietnam War era, specifically regarding two of the main countries from which dodgers used to flee. One of them was a highly sought after and known destination for draft dodgers to go. The other was further away and more challenging to get to, but it still provided a safe haven for dodgers. The two countries that I am talking about are Canada and Sweden. Most people know that Canada was the main destination for impending draft dodgers during the Vietnam War, but not as many know about Sweden as a destination. In my presentation, I will be comparing the two countries in regards to which one was a more viable destination for draft dodgers.

Gordon Filberg

Faculty Sponsor(s): Dr. Steven Burg

Poster Location: 42

Oil Communities and Labor Migration in the Gulf Region of the Middle East

The development of oil industries in the 1930s within the Gulf Coast of the Middle East became the driving force behind the first organized import of migrant labor into the region. The governmental and economic policies that were established during this time period would later be extrapolated and altered in subsequent years, eventually transforming into the contemporary "kafala" system that the Gulf Coast is accustomed to today. This research expands upon the already well-known historical narrative of migrant labor within the Gulf Region by primarily studying the formation of whole communities that formed around oil fields and how its design attributed to social dichotomies.

Jeremy Starr

Faculty Sponsor(s): Dr. Brian Ulrich

Poster Location: 43

Human Communication Studies

Gender Bias: Cultural History, Changes and Interventions at Shippensburg University

Gender Bias is a worldwide problem that affects every person no matter their gender. The only solution to this problem is awareness. In our presentation, we will be informing the audience on what gender bias is, the history behind it and the negative effects it has. We will also be discussing how gender bias affects the student at Shippensburg University, the liberal arts, sports, the professional world and young people. We believe that our symposium helped bring awareness to this problem that affect all people. We also be created a Facebook page about gender bias. This brought even more awareness to people on and off campus. By bringing more awareness to this problem, we hope that we can start to change the stereotypes that effect our everyday lives.

Caylyn Hall, Morgan Mellott, Stephanie Carlin, Lisa Watson, Summer Carson, Casey Leming, Amanda Pursel

Faculty Sponsor(s): Dr. Eveline Lang
Poster Location: 41

Management/Marketing

Workplace Bullying: How Prevalent Is It among College Students?

We explore the concept of workplace bullying—abusive verbal or nonverbal behavior or sabotaging tactics which prevent workers from performing satisfactorily. Workplace bullying is costly as it disrupts productivity and negatively impacts employee retention and recruitment and it is under-researched among student populations. We documented the incidence of workplace bullying among students and provide possible recommendations for targets of bullying.

Shannon Moran

Faculty Sponsor(s): Dr. Wendy Becker, Dr. Joseph Catanio
Poster Location: 68

Conscientious Workers for the Communication Age: A Cor-Relational Study of How Employee Work Ethic Can Be Promoted through Attitudes, Emotions, and Stress in the Workplace

Promoting a good work ethic is one of the biggest challenges managers face in the modern world. The current study examines how attitudes, emotions, and stress in the workplace are related to an employee's work ethic. In order to examine how these factors correlate, we used a qualitative analysis. Data was collected from our sample of Shippensburg University students through an online survey, measuring our constructs of interest. Our results shed light on how managers can focus on attitudes, emotions, and workplace stress to improve the overall work ethic of their employees.

Justin Hock, Tiara Smith

Faculty Sponsor(s): Dr. Wendy Becker
Poster Location: 69

LeadHERship Development: Maximizing Leadership Potential for Women in Charge

The ability for an individual to successfully lead a group or organization depends on a set of skills and attributes. The skills and attributes necessary to lead effectively can be developed and practiced. Therefore, effective leadership is genderless; although, effectiveness can be undermined by subordinates because of gender. We used surveys to observe the attitudes of undergraduate and graduate students regarding women in leadership positions. Participants provided qualitative and quantitative data; we examine the results for subordinate dispositions that may damage leadership effectiveness.

