Shippensburg University

Celebration of Student Research

CONFERENCE

April 23, 2013

Accounting
HISTORY
Social Work
Ethnic Studies
Political Science
Economics
Art & Design
BIOLOGY
Management
SOCIOLOGY
English
Psychology
EXERCISE SCIENCE
Geography/Earth Science
Human Communication Studies
PHYSICS
Computer Science
Teacher Education
Music & Theatre Arts
MARKETING
Women's & Gender Studies
FINANCE
MATHEMATICS
BUSINESS
Modern Languages
Communication/Journalism
CRIMINAL JUSTICE
CHEMISTRY

"Research is creating new knowledge."

Neil Armstrong

Schedule of Events

April 23, 2013

TIME PM	CEDDIA UNION BUILDING (CUB) FIRST FLOOR					
	MPR	ORNDORFF THEATER	103	104	105	RAIDER LOUNGE 5 (AIRPORT LOUNGE)
2:00		Honors Symposium *Social Science* **2:00 - 2:30 PM**				
2:15						
2:30	*Poster Set Up*					
2:45		Honors Symposium *Leadership Seminar* **2:30 - 3:30 PM**				
3:00	Poster Session I **3:00-5:00 PM**					
3:15						
3:30		Honors Symposium *Natural Sciences* **3:30 - 4:15 PM**	History/Philosophy Panel *Elite Power and Constraint in Ancient Societies* **3:30 - 4:30 PM**	Human Communication Studies Panel *Making Sense Of Relationships* **3:30 - 4:30 PM**	Exercise Science Panel *Exercise and Ergogenic Aids* **3:30 - 5:00 PM**	
3:45						
4:00						
4:15						
4:30				Human Communication Studies Panel *Social Networking and Relational Technology* **4:30 - 5:30 PM**		
4:45			History/ Philosophy Student Presentations **4:30 - 5:45 PM**			
5:00	*Poster Removal*	Honors Symposium *Business & Economics* **5:00 - 6:00 PM**				Music/Theatre Arts *Musical Performance: The Creative Process* **5:00 - 6:00 PM**
5:15					Physics Student Presentations **5:15 - 6:15 PM**	
5:30	*Poster Set Up*			Human Communication Studies Panel *Gender, Identity, And Image Fixation* **5:30 - 7:00 PM**		
5:45						
6:00	Poster Session II **6:00-8:00 PM**		Modern Languages/ Political Science Panel *Opportunities And Challenges In The Caribbean* **6:00 - 7:15 PM**			Music/Theater Arts *Music Performance* **6:15 - 6:45 PM**
6:15		Honors Symposium *Humanities* **6:15 - 7:00 PM**			Biology Student Presentations **6:15 - 7:15 PM**	
6:30						
6:45						Music/Theatre Arts *Music Performance* **6:45 - 7:00 PM**
7:00		Honors Symposium *Education* **7:00 - 8:00 PM**				
7:15				Business Student Presentations **7:15 - 8:15 PM**		
7:30			Ethnic Studies/ Modern Languages Panel *Understanding Hispanic Cultures* **7:30 - 9:00 PM**			
7:45						
8:00	*Poster Removal*	Honors Symposium *Reach Out* **8:00 - 9:00 PM**				
8:15						
8:30						
8:45						
9:00						
9:30						

Schedule of Events

April 23, 2013

TIME PM	CEDDIA UNION BUILDING (CUB) SECOND FLOOR				TIME P.M.
	226	232	238	239	
2:00					2:00
2:15					2:15
2:30					2:30
2:45					2:45
3:00					3:00
3:15					3:15
3:30	Chemistry Panel *Undergraduate Research Projects in Chemistry* **3:30 - 6:30 PM**	Music/Theatre Arts Panel **3:30 - 4:30 PM**	English Student Presentations & English Panel *Poetic Research* **3:30 - 4:45 PM**		3:30
3:45				Political Science Student Presentations & Panel: *Public Policy Analysis in Practice* **3:45 - 5:30PM**	3:45
4:00					4:00
4:15					4:15
4:30					4:30
4:45		Art & Design Panel *Writing the History of Art, Renaissance Through Baroque* **4:45 - 6:30 PM**			4:45
5:00			English Panel *More Human than Human* **5:00 - 6:00 PM**		5:00
5:15					5:15
5:30					5:30
5:45				Social Work/Gerontology Student Presentations & Sociology/Anthropology Panel **5:40 - 8:00 PM**	5:45
6:00					6:00
6:15			English Panel *I Want To Know* **6:15 - 7:00 PM**		6:15
6:30	Mathematics Panel *Mathematical Talks* **6:30 - 8:00 PM**	Communication/ Journalism Student Presentations **6:30 - 8:45 PM**			6:30
6:45					6:45
7:00					7:00
7:15					7:15
7:30					7:30
7:45					7:45
8:00					8:00
8:15					8:15
8:30					8:30
8:45					8:45
9:00					9:00
9:30					9:30

Keynote Address

Gary Grove, Ph.D., and Mary Jo Grove

Monday, April 22, 2013
7:00 PM, Old Main Chapel

The Skin Business: Investigative Dermatology

Dr. Gary Grove and his wife Mary Jo founded cyberDERM, inc. in 1997. As the name suggests, its focus is on computerized biomedical research instruments that allow changes in skin structure and function to be monitored non-invasively. Although cyberDERM was formally incorporated in 1997, our group has more than forty years' experience in working in close concert with numerous cosmetic and pharmaceutical firms and government regulatory agencies to develop methods for assessing the safety and efficacy of a wide variety of skin products. Indeed, many of the instrumental testing procedures that are currently being employed to evaluate the safety and efficacy of cosmetics and topically applied drugs were first developed while Dr. Grove was with Dr. Albert Kligman at Duhring Labs and Ivy Laboratories from the mid-1970s to the mid-1980s.

Gary and Mary Jo Grove

Dr. Gary Grove is a skin physiologist whose major research endeavors have focused upon objectively evaluating changes in human skin condition using non-intrusive testing procedures. His group has pioneered and developed a number of instrumental methods which have proven to be quite useful in providing objective substantiation of various claims dealing with the safety and efficacy of cosmetics, personal care products, topical drugs and medical devices. Dr. Grove has published many articles including co-authoring with Dr. Albert Kligman in 1985, the groundbreaking paper on Retin-A's anti-aging effects.

Dr. Grove received bachelor's and master's degrees from Shippensburg University. He was awarded a Ph.D. in Physiology from Pennsylvania State University and received advanced post-doctoral training at the Medical College of Georgia and the Wistar Institute. He is involved in a number of professional societies including the International Society for Biophysics and Skin Imaging (ISBS), the International Society for Skin Pharmacology and Physiology, the Dermal Clinical Evaluation Society, the Society of Cosmetic Chemists, and the International Society for Stratum Corneum Research.

Mary Jo Grove received her bachelor's and master's degrees from Shippensburg University in Math education and an MS in Computer Science from Villanova University. She taught math for fourteen years at the junior high to college level before going into business with Gary. She pioneered the use of skin surface replicas and image analysis as an objective measurement of wrinkle reduction. In recent years she has served as president of cyberDERM, inc., a WBENC accredited woman-owned business. She is currently handling the financial end of the business.

Gary grew up in Chambersburg and Mary Jo in Willow Street, Lancaster County. They raised three children and have three grandchildren. Their oldest daughter Elizabeth graduated from SU in 1994. Gary and Mary Jo have been active at Ship and the SU Foundation. They received the Jesse S. Heiges Distinguish Alumni Award in 1994. Mary Jo served as President of the Alumni Association for two years. They serve on the Arts and Sciences Advisory Board. They served as co-chairs of the Alumni Fund at the Foundation for two years, received the Volunteer of the Year award, and are now serving as the co-chairs of the capital campaign, Charting the Course, Lighting the Way.

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From the President

Welcome to Shippensburg University's annual Celebration of Student Research Conference. Once again, hundreds of students from throughout our three colleges will come together to present their research, to ask questions and to share with peers and others the successful completion of their outstanding inquiries into a range of diverse topics.

At a time when our world continues to change and evolve at a seemingly ever-more rapid pace, research is becoming more and more important as a way to explore these changes and to channel change into a better future for us all. The students at this celebration understand well how the world is changing and are taking an active role in that transformation. Their research activities provide them with valuable skills and techniques they will need after graduation and will allow them to be leaders in varied fields.

I'm especially proud of the fact that the celebration is not limited to what some may consider to be the traditional research fields in the sciences. Research presented today highlights projects conducted in the College Arts & Sciences; John L. Grove College of Business; and the College of Education and Human Services. In a new age of information and technology, research is the common thread that unites all of the academic areas.

Shippensburg University has a long and proud history and tradition of providing students with needed skills and then watching with pride as those students excel in their careers and their lives. Our alumni have already made major advances in various areas, and I'm sure that will be true of the researchers here today.

This celebration is the culmination of dedication and effort by both the students and their faculty mentors. It may end a current project, but it has no doubt inspired them and others to continue their research into the future, a future in which they will play an important and valuable role.

William N. Ruud, Ph.D.
President

From the Provost and Senior Vice President for Academic Affairs

Experience. Excellence. Excitement! All are hallmarks of the joint faculty-student research program at Shippensburg University. As indicated in a recent article by John Swift, "The Critical Role of Faculty in Advancing Undergraduate Research,"[1] in programs such as ours at Shippensburg University, the responsibility for collecting and analyzing information, or shaping a creative project, is taken by students, even as they are mentored by faculty. Exercising that responsibility gains students greater mastery of subject matter. This experience of taking a project from beginning to end also enhances critical dispositions and skills, such as self-motivation, discipline, problem-solving, and flexibility, all of which will serve students well in advanced studies and in careers. Additionally, as Professor Swift indicated in his article, the scholarly and creative activities in which student researchers involve themselves often exemplify the university's commitment to civic engagement and service learning.

The Celebration of Student Research Conference represents a sampling of the excellence found in abundance at Shippensburg University. The conference is a showcase of inquiry in action, basic and applied learning, and dedication to creative expression and critical thinking. In this venue, students and their faculty mentors have the opportunity to present the results of their collaborative efforts and the university community has the opportunity to marvel at and honor the excellence in joint faculty-student research and creative activity taking place at Shippensburg University.

This conference also generates sheer excitement at the quality of educational offerings available at Shippensburg University! Such opportunities take place not by accident, but by design. The student research being showcased is the result of intentional and systematic efforts by faculty to enhance the already high quality of a Shippensburg education.

To the faculty, I thank you for your expertise and commitment to engaging students in scientific and creative inquiry. To donors, whose contributions support the high impact educational practice of joint faculty-student research at Shippensburg University, you have our immense gratitude. To the students, I remain confident that your joint faculty-student research experience will strengthen you for further excellence and I trust that the excitement of scholarly inquiry will continue to heighten your intellectual curiosity and enlarge your investigative strategies. Experience. Excellence. Excitement! All are in evidence as we celebrate student research at Shippensburg University!

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

1 Swift, J. (2012). The critical role of faculty in advancing undergraduate research. In Hensel, N. H., & Paul, E. L. (Eds.), Faculty Support and Undergraduate Research (19-25). Washington, DC: Council on Undergraduate Research (CUR).

From the Dean, College of Arts and Sciences

Within the College of Arts and Sciences undergraduate research is an important strategy for engaging students in deep learning that is supportive of programmatic objectives. Through participation in undergraduate research activities, students and faculty work together in expanding the boundaries of knowledge within their disciplines, and sometimes across disciplines. Students learn to work collaboratively and gain insight into the power of guided inquiry. Through undergraduate research, they begin making their own unique contributions to the advancement of knowledge. The College of Arts and Sciences continues to explore the possibilities presented by an active and vital Undergraduate Research Program. The Dean of Arts and Sciences' Advisory Council for Undergraduate Research has continued 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 regular part of our students' learning experiences. Maintaining curricular relevance and fostering an understanding and mutual respect for the disciplinary differences in doing undergraduate research has been a hallmark of the activities of this group. We look forward to continued engagement in undergraduate research activities, and to continually improving the student educational experience in the College of Arts and Sciences and at Shippensburg University.