Andrew Stets

Faculty Sponsor(s): Dr. Wendy Becker
Poster Location: 70

Attitudes About Celebrities on Snapchat

We were interested in discovering the influence celebrities on Snapchat have on consumer attitudes. Previous research has shown the power a celebrity has on consumer attitudes when the brand isn't well known and when celebrities have strong source credibility. 59 respondents completed questionnaires regarding attitudes about celebrities on Snapchat. Findings indicate disagreement about the preference of following/viewing celebrities promoting brands but agreement for their influence promoting events. Having a higher number of friends on Snapchat was positively correlated with interest in a brand featuring non-celebrity users. Daily Snapchat use was positively correlated with liking Snapchat live feeds featuring celebrities. Those with a high Snapchat score had a higher liking of Snapchat live feeds with celebrities but felt Snapchats were more relatable with average people. We conclude that celebrity campaigns are only effective on Snapchat to promote events.

Sara Sermarini*, Ke Vaughn Gayle

Faculty Sponsor(s): Dr. Michael Coolsen
Poster Location: 71

Mathematics

Analysis and (Re)Modeling of Pennsylvania's Basic Education Funding Formula

In an era of ever-shrinking state budgets, school district funding has been a topic of interest nationwide for years; this is especially true in Pennsylvania where the Pennsylvania Basic Education Funding Commission recently released a new formula to allocate funding for K-12 school districts across the state. This is significant considering the state of Pennsylvania has not used a formula to distribute funds since the last funding formula was discarded in 2008. This project models Pennsylvania's school district distribution of over five and a half billion dollars, analyzes the effects of certain factors in the formula to identify key parameters that drive the proposed model, and examines alternative approaches to the allocation of school funding dollars.

Brandon Weiser, Lara John, Katie DeVito, Brielle Arch

Faculty Sponsor(s): Dr. Benjamin Galluzzo
Poster Location: 26

Math Modeling of Counting People in Crowded Street Festivals

This study aims to get an accurate count of the number of people attending street fairs using mathematical modeling. Since street fairs have many entrances and exits, some models and technologies already used does not work in this situation. Video cameras and turnstiles require a limited number of entry points. Since tickets are not a usual part of street fairs, having an accurate model is the only way to determine how many people are attending. Using labor intensive methods, I will get an accurate count on how many people attend. Knowing how many people attend is very important in case of an emergency situation or just so the vendors can estimate how many supplies their stand needs.

Kaitlyn Shultz

Faculty Sponsor(s): Dr. Benjamin Galluzzo

Poster Location: 27

Atherosclerosis and Social Influences

Atherosclerosis is the accumulation of plaques, consisting of fats and cholesterol, in arteries. Smoking and obesity can lead to Atherosclerosis. In this presentation, we develop a preliminary mathematical model which views smoking and obesity as epidemics that can be spread through social influence.

Curtis Lamp

Faculty Sponsor(s): Dr. Luis Melara

Poster Location: 28

Modern Languages

The Negative Impact of High-Stakes Standardized Tests: A Global Perspective

The purpose of this research is to briefly examine the rise of high-stakes standardized testing as the primary means of measuring student progress toward established content-area standards, and the negative emotional, academic and social impacts which result from its continued use. The author argues that, rather than leading to quality instruction, testing of this type exerts undue pressure and adverse influence on teachers and students. In addition, exams of this type are shown to widen the achievement gaps among groups of students that they were initially intended to close. Global examples of the use of high-stakes standardized tests indicate that standardization perpetuates inequality of access to a responsive education by ignoring the vast social, economic and cultural differences among students.

Janis Martinez

Faculty Sponsor(s): Dr. Robert Lesman

Poster Location: 32

Modern Languages - French

Représentations du vodou dans la littérature haïtienne

Le vodou, élément central de la culture haïtienne, est un objet de fascination pour le reste du monde. Les pratiques et croyances associées au vodou sont souvent mal représentées dans la culture populaire américaine, qui fait circuler de nombreux mythes et fausses accusations à son endroit. Bien que le vodou soit important dans tous les arts, nous étudierons ici les représentations du vodou dans la littérature haïtienne. Nous comparerons les textes de Haïtiens de la diaspora avec les textes de Haïtiens restés en Haïti, pour comprendre dans quelle mesure le vodou est lié à l'identité haïtienne.