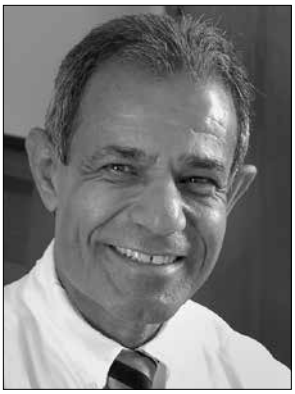
James H. Mike, Ph.D.
Dean, College of Arts & Sciences

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 Celebration of Student Research Conference.

Whether through poster or oral paper presentation, our students are excited at the prospect of genuine participation in a formal, professional conference setting. Faculty 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 in their long-term development as professionals, life-long learners and future leaders in our society.

James Johnson, Ph.D.
Dean, College of Education and Human Services

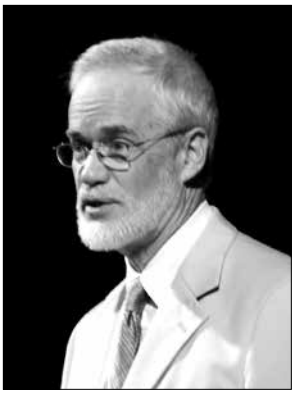


From the Dean, John L. Grove College of Business

After more than two years, I have found Shippensburg University to be the hallmark of quality in providing academic programs at an incredible value. In the John L. Grove College of Business SHIP stands for (S) student focus, (H) hallmark of quality, (I) incredible value and (P) professionally prepared as reflected in our college mission statement. At Shippensburg University, classroom learning is supplemented by additional intellectual contributions and experiential learning. The joint student/faculty research is a shining example of the university's commitment to developing students' critical thinking, problem-solving, analytical, and communication skills. At SHIP, the faculty continue to collaborate closely with students in conducting numerous and varied joint research projects. These projects further benefit students in that; they incorporate interaction with experts in the field through presentation and panel discussion at academic conferences, and peer-reviewed journal articles. Finally, these scholarship and research experiences foster intellectual development and help to prepare students to become lifelong learners committed to serving society and their profession.

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

John G. Kooti, Ph.D.
Dean, John L. Grove College of Business



On Behalf of Faculty

Shippensburg University has a well-deserved reputation for its innovative approach to undergraduate research which 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 a shared intellectual endeavor. Many faculty, across many department, 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 reality.

Brendan P. Finucane, Ph.D.
Economics Department
APSCUF-SU President

Dean of Arts and Sciences' Advisory Council for Undergraduate Research

How did my colleagues and I end up as university professors? It's not because all our lives we have loved giving tests. Rather, we are here because somewhere in the course of our own studies we found an academic subject utterly *fascinating*, and we had to know more. As professors, we enjoy continually broadening our knowledge and sharing what we've learned with others. At Shippensburg, faculty have the opportunity to continue their research, individually and collaboratively. It is extraordinarily satisfying to make contributions to the body of knowledge in an academic field.

Today, my colleagues and I are excited to see the great research that Shippensburg students are conducting. Even more than the new knowledge students gain, what gratifies us the most is seeing students inspired by their discoveries. A huge *thank you* to those presenters here today who took a chance to pursue research topics on their own and share the results at this conference.

Thank you to the members of the Dean of Arts and Sciences' Advisory Council for Undergraduate Research, all of whom provided significant help in making this Celebration happen. Thank you to all the wonderful folks in the Institute for Public Service and Sponsored Programs, the Dean's office, and the Provost's office for both their monetary support and for their hours (and hours!) of time invested in supporting student research. And finally, thank you to our keynote speakers and outstanding Shippensburg alumni Mary Jo and Gary Grove who are joining us to share how research has shaped their professional lives.

Students, whether or not you pursue a career in research, we are so glad that you are here today sharing your work. We hope the experience of research at Ship will set you on a lifetime path of discovery. And who knows, maybe someday you, too, will have the opportunity to give tests.

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

Dean of Arts and Sciences' Advisory Council for Undergraduate Research Committee Members 2012-2013

Wendy Becker
William (Turi) Braun
Pamela Bucher
Laurie Cella
Neil Connelly
Thomas Crochunis
Nellie Cyr
Allen Dieterich-Ward
Cynthia Drenovsky
Thomas Frielle
Karen Johnson
Kim Klein
Eveline Lang
Jeonghwa Lee
Shannon Lee
Michael Lyman
James Mike
Blandine Mitaut
Kirk Moll
Ben Meyer
Amanda Olejarski
Gregory Paulson
Gretchen Pierce
Virginia (Jenny) Pitts
George Pomeroy
Marc Renault
Susan Rimby
Ashley Seibert
Freddy Siahaan
Carrie Sipes
Nathan Thomas
Christopher Wonders
Curtis Zaleski

From the Institute for Public Service and Sponsored Programs

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

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

For the 2012-2013 Academic Year, with funding from the university and the SU Foundation, IPSSP awarded 70 undergraduate research grants to projects which combined involved 134 students. An additional 22 awards have been made to graduate students for their independent research. The results of most of these research endeavors are included in today's celebration.

Student research brings practical intellectual benefits in the form of improved learning in science, math, logic, expression and project management. None of this could be done well without the mentorship of a dedicated faculty.

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

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

Celebrating the Written Word

The Reflector/Write the Ship Launch

TUESDAY, APRIL 30, 6:30 PM CORA I. GROVE SPIRITUAL CENTER.

Reflection from *Reflector* student editor

Writing is Constant

Cory Stevens

When I was given the reins to *The Reflector* last year, I knew I was accepting a big job. Yet, I found myself bewildered over the summer as I was planning layout designs and staff meetings between shifts at my local amusement park. My duties to *The Reflector* move me as much as my personal writing does, and my mind moves constantly in sync with its heartbeats—its happiness is my happiness, its lows are my lows. We who work on this long-standing journal spend tireless hours gathering the best that Shippensburg students have to offer. The irony is that I really can't express in words how amazing it feels to give my peers the opportunity to prove their artistic chops. This university is home to many talented individuals who normally aren't asked to express their true feelings in whichever way they feel is best. I'm proud to be a part of the team that extends that chance to them. By inking up the pages of *The Reflector* I have grown as a writer, an editor, a friend, and a man. Should the world end tomorrow, and hellfire burn every inch of campus but for one single issue, I would have no regrets or sorrow. For we were here, we wrote, and we shared it with the world. And that's all an artist can ask for, is it not?

Reflection from *Write the Ship* student editor

Kayla Minguez

Through my involvement with *Write the Ship* I've had the opportunity to work with an amazing group of faculty and students. I've been fortunate enough to see my decisions as student editor affect the publication, and the lives of those involved with it, in very positive ways. Many of the students whose writing we chose for publication this semester were absolutely thrilled to get the news that their writing was accepted, and many of those students' professors were just as excited. It's incredibly rewarding for me to see my work and my decisions impact others in such a way.

Reading through 46 papers in a few short weeks was a bit of a challenge. Narrowing those 46 down to the 26 that are being published was even harder. However, thanks to the intriguing writing of our students, and the support of my supervisor Dr. Laurie Cella, I'm confident that this issue of *Write the Ship* is the best that it could be.

As the final weeks of my undergraduate career approach, I realize that there is no more satisfying memory I have of my time at college than my work as *Write the Ship's* student editor. I love everything about this job – the reading, the editing, the endless amount of emails, the deadlines, and most importantly, the people. If I could, I would do this job forever. The best I can do, though, is thank Shippensburg University, Dr. Laurie Cella, and the English Department for giving me the opportunity experience it now.

Undergraduate Research Grant Recipients 2012-2013

Miranda Aaron
Benjamin Ahlswede
Cory Albright
Rachel Aleardi
Stephanie Alexander
Sarah Antonelli
Alexa Barrick
Sarah Bartle
Jacob Baskerville
Chris Batties
Mikaela Bell
Brian Benchoff
Kayla Bennett
Clifton Bittle
Briana Blewett
Megan Breski
Ashley Brucker
Hannah Cameron
Nicole Campana
Lauren Cappuccio
Angelina Castellani
Kyle Chelius
Teresa Cleary
Kadeem Clifton
Chase Crawley
Kaitlyn Cropper
Mitchell Dandignac
Brooke Deschenes
Lynne Dettra
Devon Diehl
Hannah Dreibelbis
Cara Dunn
Jeremy Eastman
Erin Ellis
Vanessa Elphick
Meagan Ferry
Kristy Fisher
Patrick Flanagan
Katie Flannery
Michael Foster
Matt Fritz
Albert Garcia
Haley Garrison
Zach Gause
Rebecca Gaydos
Andrew Geesaman
Ashley Gettler
Tessa Gilson
Christine Gonzalez
Matthew Good
Jonathan Goos
Erica Gotsch
Jane-Marie Gotthold
Beth Ann Grega
Kasey Groiss
Lucy Gu
Justin Guy
Michael Hageman
Sarah Hamel
Dale Haupt
Rachel Haupt
Carley Heck
Dana Heston
Amy Higley
Michael Hock
Evelyn Howe
Taylor Hudson
Grant Innerst
Amber Kerley
Ryan Klinger
Jacqueline Kluka
Aaron Kolenc
Sarah Komisar
Melissa Koontz
Tyler Kovacs
Abigail Kraus
Ashley Lare
Shannon Lee
Joshua Levitsky
Chris Liggitt
Megan Lontz
Jacob Lutter
Maria Markovich
David Marks
Benjamin Martin
Deborah Mathes
Kelsey Mengle
Calvin Mentzer
Tracy Migliori
Alex Moats
Brandon Moist
Kerrianne Morrow
Kyle Naylor
Lauren Nearhoof
Winnie Okwaare
Nathan Oster
Brian Pawling
Luke Perry
Elizabeth Pflaum
John Pilato
Holly Plank
Jessica Rauchut
Taylor Reily
Cara Richwine
Corine Rollins
Erica Rothermel
Brian Schilling
Amanda Schwarz
Joe Sergent
Erick Shadle
Zared Shawver
Patrick Shay
Leah Shellenberger
Mark Shifflet
Cassandra Sidone
Christopher Silvia
Laura Sneeringer
Rebecca Starliper
Colby Stouffer
James Thren
Benjamin Tigyer
Mike Turley
Josh Updike
Erin Varley
Alicia Vaux
Jonathan Wagner
Kaitlyn Wallace
Jake Warner
Lindsey Wayland
Chris Wiedner
Stephanie Williams
Amanda Wise
Emily Young
Janel Zinn

**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 2012-2013

Allen Armstrong
M. Blake Hargrove
Kim Klein
Britt Patterson
George Pomeroy
Christine Senecal
Christopher Wonders

Graduate Research Grant Recipients 2012-2013

Katherine Baldwin
Brandon Balotti
August Capiola
Kevin Eaton
James Evans
Michelle Fisher
James Francis
Daniel Gillespie
Brandon Hang
Benjamin Hepler
Daniel Hughes
Sarah Johnston
Tonne McCoy
Molly Moore
Julia Russell
Kari Showers
Mike Smith
Tammy Smith
Samantha Lisko Troy
Addalena Virtus
Natasha Wingerter
Varma-Rose Williams

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

Graduate Research Grant Advisory Committee 2012-2013

Sherri Bergsten
Barbara Denison
Scott Madey
Robert Setaputra
Todd Whitman
Christopher Wonders

Ezra Lehman Memorial Library Research Award 2012-2013

The annual Library Research Award recognizes the best literature review submitted by students who have received grant support for their participation in the Annual Celebration of Student Research. The first prize recipient receives a $400 cash prize and the honorable mention recipient is awarded a $100 prize. Commemorative posters will be made of the winning posters and they will be displayed in the library. The winners of the 2012 Library Research Award are:

First Place: Erin Varley, "The Effects of Caffeine on Anaerobic Performance: A Literature Review"
Professor: Dr. Joohee Sanders, Department of Exercise Science

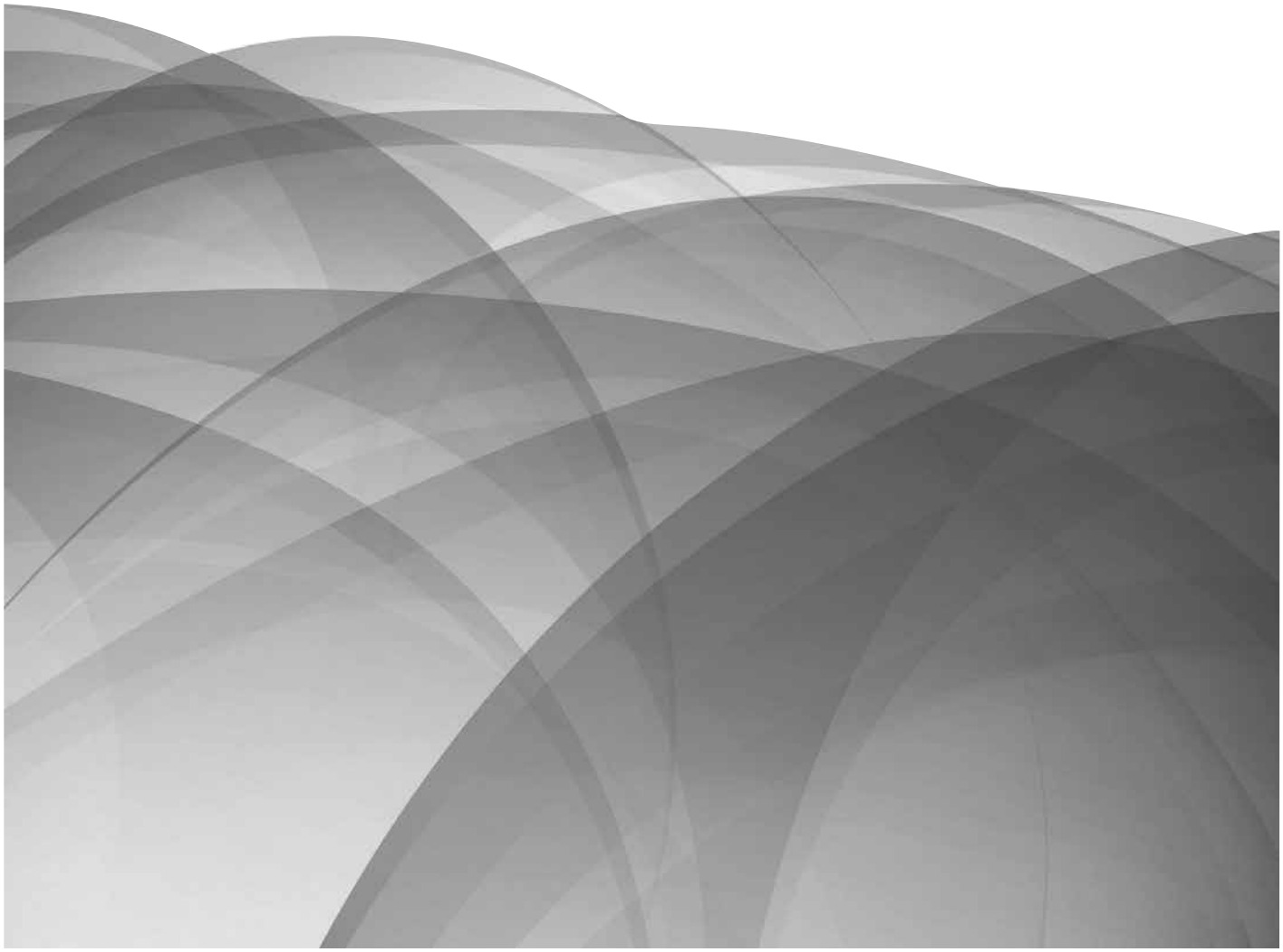
Honorable Mention: Joseph D. Hawbaker, "The Effects of Buildings and Structures on Microclimates: A Literature Review"
Professor: Dr. Tim Hawkins, Department of Geography-Earth Science

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. It is made possible by the generous support of Berkley and Carol Laite (SU Classes of 1967 and 1965).

Celebration of Student Research Conference Survey

Scan this code or follow this link to a quick survey. You don't need to attend the conference to complete the survey, but it must be completed on April 23. Or go to http://www.ship.edu/student_research/ConferenceSurveyQRC/. Respondents will be entered into a drawing for two $25 Visa gift cards. Only one response per person, please.

Celebrating
DEPARTMENTAL CONFERENCE PANELS



Art & Design

TIME: 4:45 - 6:30 PM **LOCATION: 232**

Writing the History of Art, Renaissance through Baroque

What do images tell us about the times in which they were created? How can we "read" a culture long-gone through the material objects that it has left behind? How can artworks create meanings even after their authors passed away? Where do religion, gender, and politics meet? This panel will attempt to answer some of these questions by focusing on five important paintings from the world of art.

Love and Ruin: Hendrick Goltzius and the Original Sin
Jolie Duhon

An Earthly Venus: The Art and Beauty of Venetian Material Culture
Colin Riley

Entering the Lions' Den: Fear, Faith, and Felines
Ashly Sterner

El Greco: A Stroke of Greek Genius
Anthony Brown

Putting the 'Art' In: An Examination of Artemisia Gentileschi's "Judith and Holofernes"
Eileen Rockwell

Faculty Sponsor(s): Dr. Anca Lasc
Discussant: Mercedes Healy

Chemistry

TIME: 3:30 - 6:30 PM **LOCATION: 226**

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.

Optical Characterization of Nanoparticles Encapsulated in Ambigel Films or Aerogel Materials Toward the Development of new Optical Sensing Devices
Kelsey Mengle

Expression and Identification of GPR133, a Human Orphan G-protein Coupled Receptor
Cassandra Sidone

Synthesis of Novel Magnetic Anisotropic Single-Molecule Magnets
Jacob Lutter

Synthesis of Four-Membered Ring Heterocycles by the Reaction of 1,3-Dipoles with Carbenes
Chase Crawley

Ethanol Determination By Forensic Blood Alcohol Gas Chromatographic Analyses
Jane-Marie Gotthold

Utilizing Manganese 15-Metallacrown-5 to Synthesize Liquid Crystals
Benjamin Tigyer

The Configurational Dependence of Temperature within the Potential Energy Landscape Ensemble
Matt Fritz

Synthesis of 2-isopropylenecyclopentanone, an Anti-cancer Drug Precursor
Mike Turley

Qualitative and Quantitative Analysis of Synthetic Cannabinoids Containing Fluorine
Corine Rollins

Faculty Sponsor(s): Dr. Dan Predecki, Dr. Curt Zaleski
Discussant: Dr. Dan Predecki

English

TIME: 3:30 - 4:45 PM **LOCATION: 238**

Poetic Research

Students from Prof. Savich's Advanced Poetry Workshop (ENG 427) will present original poetic works that engage with vocabularies, concepts, and approaches from seemingly "non-poetic" contexts.

Poetic Research Reading
Emma Barr, Stephanie Ehrets, Noret Flood, Samantha Gonzalez, Claire Holahan, Monique Johnson, Kathryn Malone, Brijesh Merchant, Kerstyn Mitchell, Ashley Myers, Katherine Sheppard, Rebecca Smith, Cory Stevens, Ariana Turiansky

Faculty Sponsor(s): Prof. Zach Savich
Discussant: Prof. Zach Savich

Intimate Dialogues: Kiki Petrosino's "Fort Red Border" and Fan Fiction

In poet Kiki Petrosino's debut collection, Fort Red Border, dialogue often is used to portray a sense of intimacy between characters within the poems and creates direction. This raises the question, how does dialogue create a sense of intimacy? Also, her use of pop-culture figure Robert Redford as the main subject for her work speaks to the idea of "fan fiction" or creative written work with characters from books, TV, movies or around real people such as celebrities. Inspired by critic Charles Bernstein's notion of "creative wreading," a methodology that combines critical analysis and creative writing, I investigated how it's possible to use dialogue in order to create intimacy with characters from pop culture that perhaps there is little chance of intimacy with in reality. My research combines literary analysis, creative writing, and an interview with Petrosino leading to a piece of feature journalism, drawing on my background during my final semester at SU.

Lauren Cappuccio

Faculty Sponsor(s): Prof. Zach Savich
Discussant: Prof. Zach Savich

TIME: 5:00 - 6:00 PM **LOCATION: 238**

More Human Than Human: The Impact of Technology on Human Communication and the Allure of Artificial Intelligence

What distinguishes human consciousness from artificial intelligence? Advancements in technology such as "Siri" or "cleverbots," computer programs designed to mimic patterns of human communication, often blur the boundaries. At the same time, society's reliance on technological means of communication (texts, emails, tweets) may be sacrificing the intimacy of interpersonal relationships in the interest of convenience. Four fiction writers explore these exciting, and disturbing, phenomena through a creative lens.

William Greenlaw, Kathryn Malone, Robert DiCarlo, Jason Hahn

Faculty Sponsor(s): Prof. Neil Connelly
Discussant: Prof. Neil Connelly

TIME: 6:15 - 7:00 PM **LOCATION: 238**

I want to know: Student Teachers Investigating Questions that Matter

Teacher-Research, sometimes called Action-Research, has a long and contested history in education. While some fairly recent federal initiatives have prioritized "scientific research" in education, usually conducted on a large-scale by well-resourced think-tanks or policy organizations, practicing teachers often investigate questions emerging from their everyday practice on a small scale using the resources and tools at hand. In this panel, student teachers in the secondary English education program at Shippensburg will present their research projects that have emerged from their questions about teaching practice. Projects, often begun during the pre-student-teaching semester, get redefined once the students are in their field placements full-time in their final semesters of the program. Ideas for research initially formed in the classroom are transformed into inquiries that play out while teaching in placement schools, dealing with the pressure to help students perform on standardized tests, and managing the complex process of adapting to being a full-time teacher. Students will tell about their projects in this roundtable session, sharing some of the complex changes their original ideas have undergone, describing their methods and results, and drawing working conclusions about the issues they investigated. Along the way, presentations will give a series of portraits of the student teaching experience as it occurs today. Those attending the session will have an opportunity to hear about each of the student projects and ask questions of the presenters. The following projects will be presented as part of this roundtable session:

Reading Aloud and Student Comprehension

Christina Gaudio

Over the course of my first placement at Chambersburg Area High School, I have analyzed and surveyed students regarding their reading comprehension. The focus of my research project is centered around the question, "does reading aloud help or hinder students' comprehension of the material?" I am curious to find if taking class time to read aloud positively affects students comprehension of the material more so than, reading independently.

Shooting Kabul

Kate Garvick

This research will examine what recent historical information most seventh graders are aware of before and after reading this novel. I am comparing the effects of using preparation graphic organizers versus discussion only on current worldly events covered in the novel Shooting Kabul.