Representations of Vodou in Haitian Literature

Vodou, a central element in Haitian culture, has long been an object of fascination for outsiders. The practices and beliefs associated with Vodou are often poorly represented in popular American culture (among others), thereby contributing to the circulation of myths surrounding that mysterious religion. While Vodou is an important part of Haitian artistic and musical traditions, we opted to focus more specifically on its representation in Haitian literature to gain a deeper understanding of its ties to Haitian identity. We compared Vodou references in texts written by Haitian authors associated with the diaspora to texts written by authors who did not leave Haiti, and demonstrate how Vodou serves as a key element in maintaining Haitian identity outside of the island nation.

Lara John

Faculty Sponsor(s): Dr. Blandine Mitaut

Poster Location: 25

Poto Mitan: la représentation des femmes dans les textes de Marie Vieux-Chauvet et Edwige Danticat

Elle est dévouée et volontaire, sa force est assimilée à la beauté. Elle a lutté pour faire entendre sa voix au-dessus des inégalités, de la violence, et des difficultés de la vie quotidienne. Toujours, on dirait que c'est elle qui l'emporte. Telle est le Poto Mitan, l'esprit féminin d'Haïti, pilier de la société, qui continue de prévaloir dans les combats menés par les femmes haïtiennes. Nous avons sélectionné des textes de Marie Chauvet et Edwige Danticat pour étudier diverses figurations littéraires de femmes haïtiennes, le plus souvent impressionnantes par leur capacité de résistance, mais aussi quelquefois exposées dans toute leur vulnérabilité. Nous analyserons aussi deux contes populaires révélant sous un autre angle la place des femmes dans la société haïtienne, pour mieux comprendre la complexité du concept de Poto Mitan dans son lien avec les femmes.

Poto Mitan: Representations of Haitian Women in the Texts of Marie Vieux-Chauvet and Edwige Danticat

She is dedicated and voluntary; her strength is equated with beauty. She struggles to make her voice heard above the inequalities, violence, and difficulties of everyday life. Still, she is the one who prevails. Such is the Poto Mitan, the feminine spirit of Haiti and pillar of society, who continues to thrive in the struggles of Haitian women. Texts from Marie Vieux-Chauvet and Edwige Danticat were selected to study various literary representations of Haitian women, a figure viewed as impressively resilient, but often exposed by her vulnerability. Haitian folktales are also analyzed to provide a counterpoint to the literary perspective and allow us to better understand the complex concept of the Poto Mitan in relation to women and their place in Haitian society.

Ali Mowers

Faculty Sponsor(s): Dr. Blandine Mitaut

Poster Location: 24

Le système éducatif et les langues d'enseignement en Haïti

L'éducation, besoin immédiat et nécessité absolue pour l'épanouissement social et humain, reste confrontée en Haïti à d'énormes défis. Malgré le bond significatif du niveau de fréquentation scolaire, l'éducation au sein de la société haïtienne n'est pas la priorité de l'État, ce qui peut donner l'impression que l'éducation n'y a pas d'importance. Or, l'éducation occupe une place prépondérante auprès de la population haïtienne, en tant que moyen de survie et promesse d'un avenir meilleur dans un pays où l'analphabétisme touche 50% de la population. Dans cette étude, nous explorons le système éducatif haïtien. Après en avoir expliqué la structure et le fonctionnement, nous en présentons les multiples carences, et en analysons les causes et effets sur la population. Enfin, nous étudions le rôle de la langue créole dans l'enseignement – langue qui a dû attendre 1979 pour être autorisée dans l'enseignement. Notre analyse se base sur une approche historique, sociologique et linguistique des problématiques éducationnelles d'Haïti.