Faculty Sponsor(s): Dr. Thomas Crochunis
Discussant: Dr. Thomas Crochunis

Ethnic Studies and Modern Languages, Spanish

TIME: 7:30 - 9:00 PM **LOCATION: 103**

Understanding Hispanic Cultures

This session deals with Hispanic cultures in Latin America and in the United States. It applies a multidisciplinary approach. The presentations originated from research projects for the Latino Studies 102 course (Ethnic Studies) and the Spanish 490 seminar on Women and the City in Latin America (Spanish, Modern Languages. Fall 2012). This session includes presentations in English and in Spanish.

Race and Ethnicity in the Dominican Republic (Presentation in English)

Carina Paulino

The Events of The Bay of Pigs (Cuba, 1961) (Presentation in English)

Matthew Delisanti

La influencia de Luis de Góngora sobre Sor Juan Inés de la Cruz. Una comparación (Presentation in Spanish)

Reginald Heefner

La poeta Alicia Partnoy y la Guerra Sucia en Argentina (Presentation in Spanish)

Megan Lawver

Faculty Sponsor(s): Dr. Ana Moraña
Discussant: Dr. Ana Moraña

Exercise Science

TIME: 3:30 - 5:00 PM **LOCATION: 105**

Exercise and Ergogenic Aids

This Exercise Science Department panel will explore topics related to exercise performance and recovery. Specifically, alternative approaches to enhance exercise performance and recovery will be visited. The session will include presentations of studies that examined the role of different types of nutritional supplements, such as L-Arginine, creatine, and caffeine, on exercise performance and recovery. The session will close with a study exploring the influence of foam rolling and static stretching on flexibility and muscle soreness.

The Acute Effects of L-Arginine on Recovery and Resistance Exercise

Albert Garcia, Jon Hlasney, James Forest

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

Effects of Creatine Monohydrate vs. Creatine Hydrochloride on Muscle Endurance Performance

Kyle Naylor, Cory Albright, Chris Liggitt, Aaron Kolenc

Faculty Sponsor(s): Dr. Russell Robinson, Dr. William (Turi) Braun, Dr. Joohee Sanders

The Effects of Caffeine on Anaerobic Performance

Erin Varley, Andrea Deantonio, Jacqueline Wineholt, Amanda Digirolomo

Faculty Sponsor(s): Dr. Russell Robinson, Dr. William (Turi) Braun, Dr. Joohee Sanders

The Effects of Foam Rolling and Static Stretching on Flexibility and Acute Muscle Soreness

Evelyn Howe, April Lininger, Lauren Schlegel, Amanda Harwell

Faculty Sponsor(s): Dr. Sally Paulson, Dr. William (Turi) Braun, Dr. Joohee Sanders
Discussant: Dr. Joohee Sanders

History/Philosophy

TIME: 3:30 - 4:30 PM **LOCATION: 103**

Elite Power and Constraint in Ancient Societies

In this panel, three papers explore the surprising ramifications of elite status in ancient world history. Although on a surface level it would appear that having elite status would lead to unequivocal power, the authors of these three papers have found evidence that mitigates this point of view. In her discussion of homosexuality in Ancient Rome, Haley Jones discusses the way male sexual relations were intimately connected to power and status. It was normal for elite Roman men to engage in sexual relations with other men, so long as they were in the sexually dominant positions. Nonetheless, despite the normalization of this behavior, male-on-male sex was supposed to be a strictly private affair, in contrast with other more public displays of elite power. The second paper by Kyra Newmaster explores the limitations imposed upon elite women in the Heian period of Japanese history. Utilizing several sources written by aristocratic women, Kyra illustrates that Heian elite women had access to multiple layers of power, including economic control, literacy, and involvement with important political figures. Nonetheless, they suffered in their gendered roles. Kyra's essay points to an existence of a literary community of women in Heian Japan whose critiques about their place in society brought some measure of camaraderie, on the page if not in person. Finally, the third paper by Kelly Monaghan discusses the progress of the medical profession in Ancient Egyptian society. In tracing the changes in social status among Ancient Egyptians' medical doctors and patients, Kelly demonstrates that Egyptian medicine was not monolithically dominated by the elite, despite the fact that there was an overall growth in the Egyptian aristocratic population over time.

Homosexuality and Social Class in Ancient Rome

Haley Jones

Aristocratic Women Writers in Heian Japan

Kyra Newmaster

Medicine in Ancient Egypt

Kelly Monaghan

Faculty Sponsor(s): Dr. Christine Senecal
Discussant: Dr. Christine Senecal

Human Communication Studies

TIME: 3:30 - 4:30 PM **LOCATION: 104**

Making Sense of Relationships: Explorations of Relational Communication Variables

Panelists will present multiple student research projects addressing coach and athlete interactions and romantic relationships. Research findings will address relational forgiveness, commitment, verbal aggression, communication apprehension, and communication competence.

Caitlin Bamberger, Will Royal, Herman Kirkland, James Debiec, Sara Stabler, David Meckes, Brianne Patrick, Lauren Stump

Faculty Sponsor(s): Dr. Matthew Ramsey
Discussant: Dr. Matthew Ramsey

TIME: 4:30 - 5:30 PM **LOCATION: 104**

Social Networking and Relational Technology: Understanding Crisis Messages and Communication Competence

Panelists will present original research results from multiple student projects. Research findings include analyses of Facebook usage and perceived communication competence and an examination of university students' preferences regarding emergency alerts during campus crises.

Oliver Templeton, Erika Bates, Tyler Ward, Jerry Cooley, Brian Clarke, Ella Stankiewicz, Lisa Snader, Alana Bingeman, Alex Casey

Faculty Sponsor(s): Dr. Matthew Ramsey
Discussant: Dr. Matthew Ramsey

TIME: 5:30 - 7:00 PM **LOCATION: 104**

Gender, Identity, and Image Fixation: An Examination of Communication as Social Construction

Panelists will present original research findings from multiple student projects that highlight the impact of nonverbal immediacy, humor, communication satisfaction, and verbal aggression on gender, identity, credibility, and image fixation. The contexts explored include professor and student interactions and general undergraduate perceptions.

Amanda Ayer, Genna Willey, Matthew Bukowski, Kayla Kiskis, Ashley Narwid, Joslyn Kelly, Erika Torres, Darren Whitelock, Christina Lohff, Gabby Schurr, Russhea Anderson, Raediah Lyles, Aby Yockin, Gillan Dolen

Faculty Sponsor(s): Dr. Matthew Ramsey
Discussant: Dr. Matthew Ramsey

Mathematics

TIME: 6:30 - 8:00 PM **LOCATION: 226**

Mathematical Talks

Students will talk on a variety of mathematical topics from pure math to applied math to math education. Students in this session have done independent research guided by faculty in the Mathematics department.

Generating Composites by Appending Digits to Certain Types of Integers
Maria Markovich

Inserting Digits to Create Sequences of Composite Numbers
Alicia Lamarche

Counting Techniques of Open Air Events
Grant Innerst

Symmetries of Fibonacci Points Modulo M
Josh Updike, Patrick Flanagan

High Impact Techniques for Asperger's in the Classroom
Andrew Geesaman

Faculty Sponsor(s): Dr. Marc Renault
Discussant: Dr. Lenny Jones

Modern Languages and Political Science

TIME: 6:00 - 7:15 PM **LOCATION: 103**

Opportunities and Challenges in the Caribbean: Observations from Shippensburg Scholars

This roundtable encompasses a research conversation between six Shippensburg students, each of whom participated in short-term study abroad opportunities in either the Commonwealth of the Bahamas or the Republic of Haiti. The students have engaged in different types of research based upon their study abroad experiences. Since the two countries represent the richest and poorest countries of the Caribbean, the cases highlight some of the promises and challenges of the region. Participants will offer their observations about poverty, wealth and development based upon experience and subsequent research. The format of the roundtable will encourage the participants to share their observations and research, and to interact with one another to create a learning opportunity for both participants and the audience.

Owen Ecker, Kelsey Hardt, Olivia Ickes, Bryant Snyder, Ariana Tavakoli, T.J. Thomas

Faculty Sponsor(s): Dr. Blandine Mitaut, Dr. Agnès Ragone, Dr. Mark Sachleben
Discussant: Dr. Mark Sachleben

Music/Theatre Arts

TIME: 3:30 - 4:30 PM **LOCATION: 232**

The Application of Rudolf Laban's Movement Theories in Preparing a Dramatic Scene or Monologue

Rudolph Laban is a 20th century dancer and choreographer who codified movement characteristics. His body of work is used by performers, behavioral scientists and psychologists as well as physical therapists and athletes. This presentation will introduce the audience to Laban's theories on Effort qualities in movement and his development of Action Drives which can be applied to physical and vocal exploration in acting for the stage. A group of student actors will lead the presentation and demonstrate, through performance, the application of these ideas. Students will be demonstrating Laban's theories through the use of Open [Contextless] scenes and monologue performances from Spoon River Anthology by Edgar Lee Masters.

The Laban Technique in Actor Performance
Briana Blewett, Marcus Cooper, Paul Deichman, Ian Kraus, Margaret Miller, Vince Raffaelle, Nick Sentman, William Sievers, Trever Taylor, Kevin Rook

Faculty Sponsor(s): Prof. Paris Peet
Discussant: Prof. Paris Peet

TIME: 5:00 - 6:00 PM **LOCATION: AIRPORT LOUNGE**

Musical Performance: The Creative Process

This session features three students in individual musical performances. Each student--a pianist, a timpanist, and a vocalist--will perform on his instrument/voice and will discuss the composer, the unique features of the composition, and the process of preparing an effective interpretation of the music.

Music for the Timpani
Zachary Lessie

Music by George Gershwin
Dustin Zeliff

"Großer herr, o starker könig" from Bach's Christmas Oratorio
James Barciz

Music of Chopin
Audrey Miller

Faculty Sponsor(s): Dr. Margaret Lucia
Discussant: Dr. Margaret Lucia

TIME: 6:45 - 7:00 PM **LOCATION: AIRPORT LOUNGE**

Brass Class: French Horn

Students from Brass Class will perform small ensemble literature (quintets, quartets, trios) on French Horn, a secondary performance instrument.

Devin Miller, Brandon Engle, Jacob Lutter, Jesse Smith, Kim Galutia

Faculty Sponsor(s): Mr. Trever Famulare

Political Science

TIME: 4:00 - 5:30 PM **LOCATION: 239**

Public Policy Analysis in Practice

This panel examines state and federal public polices and makes recommendations for implementing public policy.

Immigration and Prenatal Care: How States Having the Power to Grant Defines Society
Precious Bryan

Pennsylvania's Property Tax Problem
Antonio dos Santos

How can Obama's Reform Improve Immigration Policy?
Natalie Kunce

Tolling and our Nation's Crumbling Infrastructure: Lessons from I-80 in Pennsylvania and I-95 in Virginia
Daniel Smedley

Faculty Sponsor(s): Dr. Amanda Olejarski
Discussant: Dr. Amanda Olejarski

Sociology/Anthropology

TIME: 6:00 - 8:00 PM **LOCATION: 239**

Ghost Hunters to Surgeons: Examining Social Worlds

Students from Qualitative Social Research report the results of their interviews with groups of ghost hunters, veterans, basketball players, surgeons, aspiring citizens, and fitness fanatics.

Occupational Stress on Surgeons
Kaitlyn McDonald

Going Through Naturalization
Matthew Thiel

Compulsive Fitness Communities
Crystal Lowman

Racial Interaction & Team Chemistry
Travis Heap

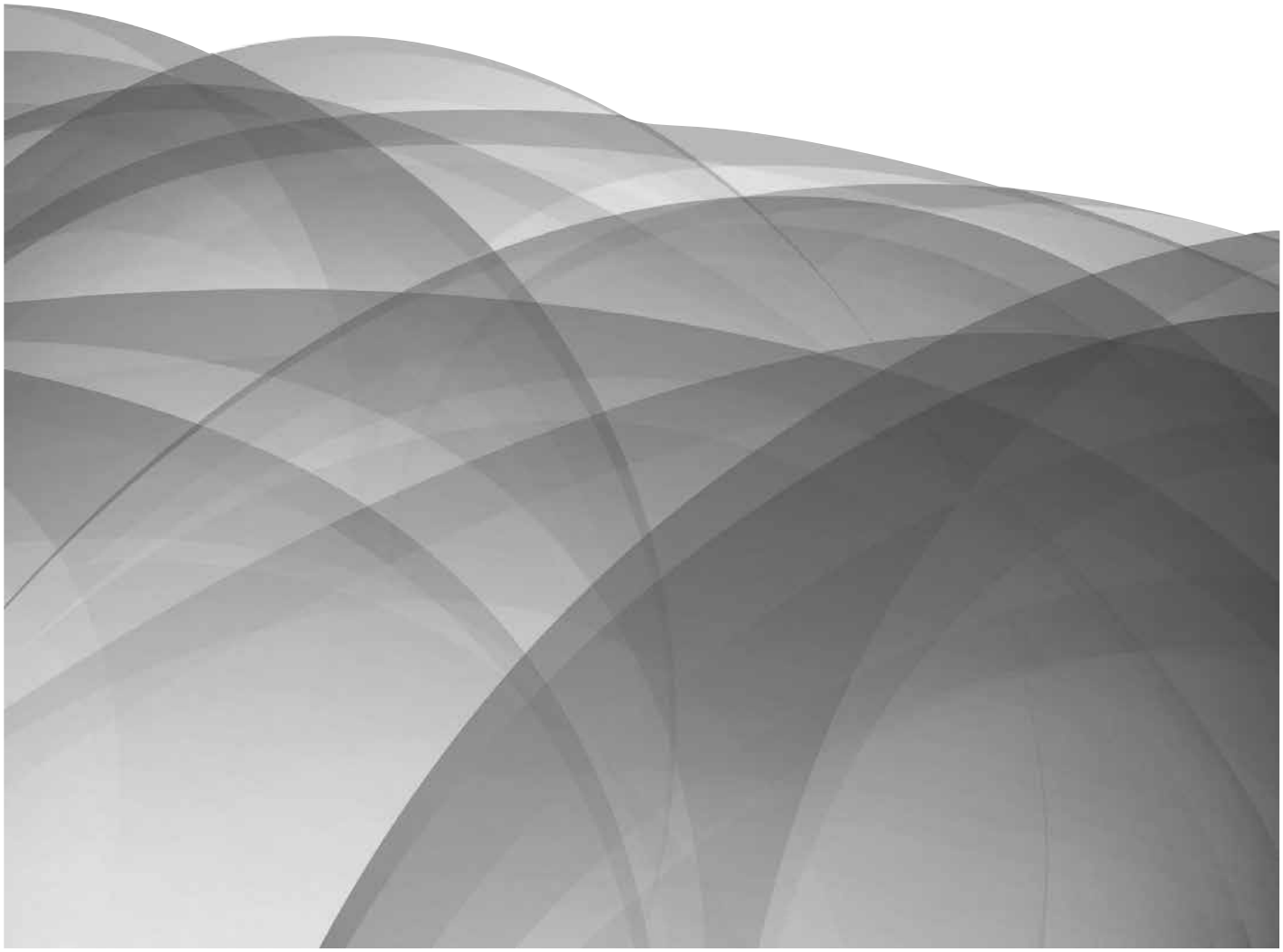
Social World of Ghost Hunters
Ashley Stoudnour

The Stress of Acculturation
Timothy Schock

Re-entry to Civilian Life
Zachary Crouse

Faculty Sponsor(s): Dr. Debra Cornelius
Discussant: Dr. Debra Cornelius

Celebrating
HONORS SYMPOSIUM



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

Social Sciences

TIME: 2:00 - 2:30 PM **LOCATION: ORNDORFF THEATER**
Discussant: Dr. Kim Klein

Attitudes Toward Marriage and Marriage Counseling: A Comparative Analysis

In the United States and Europe, the culture of marriage is changing. Interviews of Southern European, Northern European, and American married couples provided the foundation for analyzing the nature of these changes. Southern Europeans have the highest divorce rates, and they are the least likely to seek professional relationship counseling. In Northern Europe, divorce rates are lower, and couples are more likely to seek professional counseling. Divorce rates are the lowest in the United States, and couples are more likely to seek parental advice before professional counseling. Interview data suggests possible reasons for these variations, including religious influences, gender roles, and cultural traditions.

Jennifer Somervail

Faculty Sponsor(s): Dr. Alice James

❖

State Spending: Locking Up Our Educational Funds

In recent years, many states have reduced funding for higher education. My research analyzed the impact of these decisions by comparing state spending on education and prisons in states with a three-strike policy. Pennsylvania and California were the case studies for this research project.

Steven Masel

Faculty Sponsor(s): Dr. Britt Patterson

Honors Leadership Seminar

TIME: 2:30 - 3:30 PM **LOCATION: ORNDORFF THEATER**
Discussant: Dr. Liz Fisher and Dr. William Oberman

Sports for Service: Benefitting Olivia's House

Daniel Bender

An Analysis of Effective Leadership in Criminal Justice: The Roles and Implications of Leadership Practice in a Challenging Environment

Jordan Dewalt

Enhancing Volunteer Income Tax Assistance

Nicholas Spinelle

Promoting Animal Awareness at the Earth Day Celebration

Katie Wiechelt

Faculty Sponsor(s): Dr. Liz Fisher

Natural Sciences

TIME: 3:30 - 4:15 PM **LOCATION: ORNDORFF THEATER**
Discussant: Dr. Kim Klein

The Effect of Blindness on Pheromone Detection in Drosophila melanogaster

Throughout this experiment, two groups of Drosophila melanogaster were studied: wild-type (normal seeing) and white-eyed (blind) flies. Lacking the sense of sight can pose a number of difficulties to an organism, including a hindrance in the way of reproduction. The research conducted considered the necessity of sight in the mating rituals of Drosophila melanogaster (the common fruit fly) and its role in pheromone detection. When reproductively mature, the flies were monitored during their mating rituals in order to determine if pheromone detection is hindered by blindness.

Teresa Cleary

Faculty Sponsor(s): Dr. Sherri Bergsten

❖

Identification of Copper Resistant Bacterial Phytopathogens from South-central Stone Fruit Orchards

Copper compounds have been widely used by the agricultural community to control plant disease due to their effectiveness as bactericides. However, use of copper bactericides has pressured phytopathogens to develop plasmid encoded, copper resistance genes. This study identified bacteria isolated from local stone fruit orchards at high levels of copper. The DNA of isolated bacteria was amplified and sequenced. Sequence data was compared to existing databases to determine which bacteria were associated with disease.

Taylor Hudson

Faculty Sponsor(s): Dr. Marcie Lehman

❖

Synthesis of Novel Anisotropic Single-Molecule Magnets

In order for a material to function as a single-molecule magnet (SMM), it must be able to remain in a particular spin state, made possible by an energy barrier between the up and down states. For a SMM, the energy barrier is equal to |D| x S2, where D is the magnetoanisotropy and S is the spin state. Thus, the goal of SMM research is to produce an energy barrier of sufficient height that the molecule is able to store information at room temperature. To generate a SMM with memory properties at higher temperatures, one can increase the D value by producing a less symmetric molecule and/or increase the maximum spin state. To increase the spin state one could increase the number of metal atoms in a molecule; however, this tactic tends to produce spherical molecules of high symmetry, which possess a very small D value. The goal of the proposed research is to design a molecule that possesses a large spin value but is also asymmetric.

Jacob Lutter

Faculty Sponsor(s): Dr. Curtis Zaleski

Business & Economics

TIME: 5:00 - 6:00 PM **LOCATION: ORNDORFF THEATER**
Discussant: Dr. Wendy Becker

The Supply and Effect of Foreign Aid on Developing Nations, 1990-2010

In recent years, caveats such as "only if the policy is good," have sprung up to explain how foreign aid to developing countries often disappears like water down a drain. My project analyzed the relationship between foreign aid and economic activity in developing nations from 1990 to 2010. It focused on the impact of foreign aid not only on GDP per capita, but also on more robust wellness indicators, such as human capital. Finally, it also examined the conditions in donor countries that influence foreign aid decisions.

Noret Flood IV

Faculty Sponsor(s): Dr. Freddy Siahaan

❖

Earning Their Millions? CEO Compensation Package Effectiveness

CEO compensation packages are receiving more attention than ever before. My research examines why the costs of these packages are rising and if offering higher compensation packages actually increases company performance. By examining the processes through which compensation packages are determined and their impact on company performance, the effectiveness of these packages will be assessed. This project will address the question of whether CEOs are earning their costly compensation packages or if they are simply being overpaid for their work.

Ryan Schweikert

Faculty Sponsor(s): Dr. Wendy Becker

❖

Can Small and Medium-Size Enterprises Practice Corporate Social Responsibility?

Small and medium-size enterprises have a unique relationship to corporate social responsibility in comparison to larger enterprises. Understanding this relationship is important because the actions of small and medium-size enterprises can have a dramatic impact on their local and global communities. My research examined Mosaic Coffee Shop, a local small business, which strives to practice corporate social responsibility. With the right combination of characteristics, small enterprises can have a positive social impact and maintain a profitable business model.

Isabel Scott

Faculty Sponsor(s): Dr. Wendy Becker

❖

The Importance of Interviews on Candidate-Company Relations

An interview is often the first personal interaction between a prospective employee and a hiring company. The questions asked and the attitudes of each party during the interview sessions can impact a company's relationship with future employees. Illegal or discriminatory interview questions can have a negative impact on this initial interaction. Because interview questions can potentially lead to lawsuits, it is important to understand candidates' perspectives on the interview process. It is equally important to ensure that all involved parties receive effective training for interview procedures. This research analyzed interviews from legal and demographic perspectives. It aimed to assess the importance and validity of interview training, and offer a model of training that would effectively address the concerns identified from both methods.

Karli Wagner

Faculty Sponsor(s): Dr. Wendy Becker

Humanities

TIME: 6:15 - 7:00 PM **LOCATION: ORNDORFF THEATER**
Discussant: Dr. Christine Senecal

"You're Doing It Wrong": William Faulkner's Happy Existentialism

Existentialism is perceived to be a blind wandering through life: only the truly enlightened discover the futility of existence and despair accordingly. Yet, William Faulkner's *Light in August* posits an alternative, serving as a forerunner for the surprisingly optimistic worldview that the existential movement offers. Thus, his narrative foreshadows the existential philosophy that suggests that life is not a directionless wandering but, rather, a journey in which the end is ambiguous because there are no absolutes. The search for the self, then, becomes a nonlinear passage in which even time is relative. Faulkner's narrative anachronistically presents this existential ideal through the character of Lena Grove while illustrating the inevitable failure of the other characters as they stray from this ideal, particularly Joe Christmas. My presentation will examine how *Light in August* establishes Faulkner's narrative as a pioneer in the literary existential conversation.

Sarah Montanari

Faculty Sponsor(s): Dr. Mary Stewart

❖

Death's Handbook

My interdisciplinary arts project focused on the theme of a death in the family. In my presentation, I will discuss the short stories and photographs that I created to illustrate this theme.

Eileen Rockwell

Faculty Sponsor(s): Dr. Michael Pressler

❖

The Evolution of the Attitudes Exhibited by France's Political Leadership Toward its Entrepreneurial Class, 1786-1805

The late eighteenth and early nineteenth centuries saw great political and economic changes in France. Amid the fires of revolution, the Ancient Regime gave way to a different sort of monarchy under Napoleon. At the same time, the Industrial Revolution underway in neighboring Britain forced French leaders to examine the tenets of their economic system. One outcomes of this transformation was a new appreciation on the part of France's political elite for entrepreneurs. The previously separate spheres of politics and business began to merge, as statesmen saw the potential for both national and personal gain by partnering with French capitalists. These changes paved the way for France's own industrialization, allowing it to compete with the industrial powerhouse across the English Channel on surprisingly equal footing.