The Place of Creole and Education in Haiti

Education, at once an immediate need and an absolute necessity for social and human development throughout the world, still faces enormous challenges in Haiti. Despite significant progress in terms of school attendance in recent years, the fact that education is not priority for the Haitian government can give the false impression that education is not valued by Haitians. However, in the eyes of the Haitian people, education is a matter of survival and hope for a better future, especially considering that illiteracy affects 50% of the population. In this literature review we will discuss the Haitian education system. We will first explain its structure and organization. We will then present its deficiencies, and analyze its causes and effects. Finally, we will study the role of Creole in education, as this language, spoken by the vast majority of Haitians, was not authorized in education until 1979. We will show how important it is to value Creole in the improvement of literacy and schooling. Our analysis of the educational issues faced by the island nation is based on a historical, sociological and linguistic approach.

Angela Davis Sime Nana

Faculty Sponsor(s): Dr. Blandine Mitaut
Poster Location: 23

Physics

Fabrication of a Three Dimensional Particle Focusing Microfluidic Device Using a 3D Printer, PDMS, and Glass

Microfluidic devices have high importance in fields such as bioanalysis because they can manipulate volumes of fluid in the range of microliters to picoliters. Small samples can be easily tested using complex microfluidic devices. It has been shown that inexpensive microfluidic devices can be produced quickly using a 3D printer and PDMS. However, a size limitation prohibits the fabrication of precisely controlled microchannels. By using shrinking materials in combination with 3D printing of flow-focusing geometries, this limitation can be overcome. This research seeks to employ these techniques to fabricate an inexpensive device with three dimensional particle focusing capabilities. By modifying the channel geometry, particles in a solution will be focused into a single beam when passed through this device. The ability to focus particles is necessary for a variety of biological applications which requires precise detection and characterization of particles in a sample.

Robyn Collette, Daniel Rosen

Faculty Sponsor(s): Dr. Kathryn Shirk
Poster Location: 50

Political Science

Clinging to Their Guns—Permitting in Response to Crime

Research in the area of guns and crime has been a politicized topic for many years. Most of the research in the field focuses on the change in crime rate statistics in response to an increase or decrease in the amount of guns, or changes in gun legislation. This focus has been an effort to prove convincingly whether or not guns cause crime. While that debate still continues, the importance of whether citizens feel the need to arm themselves in response to crime is a significant question. This study will attempt to do that by examining the effect of violent crime on concealed carry permit application in states like Pennsylvania that issue permits on a "Shall Issue" basis, or who deny permits only if an applicant fails to meet certain requirements. This study will examine the relationship between changing crime rates and whether they encourage or discourage people from arming themselves.

Ashley Martin

Faculty Sponsor(s): Dr. Michael Greenberg, Dr. Steven Lichtman
Poster Location: 52

The Modernization of Europe's Monarchies: Fighting for Relevance in the Twenty-First Century

Monarchies have played complicated roles in the politics of their countries throughout history. These roles have changed through time in many ways. With most of their political influence outlawed with constitutional changes, Europe's monarchies have been focused on modernizing their roles in society and strengthening their relevance to constituents. The main focus of this project will be the future of Europe's monarchies and how they will attempt to shift their emphasis despite questions of their significance in society. This research will focus on the monarchies of Sweden and Britain, two countries approaching change differently. These changes can be through constitutions or social interactions, as the monarchies deal with issues that have plagued their images. Will there be a need for monarchies at all in fifty years and, if so, how will monarchies continue to change through time and remain significant?

Casey Cole

Faculty Sponsor(s): Dr. Sara Grove
Poster Location: 51

Social Work/Gerontology

Prevalence of Reported Elder Abuse and Neglect Cases in Cumberland County Pennsylvania

The purpose of this study is to investigate the prevalence of reported elder abuse and neglect cases in Cumberland County, Pennsylvania. The number of Report of Needs coming in at Cumberland County Aging and Community Services has been increasing throughout the years. Data from Adult Protective Services agencies show that there is an increasing trend in reporting elder abuse due to the accessibility of Adult Protective Services as well as mandated reporting laws in all fifty states. Despite the availability of Adult Protective Services and mandated reporting laws, there are several cases of abuse and neglect that go undetected each year. The number of elder abuse and neglect cases is expected to increase because of the number of older adults due to the Baby Boom. The research will determine what needs to be done in regards to the most prevalent types of elder abuse and neglect cases. It will also help the case managers in Protective Services with the amount of Report of Needs coming in.