Ryan Mowen

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

Education

TIME: 7:00 - 8:00 PM **LOCATION: ORNDORFF THEATER**
Discussant: Dr. Kim Klein

Literacy Sponsorship: Motivating Reading in the Classroom and Beyond

Spurred on by concerns over declining literacy in the classroom due to a lack of engaging reading materials and real-world connections to texts, my project seeks to positively impact student literacy and writing. Through appreciative evaluation both of my teaching methodology and lesson planning, as well as student work, my project seeks to find effective instructional tools to help create motivated learners who will be successful both in and out of the classroom. By regularly demonstrating reading practices that self-motivated readers use, I seek to model successful literacy habits that will persist both in and out of the classroom. Using regular surveys of reading comprehension and fluency, and culminating in a final assessment based in the spectrum of their individual literary interests, students will gain the skills to be lifelong readers and writers.

Krista Bussewitz

Faculty Sponsor(s): Dr. Thomas Crochunis

❖

The Effects of Targeted, Small Group Instruction on Phoneme Segmentation in Kindergarten Students

Phoneme segmentation, or the identifying and separating of the sounds within words, is an essential element of reading and writing. In order to become successful writers, students must be able to break words into their separate sounds and identify the letters associated with those sounds. Students who have advanced phoneme segmentation skills have also been shown to have better literacy skills throughout their academic career. This research project focused on the effects that targeted, small group, teacher-led instruction had on five Kindergarten students previously identified as struggling with this concept.

Kaitlin Hyman

Faculty Sponsor(s): Dr. Jennifer Pyles

❖

"Fascinating First Graders": A Triangular Study of First Graders' Articulation and Demonstration of Key Prosocial Behaviors

The ability of children to articulate and demonstrate prosocial behaviors is important to creating positive classroom environments. I sought to determine how my students saw themselves in relation to five key prosocial behaviors. In addition, I assessed whether what the students thought of themselves aligned with their parents' and classroom teacher's perceptions. As a class, we read storybooks and engaged in activities that allowed the children to examine social conflicts and challenges in an objective way as they were not emotionally attached to the situations being discussed. Through sharing ideas and being a valued member of the classroom community the children may have greater opportunities to implement positive interactions within their peer group on a daily basis.

Melissa Koontz

Faculty Sponsor(s): Dr. Laureen Nelson

Calculating Speed: Student Perceptions of Pedagogical Efficacy

The research analyzed the effectiveness of two different teaching methods on strengthening students' physical science comprehension, specifically concerning the concept and calculation of speed. I designed two activities: 1) a guided inquiry activity, during which the students had the opportunity to plan and implement their own unique experiments concerning the concept of speed; and 2) a series of worksheets on calculating speed. The students' comprehension was assessed using pre- and post-tests to determine the utility of hands-on activities versus worksheets in learning how to calculate speed.

Chelsea Meier

Faculty Sponsor(s): Dr. Rebecca Overholt

❖

Reach Out

TIME: 8:00 - 9:00 PM **LOCATION: ORNDORFF THEATER**
Discussant: Dr. Gretchen Pierce

Perejil Peligroso: Antihaitianismo in the Dominican Republic through the Reign of Trujillo

Since its earliest colonization, the island of Hispaniola has been the scene of racial tensions and political discord. After Haiti declared its independence from France in 1804 after a successful slave rebellion, the Dominican Republic subsequently declared itself an ethnically white nation. Racist sentiments continued to build on the eastern half of the island until the reign of Rafael Leonidas Trujillo Molina. In October 1937, tens of thousands of black Haitian-born Dominicans and Dominican citizens were slaughtered at the hands of Trujillo's government, creating the undisputed climax of antihaitianismo on the island. This project analyzes the history of nationalism and racism on the island, Trujillo's reign, and the long-lasting effects of antihaitianismo in the Dominican Republic.

Ethan Goldbach

Faculty Sponsor(s): Dr. Gretchen Pierce

❖

Understanding Contemporary Haitian-Dominican Relations

My research analyzed the external factors that have influenced relations between the two nations that share the island of Hispaniola: Haiti and the Dominican Republic. The tensions that exist between the two nations have not primarily arisen from violent conflict in the past. Instead, other factors, including environmental issues, U.S. foreign policy, and dictatorial governments, have played more important roles in shaping contemporary Haitian-Dominican relations.

Carlee Allen

Faculty Sponsor(s): Dr. Gretchen Pierce

Implementing Special Education Strategies at the Pathways of Learning School in Santo Domingo, Dominican Republic

Many schools are struggling to meet the needs of all students as a result of limited funding and research. This can be especially true with students with disabilities that require additional support. This presentation will discuss the process of researching and compiling a special education teacher's manual for a school that serves low-income children in the Dominican Republic. The manual focused on the principles of Universal Design for Learning and Differentiated Instruction with an overarching philosophy that all students can learn regardless of disability when given the appropriate support.

Miranda Aaron

Faculty Sponsor(s): Dr. Thomas Gibbon

❖

Environmental Education: Improving Scientific Literacy through Inquiry

How can teachers encourage student inquiry and promote scientific literacy with limited resources? The opportunity to answer this question presented itself in the form of a partnership between the Shippensburg University Honors Program and the Pathways of Learning School in Santo Domingo, Dominican Republic. National science standards were modified to fit the needs of teachers and students with limited resources and scientific background. The interdisciplinary research was synthesized into a curriculum manual that demonstrates environmental education content knowledge as well as theories and strategies for use in an international elementary classroom. A professional development workshop was conducted for teachers and administrators to introduce content and provide strategies for the implementation of the material. Pre- and post-surveys, interviews, and observational reports were utilized to evaluate the effectiveness of the strategies and professional development workshop.

Holly Plank

Faculty Sponsor(s): Dr. Richard Stewart

Celebrating
INDIVIDUAL ORAL PRESENTATIONS

Biology Student Oral Presentations

TIME: 6:15 - 7:15 PM **LOCATION: 105**
Discussant: Dr. Pablo Delis

Snake Assemblage Dynamics of Isolated Artificial Wetlands in South-central Pennsylvania: Implications for Wetland Management and Conservation

We examined the ecology of the snake assemblage at artificial wetlands within a forest at a protected Army base in south-central Pennsylvania. This site holds several wetland types that are similar to others across the state. Across four wetlands, monthly searches were engaged from April to October, 2012. Five species were found and the Common Garter Snake was dominant, followed by the Northern Water Snake. Four captures befell the Eastern Milk Snake, while sole captures befell the Eastern Racer and the Ringneck Snake. Seasonal activity was bimodal with most snakes in June and August. Sex ratio varied but showed a female-bias in two species. Ninety-two percent of water snakes were captured near the water's edge. Seventy percent of garter snakes showed an internal temperature range. Snakes at LEAD's artificial wetlands seem comparable to those of natural wetlands and the proper management of artificial wetlands in forests can be an effective tool in the conservation of snakes.

Daniel Hughes

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

❖

Snake Colonization Dynamics in a Reclaimed Wetland at Letterkenny Army Depot in South-central Pennsylvania

Wetlands are productive and diverse habitats, but currently threatened by anthropogenic pressures. Wetland reclamation is a practice designed to counter the decline in wetlands. To determine the success of a wetland reclamation effort, we surveyed the snake communities in a reclaimed wetland (Baker's Pond) and two existing wetlands (Entrance Ponds) at Letterkenny Army Depot (LEAD), Pennsylvania to determine differences. In monthly surveys, using cover boards and PIT tags, we detected four species: Northern Water Snake, Common Garter Snake, Eastern Racer, and Eastern Milksnake. Captures were 300 percent larger in Entrance Ponds than in Baker's Pond. The Northern Water Snake was the most abundant species at both sites and one individual, originally marked in Entrance Ponds, was captured later at Baker's Pond. Initial colonization of the reclaimed wetland occurred quickly and included mixed size-classes we propose, because of close proximity to a source and the quality habitat of the target area.

James Anderson

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

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Prevalence of Bacterial Pathogens in Common Tick Populations

Ticks commonly serve as vectors for bacterial pathogens associated with human disease including: Rickettsial species (causative agent of rickettsioses), Anaplasma phagocytophilum (causative agent of human granulocytic anaplasmosis) and Borrelia burgdorferi (causative agent of Lyme disease). Pennsylvania is one of the states with the highest number of reported cases of Lyme disease; the most commonly reported vector-borne disease in the U.S. Co-infections are often suspected in diagnosed cases, complicating treatment and accurate diagnosis. In this study, the prevalence of tick-borne pathogens was examined in ticks collected from areas in and around south-central Pennsylvania. DNA was extracted and PCR performed with pathogen specific primers. PCR-positive samples were sequenced to confirm the species of the detected pathogens. Additionally, DNA was extracted from a subset of ticks and analyzed by real-time qPCR for the rickettsial 17kD gene, B. burgdorferi and A. phagocytophilum.

Katherine Baldwin

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

❖

Does the Enemy Release Hypothesis Explain the Success of Invasive Species in Pennsylvania?

The Enemy Release Hypothesis (ERH) is one hypothesis that could explain why invasive species become dominant in their introduced habitat. If introduced plant species have no herbivores to consume them, the introduced species may increase their reproduction and expand without limitation. If enemy release is taking place, we would expect invasive species to have fewer herbivores and less damage than closely related native species. We tested whether ERH explains the success of three exotic plant species by comparing the percent leaf damage and abundance of insects consuming the leaves in three invasive species and their native congeners: Rubus pensilvanicus/R. occidentalis, Fallopia japonica/F. scandens, and Persicaria perfoliata/P. sagittata. Results from this research will determine the extent to which release from enemies can explain the success of these three invasive species in Pennsylvania.

Varma-Rose Williams

Faculty Sponsor(s): Dr. Heather Sahli

Business Student Oral Presentations

TIME: 7:15 - 8:15 PM **LOCATION: 104**
Discussant: Dr. M. Blake Hargrove

Digital Divide 2.0: How the Standardization of Operating Systems is an Educational Impediment

The release of a back and forth marketing strategy between the world's two leading operating system developers, Apple and Microsoft, has fueled a debate created by the majority of the computer customer-base and the technologically affluent. The debate between which operating system is superior is a stalemate that has implications in the educational sector that could inadvertently impair the task of preparing youth for future endeavors. Computer literacy is among the most valuable and marketable skill sets in the twenty-first century workplace. Providing the necessary tools for success in the twenty-first century workplace includes a dual-literacy approach with proficiency in both Mac and Windows operating systems.

Justin Eberly

Faculty Sponsor(s): Dr. Irma Hunt

Relationship between Student Perception on Major Type and Major Choice

This project will explore the relationship between students' perceptions of specific majors and their own major choice. Via a survey instrument, College of Business students were asked to share their perceptions of the personality and PsyCap of particular business majors. On the same survey, respondents were asked survey items which will allow the researcher to infer the personality and PsyCap of each respondent. Following a review of the person-job fit literature, I have developed hypotheses predicting the relationship between perception of major and personal major choice. This presentation will present the preliminary findings of this study.

Michael Foster

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

Communication/Journalism Student Oral Presentations

TIME: 6:30 - 8:45 PM **LOCATION: 232**
Discussant: Dr. Joseph Borrell

Localism and Radio

Radio stations are licensed to local communities, and the Federal Communications Commission (FCC) has long required broadcasters to serve the needs and interests of the communities to which they are licensed. Through corporatization of the industry along with technology more and more stations have lost that localism by doing away with programming jobs and substituting them with syndicated or voice tracked shows. The use and gratification theory, however, would help predict that this would be a detriment to a station and its revenue. The only way to keep radio as a viable form of mass media is to return to localism. Content analysis including literature reviews, surveys, and a case study will help support this hypothesis of this paper.

Julie Koehrer

Faculty Sponsor(s): Dr. Joseph Borrell

❖

The Aging Digital Divide

By performing a field study early this semester to examine the technology gap that exists according to age, or more accurately, generational identity, I found a strong and interesting disparity. It is not a surprise that the young are native, and therefore savvy, while the generations who have come to know the world as a mechanical marvel of analog proportions are not as quick to embrace each new layer of digital growth. Through the use of surveys, possible focus groups, field observations, and numerous intensive interviews, I plan to answer some of the questions as to why the young are so adept, and the older so resistant to the newest technology. Furthermore, there is a rich qualitative field to mine for the stories, statements, and wonderful personal accounts which inform the dynamics that affect how willing and savvy a person is to accept, and even embrace new tech products or not.

Timothy Colistra

Faculty Sponsor(s): Dr. Joseph Borrell

Digital Communication Methods of Small Government: How Pennsylvania Municipalities Communicate Online with their Residents

Digital communication methods are used constantly by many businesses in today's society in the forms of websites and social media. But how are those same communication techniques used by small government offices? This study took an in-depth look at web and social media communication techniques used by Pennsylvania municipalities with 15,000 residents or less. The research methods for this study included content analysis, depth interviews and surveys. The findings of this study will provide detailed information on digital communication methods in small municipalities and their effectiveness.

Rachel Bryson

Faculty Sponsor(s): Dr. Joseph Borrell

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Homogeneous Radio: Clear Channel's National Programming Platform

Clear Channel Radio, a leading media conglomerate in the United States, owns 850 stations nationwide. With a central syndication service responsible for a majority of its programming, this analysis aims to explore Clear Channel's 'National Programming Platform' over four stations located in different geographic regions of the U.S. Market.

Austin Loudenslager

Faculty Sponsor(s): Dr. Joseph Borrell

❖

Do Americans Understand Health Insurance?

In 2014, all Americans will be required to secure health insurance coverage, as mandated by the Patient Protection and Affordable Care Act of 2010, or pay an annual penalty until coverage is secured. The law intends to help an estimated 30 to 46 million Americans, who are currently uninsured, find an affordable health care plan. However, do these individuals have an adequate level of health insurance literacy to effectively navigate the complexities of purchasing, and subsequently managing, a health care plan? Likewise, although tens of millions of Americans are already covered under a group or individual health plan, do they have a solid understanding of how their coverage works? The focus of this research, through surveys and questionnaires, is to help identify people's comfort level with using their health benefits, and areas the health insurance industry, health care providers, and the government should address to help consumers make educated decisions involving their coverage.

Brian McDonald

Faculty Sponsor(s): Dr. Joseph Borrell

❖

Reddit - Social News Content Analysis

Reddit is a social news and entertainment website that works without editorial influence and attracts over 50 million unique visitors each month. Users participate in the gatekeeping process by up or down voting the links provided by others. This research project analyzes the top links in different categories to find a pattern behind the most popular submissions.

Simon Neubauer

Faculty Sponsor(s): Dr. Joseph Borrell

What Brides Want to Read

In hope of improving the print publication *Premier Bride Harrisburg*, I will be doing research to find out what editorial content brides are looking for in our magazine and what interests them most. I will take into consideration the age of the bride, how long they have been engaged, how far away their wedding is, and a few other factors. I will find out this information through surveys given at bridal shows in the Central Pennsylvania region. I will also do a content analysis of bridal publications around the country to see what content they offer, feedback on their magazine as a whole, and their success in circulation and distribution.

Chelsea Hess-Moore

Faculty Sponsor(s): Dr. Joseph Borrell

❖

Adult Obesity in the USA

I choose as my research topic the major causes of adult obesity in the United States of America because from the time I arrived in the states, I was shocked by the amount of obese people. I have seen a lot before, but not specifically in this large amount that it became uncontrollable. Throughout my observation and living in the states for the past six months I was able to figure out some main reasons behind Americans being beyond obesity. For example: food, no physical activity, technology, online order, environment, genetic disease, and energy imbalance. I will be conducting several research methods for this project, such as surveys, field observation, online database, and interviews. Based on my research methods and experiment I will be able to determine the exact factors that still makes the adult obesity rate in the states very high especially since we are becoming a world full of modern technologies.

Sara Al Uraifi

Faculty Sponsor(s): Dr. Joseph Borrell

❖

The Effect of Viewer Engagement and Local News Ratings: A Survey on Social Media

Facebook reports 1.06 billion people actively use the social networking site. Newsrooms across America are tapping into this resource to collect, distribute, and perhaps most importantly, engage with their viewers. A substantial amount of research shows consumers who are engaged with company social media sites are more loyal to the company than those who are not. This research has proven beneficial in marketing campaigns for companies. Yet there is no research showing a correlation between viewer engagement and local television news ratings. Using a survey, I will examine the correlation between engaged social media news viewers and their loyalty to the station, whether there are "hot topics" in the news that prompt engagement, and if engaged social media news viewers repost news stories on their Facebook page. The participants will be representative of the most desired demographic group when it comes to TV ratings (ages 25-54), and will be engaged social media news viewers. I hope to make an important contribution to the study of viewer engagement, and provide insight that could help to boost ratings in a time when local news stations are seeing a drop in viewership.

Heather Gerber

Faculty Sponsor(s): Dr. Joseph Borrell

History/Philosophy Student Oral Presentations

TIME: 4:30 - 5:45 PM **LOCATION: 103**

Discussant: Dr. Brian Ulrich

The Battle of Funkstown: A Small Maryland Town's Role in the Gettysburg Campaign

The purpose of this research is to show the importance of an often overlooked engagement and Confederate defense of a small Maryland town following the Battle of Gettysburg. This project will explore the details of the Battle of Funkstown and will raise questions such as, "Why is Funkstown important?" "Why was there a battle there?" and "What implications could this battle have had on the Civil War if the the Confederate defense collapsed?" This understudied engagement should deserve more attention and this project will attempt to raise awareness of this important battle.

Brandon Moist

Faculty Sponsor(s): Dr. Steven Burg, Prof. Paul Leitner

❖

Below Deck: The Treatment of Transatlantic Steerage Passengers During Voyage and Sinking 1890-1915

In April of 2012, the centennial of the sinking of the Titanic passed. As a result of this iconic tragedy, much research has been published over the past year to coincide with the anniversary. However, much research has been centered on how the ship sank, the first class passengers, and the lives of the survivors. This research endeavor seeks to provide a voice for the third class passengers that made the Titanic such a profitable venture. This project also includes the Lusitania and other vessels. This academic talk will center on debunking a statement made by the British Board of Trade claiming that no bias had been exercised against third class passengers on the Titanic during its sinking. Research will cover not only the Titanic, but other vessels to form a more complete image and test the validity of this statement.

Christian Reed

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

❖

Over the Hump: Middle Management within the Pennsylvania Railroad

Management practices within the Pennsylvania Railroad have been examined by historians for decades. Typically historians discuss the impacts and experiences of upper-level executives and managers leaving the experiences of mid-level managers often ignored. This paper focuses on the experiences of one mid-level manager employed by the Pennsylvania Railroad at the Enola Yard. Situated in central Pennsylvania across the Susquehanna River from Harrisburg, the Enola Yard served as the world's largest freight yard from 1905 to 1956. I.C. Cence was a mid-level manager during the yard's most active years. Through the analysis of Cence's records it can be determined how he chose to manage and adapt during the industry's declining years.

Wesley Gingrich

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

CVSNS Literary Societies

Three years after the founding of the Cumberland Valley State Normal School in 1871 the Wickersham Literary Society was organized by a group of interested students. A Literary Society is an educational/social group where students would hold debates, plays, and discussions. Eventually the Wickersham Society was renamed the Normal Literary Society. After the name change and changes to the society's bylaws, a group of students splintered off to form their own literary society, the Philomathean Literary Society. The organizations were bitter rivals until their dismemberment in the 1930s. The two societies split the Cumberland Valley State Normal School with students allying with either the Normals or the Philos. This part of campus history is barely known by the students that attend Shippensburg University today. I took it upon myself to revisit and discover what the two literary societies were, how they operated, and what eventually led to their termination.

Evan Fucci

Faculty Sponsor(s): Dr. Brian Ulrich

Music/Theater Arts Performance

TIME: 6:15 - 6:45 PM **LOCATION: AIRPORT LOUNGE**

Arranging Music for a Quartet

Music is all around us. The songs that you listen to in the car on the way to work may be written for a small rock band or maybe a large orchestra. But there are ways to play these songs on other instrumentation and it is called arranging. The process of arranging is a long and taxing one but yields a great and rewarding outcome when the piece is performed.

Kelly Donnelly, Jennifer Katz, Nellie Fulton, Otto Wallenmeyer

Faculty Sponsor(s): Mr. Trever Famulare

Physics Student Oral Presentations

TIME: 5:15 - 6:15 PM **LOCATION: 105**

Discussant: Dr. Brad Armen

Effects of Sputtering Energy on Surface Defect Formation on Ge(110)

Pyramid-shaped defects were observed in STM images to form on clean Ge(110) surfaces as a result of argon ion sputtering. By imaging the samples after various numbers of sputter and anneal cycles, we systematically studied the formation of these defects as a function of the Ar+ ion sputtering energy. Although the number and size of pyramids increased with sputtering energy from 100 to 200eV, the sample sputtered at 300eV showed a flat surface with few pyramids. The sample sputtered with 400eV ions appears to have mountain ranges of highly stepped regions, separated by flat valleys of reconstructed c(8x10) surface. Many pyramids are capped by a cluster of atoms, probably carbon, which may have served as the nucleation site. To explain the dependence of defect formation on sputtering energy, we present a mechanism involving competition between forming new pyramids and eroding older pyramids.

Samantha MacIntyre, Marshall Van Zijll, Bret Stenger

Faculty Sponsor(s): Dr. Allen Armstrong, Dr. Shirley Chiang

Political Science Student Oral Presentation

TIME: 3:45 - 4:00 PM **LOCATION: 239**

Discussant: Dr. Alison Dagnes

This Lesson is a Joke: Does Political Satire Inform?

This paper examines whether political satire can actually teach someone about current events. Political satire shows such as The Daily Show with Jon Stewart are increasingly popular, and accordingly the validity of political satire and comedy as an information source has become widely debated. Comparisons have been drawn between "real news" programs, such as CNN or NBC, and "fake news" programs, like The Daily Show and The Colbert Report. Scholars have tried to determine whether these satire shows actually allow viewers to learn something they never knew before watching the program. My research is not a comparison of the two types of information programming, as this has been done before, but rather it examines if it is possible to learn new information and stay informed of current events simply from watching political comedy shows; can you learn from watching just political satire?

Christopher Silvia

Faculty Sponsor(s): Dr. Alison Dagnes

Social Work/Gerontology Student Oral Presentation

TIME: 5:40 - 6:00 PM **LOCATION: 239**

Discussant: Dr. Debra Cornelius, *Department of Sociology*

Understanding the Indigenous Systems of African American Culture and How They Promote Coping with Difficult Interpersonal Relationships

This study seeks to explore how the protective indigenous systems of the African American culture aid this community in coping with difficult interpersonal relationships. This is a qualitative study that interviewed thirteen self-identified members of the black community and asked them to tell a story from the past that caused them emotional hurt. Follow-up questions were asked to determine what indigenous systems were accessed during this time emotional support was needed. These interviews were recorded and transcribed. They were then analyzed for thematic comparison to one another.