Cassie Hoffman

Faculty Sponsor(s): Dr. Jennifer Clements

Poster Location: 48

Recidivism Rates in Dual Diagnosis Patients

According to SAMHSA, about 8.9 million people are diagnosed with a co-occurring disorder also known as dual diagnosis ("SAMHSA Co-Occurring News"). Many individuals diagnosed with a co-occurring disorder are able to receive the proper treatment and recover while others are not able to recover and find themselves back in treatment. According to SAMHSA, approximately 7.4 percent of individuals with co-occurring disorders receive the treatment they need while the other 55.8 percent do not ("SAMHSA Co-Occurring News"). Recidivism can simply be defined as a relapse. It is important as social workers to see what type of treatment works for patients with a dual diagnosis, and what treatments does not work for patients.

Kaitlyn Jordan

Faculty Sponsor(s): Dr. Jennifer Clements

Poster Location: 47

Trauma and Childhood Development

The purpose of this research is to investigate children who have been through some form of trauma. From going through this trauma, as a child, the participants academics, emotional regulation, and social skills will be furthered explored. The researcher is looking at when a child goes through trauma if their academics, social skills or emotional regulation gets impaired the most from the trauma endured. Trauma for this study is defined as a child who has been through any form of abuse, neglect, natural disasters, multiple foster care placements, witness of domestic violence, rape, or accidents. All data for this study is coming from pre-existing data and previously completed assessments that have already been done by Momentum Services, LLC (Family Based Mental Health Human Services Agency) staff in Chambersburg, Pennsylvania.

Sarah Jablonski

Faculty Sponsor(s): Dr. Jennifer Clements

Poster Location: 46

Caregiver Substance Abusers Time in Services

Cumberland County Children and Youth Services focuses on safety, strength of family, and providing for children. Many initial reports at Cumberland County Children and Youth involve caregiver substance abuse, ultimately creating concern for the safety of the child or children in the household. This study will focus on the time it takes for a caregiver, based on drug of choice, to complete a drug and alcohol evaluation, complete services, and no longer require agency involvement. It is crucial to look at these factors in order to find commonalities and differences between cases, based on the drug of choice used by a caregiver, so that Cumberland County Children and Youth is able to determine what additional services can be provided for caregivers in order to shorten time of Cumberland County's Children and Youth involvement. Cumberland County Children and Youth will be able to establish a system that addresses those needs and helps establish permanency at a quicker rate.

Ashley Quinter

Faculty Sponsor(s): Dr. Jennifer Clements

Poster Location: 49

How Admission Referrals among Older Adults Affect Quality of Care in Assisted Living Facilities

In our society, we have numerous nursing homes and assisted living facilities, all that must provide adequate care to their residents and consumers. Nursing homes have to be very aware of the level and quality of care they provide to their residents (O'Neill, Harrington, Kitchener, and Saliba, 2003). There are also several factors that contribute to the level of care that a resident receives. One of the largest reasons that affect quality of care is the cost (O'Neill et al., 2003). The connection between the quality of care and costs depend on personal situations and the level of care a resident needs. These levels of care are often paid for by Medicare, Medicaid, or private pay (O'Neill, 2003). These options of payment also depend on cognitive impairment tests and various assessments that residents have to take (Abrahamson, Clark, Perkins, and Arling, 2012).

Sarah Kelly

Faculty Sponsor(s): Dr. Jayleen Galarza

Poster Location: 40

Prevalence and Relationship of Dementia and Depression among Older Adults

As the older adult population rapidly expands, the occurrence of dementia and depression will inevitably increase as well. Dementia and depression can be tricky to distinguish among older adults due to similar signs and symptoms, yet researchers still find predominant statistics related to their frequency. The goal of this study was to focus on the prevalence of dementia and depression among older adults, while also examining the relationship of diagnosis between the illnesses. The data came from previous assessments and diagnosis of Thornwald Home residents in Carlisle, Pennsylvania. The diagnosis and order of diagnosis for those with comorbidity of dementia and depression was recorded for each subject. From there the data was then analyzed into percentages in order to better understand the prevalence and relationship of dementia and depression among older adults.

Amy Percoskie

Faculty Sponsor(s): Dr. Jayleen Galarza

Poster Location: 39

Impact of Mandatory Enrollment for Nursing Facility Care Eligibility on Consumers in Perry County

The Perry County Area Agency on Aging strives to keep their consumers in their homes for as long as possible. With the personalized care programs provided, this is able to occur. Many consumers, however, do not complete the mandatory enrollment process needed for services to begin whether it be due to refusal or lack of help in completion. The mandatory enrollment process, however, is used in nursing facilities as well therefore the consumer will have to fill out the application regardless of whether it is for in home care or entry to a nursing facility. As stated above, the aim of the agency is to provide care to consumers in the comfort of their own home. The research aims to find the percentages of consumers that do not complete the mandatory enrollment process and end up in a nursing facility. The agency will use the findings to gain an understanding of why the process is not always being completed and to find ways to explain the process more clearly to consumers.

Lindsay Holleran

Faculty Sponsor(s): Dr. Jayleen Galarza

Poster Location: 38

Frequency of Elder Abuse Substantiated Reports Within Dauphin County Area Agency on Aging Protective Services Unit

Abuse happens all around us, facilities, homes, shelters, and hospitals can be alleged of abuse or neglect of older adults. Protective services are in place to stop abuse from occurring and ensure the safety of older adults when there are allegations of neglect or abuse. Reports of Need which are allegations of abuse, neglect, or exploitation of older adults are submitted to the Protective Services unit of an Area Agency on Aging. When analyzing frequencies of abuse, neglect, and exploitation this research will be an asset to the agency when looking for patterns in reports taken within one year. The purpose of this study is to examine the amount of elder abuse being reported versus substantiated during 2015 in the Protective Services unit at Dauphin County Area Agency on Aging. Closed case files from 2015 will be examined to measure the amounts of reports made, how many were substantiated, and the frequency of allegations.

Kendyl Marino

Faculty Sponsor(s): Dr. Jayleen Galarza

Poster Location: 37

The Psychological Impacts of Sexual Victimization

Understanding victims of sexual assault is critical for today's society. With the realization of its long term effects, many studies have shown it to be an issue. Researchers have examined the impact on people's mental well-being, post sexual assault. However, little research provides insight to suggest how victims experience and cope with the way that they feel. The purpose of this study is to explore the most prevalent impacts of adult victimization in adulthood versus adults who were victimized as children. Through many studies, sexual assault has proven to have long-lasting psychological effects on the individual. By obtaining and analyzing feedback from assessments of previous clients, this research will develop and better the agency's understanding of helping future victims.

Kimberly Locke

Faculty Sponsor(s): Dr. Jayleen Galarza

Poster Location: 45

Are Older Adults Who Volunteer Less Likely to Be Depressed Than Those Who Do Not?

The topic of my research project is what effect volunteering has on older adults, specifically dealing with depression or periods of sadness. At my internship at Messiah Village, there is a volunteer program where the residents volunteer to help with things like driving the shuttle around campus or working at various coffee shops. I believe that participation in this volunteer program could have a positive affect on their overall well-being.

Kelsey Kirby

Faculty Sponsor(s): Dr. Charlene Lane

Poster Location: 36

Making Connections between Discharge, Serves, and Readmission

Over the past few decades, the roles of nursing homes have changed histrionically. The older adult populations, people 65 and older, are around 44.7 million (AOA, 2016). That statistic shows that 14.1 percent of the United States populations are older adults (one in seven) (AOA, 2016). In the past residential settings where primarily older, cognitive loss and functionally reliant individuals to post-acute skilled care, medically compound patients often cleared to intensive care units (Mor, Intaratior, Feng, and Grabowski, 2010). Rehospitalization and readmission has become recurrent, expensive, and also avoidable. Prolonged stay and readmission is pricey both for the adults but also the health care system (Fox, Persaud, Maimets, Brooks, O'Brien, and Tregunno D, 2013). High rates can be due to a number of factors, including services received following discharge (Rehabilitative or recuperative services) by Skilled Nursing Facility (SNF) (Mor et al., 2010).

Mariah Groft

Faculty Sponsor(s): Dr. Charlene Lane

Poster Location: 35

Leadership in Social Workers

Every social work agency is dependent on the success of those who serve in its managerial and leadership positions. Most of these individuals are people who have degrees in business related practices, not social workers. There is a stigma on social workers suggesting that because they are typically kind hearted, caring individuals, they are not made to be leaders in their organizations. Research shows there is an interest in leadership in general, especially a growing interest in social work leadership (Lawler 2007).

Jennifer Braun

Faculty Sponsor(s): Dr. Charlene Lane

Poster Location: 34

Battered Women who Return to Their Abusers

Women in Need in Chambersburg is a non-profit organization who advocates for women and children who have experienced domestic violence or sexual assault. The purpose of this study is to investigate whether battered women return to their abusers after leaving domestic violence shelters. This study will be conducted at Women In Need's shelter to understand whether their clients return to their familiar community. With so many factors such as financial problems, death threats, children, and pets causing women to stay or return to abusive relationships it is important to understand how many women return to their abuser from the shelter. By researching how many women return to their abuser, if needed, services, referrals, and counseling could directly focus on empowering women to create healthy relationships and make alternative decisions to returning to their abuser.

Ashley Tanner

Faculty Sponsor(s): Dr. Charlene Lane

Poster Location: 44



The Research Fear Factor: Impact of Priming on BSW Students' Academic Performance

Among Bachelors of Social Work (BSW) students there is generally a negative reaction towards research classes. Social work practitioners ideally base practice decisions off of new information and new policies that have been based off of their familiarity with research literature. Without research there is no advancement of social work practice. The goal of this project was to find an understanding of how BSW students feel about research on a somewhat subconscious level using priming techniques. This research aimed to understand why social work practitioners, often do not participate in research, and how even the most knowledgeable students still struggle to do well on an exam due to a bias against the research terminology. The researchers hope to achieve an understanding as to why social work practitioners as a whole, often do not participate in research, and how even the most knowledgeable students can still not do well on an exam due to a bias against the research terminology.

Katlyn Michaels, Cheyenne Port, Michelle Cousins, Gabrielle Trinkle, Kristina Miller, Paige Bankhead-Lewis

Faculty Sponsor(s): Dr. Michael Lyman, Dr. Jayleen Galarza

Poster Location: 33

Writing Studio

Graduate Students' Assumptions and Misconceptions About Writing Centers and How They Affect Writing Center Usage

Graduate students need effective writing skills to succeed. Unfortunately, their writing proficiencies vary. Some graduate students do not meet professors' writing expectations and time is limited to cover this in class. Writing consultations can help graduate students develop these skills. In the fall of 2015, we researched why more graduate students were not seeking writing feedback. Many students were unaware that we offered writing tutoring for graduate students and believed it was only for freshmen or struggling students. After some reflection, we questioned if we were perpetuating a "fix-it mentality." We strive to foster collaboration between student and tutor, but this was not clearly conveyed to our student population. Therefore, we revised our marketing strategies, follow-up surveys, and tutor trainings, which revitalized our graduate services. These innovations nearly doubled the previous semester's sessions and impacted students' perceptions about writing consultations.

Ariel Slotter*, Jessica Weidner*, Hilary Miller*

Faculty Sponsor(s): Dr. Karen Johnson

Poster Location: 3



Why Undergraduate Research Projects Fizzle

This research explores the reasons why students begin undergraduate research projects but do not finish them. For the purposes of this study, the projects are not directly correlated with a course. Undergraduate research provides a different experience for each individual. Factors ranging from faculty mentors to library resources may play a role in a student's decision to terminate a project. This research will ultimately identify threats to research and help mentors better support students in their research projects. Additionally, it will make students aware of underlying causes of unsuccessful projects, thus preventing these causes and facilitating research overall.

Crystal Conzo

Faculty Sponsor(s): Dr. Karen Johnson, Prof. Neil Connelly

Poster Location: 4

Minds @ Work

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