Chelsea Jones

Faculty Sponsor(s): Dr. Marita Flagler

Celebrating
POSTER SESSION I

Biology

Understanding the Impact of Loss of OBP57c in Drosophila Courtship Behavior

The fruit fly, Drosophila melanogaster, uses pheromones as a key element in sexual behavior. Fruit flies have a large family of pheromone binding proteins and in order to characterize the role of specific pheromone binding proteins, transgenic flies will be generated with reduced expression of OBP57c. OPB57c is an odorant-binding protein expressed on the antenna, maxillary palps and labellum, but not on the legs or the wings. We would like to compare the impact of loss of this protein to flies with normal expression of the gene to assess their similarities and differences with regard to pheromone detection and courtship behavior. Inverted repeats of OBP57c will be used to activate the RNA interference (RNAi) pathway and reduce the production of OBP57c protein. So far OPB57c has been PCR amplified and cloned. After verification that the product we have is our gene of interest it will be inserted as an inverted repeat into the pWIZ vector in preparation for injection into flies.

Megan Breski

Faculty Sponsor(s): Dr. Sherri Bergsten

❖

Expression, Cloning, and Sequencing of Atg4c Variant 1 and p62 Autophagy related cDNA from Glioma Cells

Autophagy is a lysosomal-driven catabolic process necessary to preserve cellular homeostasis through regular elimination of damaged, aged and redundant cellular components. Research involving the link between cancer and autophagy has created ambiguous, even contradictory results. We are studying two genes known to regulate autophagy, ATG4c and Sequestosome 1 hence forth known as p62, in a preserved glioma cell line. p62 is an adaptor protein implicated in cell signaling pathways for autophagy and tumorigenesis while ATG4, a cysteine protease, is one of a class of proteins (ATGs) that stimulates an autophagy cascade. Our team extracted RNA from a glioma cell line, converted it to cDNA, and amplified the coding region of each gene by PCR. PCR products were cloned and sequenced for comparison to normal sequences available through NCBI. As sequencing did not show any significant changes, the next step will be quantitative real time PCR to study changes in gene expression.

Carley Heck, Erik Shadle, Joseph Sergent, Jessica Rauchut

Faculty Sponsor(s): Dr. Sherri Bergsten, Dr. Lucinda Elliott

❖

Demographics, Morphometrics, and Movements of Marbled Salamanders, Ambystoma opacum, in Franklin County, South-central Pennsylvania

Little is known about the Marbled Salamander (Ambystoma opacum) in Pennsylvania. The species is fossorial, nocturnal, and secretive. In September 2012, we studied a Marbled Salamander population at two vernal pools: Missile and North Ponds. We intercepted incoming individuals and sexed, measured, noted origin, marked, and released them on site. At Missile Pond, we captured 259 adults, 5.6 times more than at Fence Pond. Both ponds showed a male bias 85.3 percent and 93.5 percent respectively. Individuals were of comparable sizes at both ponds but females were 4 percent larger than males. At Missile Pond, 60.8 percent of individuals approached the site from the East. Numbers of salamanders at these sites are indicative of a robust population. Larger numbers of adults migrating to Missile Pond suggest better ecological conditions. The strong male bias sex ratio and larger female size are consistent with prior studies. The migration pattern shows that most adults spend the non-breeding season at higher elevation.

Sarah Bartle

Faculty Sponsor(s): Dr. Pablo Delis

❖

Assessment of the Aquatic Turtle Communities in a Natural and a Man-Made Wetland in Franklin County, South-central Pennsylvania

Aquatic turtles are important components of the wetland environments in which they are commonly found. In recent years little research has been done on aquatic turtles in the state of Pennsylvania. In this study, we will investigate aquatic turtle communities at Letterkenny Army Depot (LEAD), located in Franklin County, Pennsylvania. Using live trapping methods, we will capture aquatic turtles, recording the location, sex, and morphometric characteristics of each specimen. Such data will help further our understanding of what characterizes a typical aquatic turtle community in south-central Pennsylvania: specifically in regards to species composition, age distribution, and sex and size ratios. In addition, we will investigate how turtle communities in natural wetlands differ from those of recently reclaimed man-made wetlands. Consequently, this research will be highly valuable to wetland management and conservation efforts at LEAD and within the state of Pennsylvania as a whole.

Benjamin Hepler

Faculty Sponsor(s): Dr. Pablo Delis

❖

Engineering dsRed/LC3 Expression Vector and Visualizing Autophagy in Glioma Cells Expressing EGFP/LC3

Autophagy is a fundamental cellular process where cells digest and recycle portions of their own cytoplasm packaged in double membrane organelles called autophagosomes. Autophagy has also been implicated in innate immunity as an alternative pathway for clearance of extracellular pathogens. LC3 (Atg8) is the only known membrane marker for autophagosomes and can be used to visualize autophagy under different conditions. The first goal of the project was to engineer an expression vector to produce LC3 with a red fluorescent tag. The second goal was to use a previously engineered vector to express LC3 with a green fluorescent tag (EGFP/LC3) in glioma cells to monitor induction of autophagy. Preliminary data indicate that cells have to be incubated in serum-free medium for 24 hours to see signs of autophagy.

Christine Gonzales, Beth Ann Grega, Riya Thomas, Jonathan Wagner

Faculty Sponsor(s): Dr. Lucinda Elliott

The Effect of Dietary Habits and the Use of Xylitol on Biofilm Formation (Plaque) in the Oral Cavity

This research project will constitute the collection and analysis of samples from the oral cavities of human volunteers. Deductions will be made concerning the impact of dietary habit on the amount and variance of oral bacteria present. Using the most prevalent flora obtained from the volunteers we will explore the effectiveness of xylitol use in congruence with assigned dental hygiene routines.

Rachel Aleardi, Sarah Hamel, Sefik Becirovic

Faculty Sponsor(s): Dr. Marcie Lehman

❖

Detection of Ehrlichia sp. and Borrelia sp. in Two Common Tick Populations (Dermacentor and Ixodes)

Ixodes scapularis (deer tick) and Dermacentor variabilis (American dog tick) are important vectors for bacterial pathogens. I. scapularis and D. variabilis are both known vectors for Ehrlichia chaffeensis (causative agent of human monocytic ehrlichiosis (HME)); while I. scapularis also vectors Borrelia burgdorferi (causative agent of Lyme disease). Previous studies have demonstrated that ticks can be co-infected with more than one pathogen. Vectors infected with multiple pathogens have been shown to transmit each organism efficiently and independently of each other; putting the accidental human host at risk for contracting both diseases. In this study, the prevalence of bacterial pathogens was examined in I. scapularis and D. variabilis. Ticks were collected, DNA extracted and PCR performed to detect the presence of Borrelia and Ehrlichia. PCR-positive samples were sequenced to confirm the species of the detected pathogens and rates of co-infections were determined when possible.

Ashley Lare, Cara Richwine, Katherine Baldwin

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

❖

Sensitivity Testing of Cryphonectria parasitica, the Chestnut Blight Pathogen

From 1904 to 1940, Chestnut blight, Asian fungus Cryphonectria parasitica, killed four billion American chestnut trees, Castanea dentata. The fungus infects a tree through bark wounds and girdles the tree. The disease presents as cankers which eventually become dotted with pycnidia. Each pycnidium produces millions of microscopic spores able to spread the infection. Little is known about the physiology of this fungus. Understanding more about its nutritional requirements, metabolic abilities, and chemical sensitivities could contribute to biological control. We will screen a range of materials for their effects on C. parasitica. Fungi have proved hard to control because, as eukaryotes, their physiology is too similar to that of other eukaryotes to afford many targets that allow for potential differential. The materials assayed will be selected for known effects on human physiology in anticipation of increasing the odds of seeing effects.

Amy Higley

Faculty Sponsor(s): Dr. Mike Marshall

Exploring the Pathogenicity of Rose Rosette Virus

Rose Rosette Virus (RRV), the causative agent of Rose Rosette Disease, leads to severe pathology and eventually death in infected Rosa multiflora (R. multiflora), an invasive species, and poses a threat to virtually all cultivated roses. This disease is of great interest to horticulturalists and ecologists alike who wish to eradicate the invasive R. multiflora. Little is currently known about the mechanisms by which RRV and homologous Emaraviruses induce pathology. Our group is seeking to further characterize RRV and elucidate theses mechanisms through cloning, sequencing, and expressing the viral RNAs of RRV and their respective proteins. Results may provide evidence contributing to a better understanding of this sparsely studied pathology, and lead to a means by which the disease can be prevented and controlled.

Matthew Good, Devon Diehl

Faculty Sponsor(s): Dr. William Patrie

❖

Different Methods of Crop Covering Used to Extend the Spring Growing Season in South-central Pennsylvania

Growing spring and summer crops in south-central Pennsylvania is limited by the date of last frost. By protecting crops from frost, winds, and cold weather, the spring growing season can be started earlier. Covering methods such as hoop houses, wind tunnels, and ground covers allow crops to be planted earlier, giving extended time for crops to grow and potentially increasing annual crop yields. We compared the crop yield of spinach and lettuce grown under four different cover methods: a hoop house, low plastic wind tunnels, low fabric wind tunnels, and fabric row covers. Yield under each of these cover types was compared to control plots which were not covered. Data was taken on the effectiveness of each covering method in terms of cost to build, air temperature, soil temperature and total plant yield. Findings from this work will help direct growers in Pennsylvania to choose the most cost effective cover method while maximizing crop yield.

Joshua Levitsky, Seth Young

Faculty Sponsor(s): Dr. Heather Sahli

❖

Prevalence of both West Nile Virus and Lyme Disease Antibodies in PA Coyotes

West Nile virus (WNV) and Lyme disease are increasing in prevalence in Pennsylvania. Coyotes have recently become established in Pennsylvania; however, the widespread prevalence of both diseases in wild canine populations is under researched. This study involved traveling to three different sportsman club hunts to collect blood samples from harvested coyotes over two years, 2012-2013. Samples from three other hunts were provided by the USDA, with the total number of samples being approximately 200. Samples will be run through separate ELISA protocols, one to detect antibodies to WNV and the other to detect Lyme disease antibodies. For all samples, the county in which they were harvested is known. If positives are detected, they will be grouped by county to determine the rate of infection to canines and potentially humans. This gives positional data on areas of high transmission, which can be used for disease control.

Haley Garrison, Emily Young, Michael Hock

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

Helminth Prevalence and Abundance in Coyotes (Canis latrans) from Pennsylvania

Canines such as coyotes (Canis latrans) and foxes (Vulpes vulpes and Urocyon cinereoargenteus) are known reservoirs of various parasites capable of infecting domestic animals and humans alike. Booming coyote populations have led to increased contact between these canines, humans and domestic animals, leading to the potential spread of parasites and disease. To examine the possible outcomes of these interactions, this study focused on identifying the presence and relative abundance of particular parasites present within different wild canine species and their feces. Fecal samples were obtained over a two weekend period at two different Pennsylvania statewide coyote hunts, by swabbing their digestive tracts with Popsicle sticks. In total, approximately 140 coyote samples and 50 fox samples were collected and stored. These samples are undergoing standard fecal flotation techniques and microscopic evaluation.

Michael Hock, Haley Garrison, Emily Young

Faculty Sponsor(s): Dr. Richard Stewart

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DDT/DDE levels in Double-crested Cormorants of the Susquehanna River

Dichlorodiphenyltrichloroethane (DDT) was used as a widespread pesticide in Pennsylvania following World War II and continuing until the early 1970s. This chemical has been documented to persist in the environment for an extended period of time following cessation of use. This study will focus on the presence of DDT and its derivatives, which may be present in tissues of Double-crested Cormorants due to bioaccumulation of these persistent contaminants. One hundred and twenty recently deceased birds were obtained from the Susquehanna River near Harrisburg, PA. These birds were weighed, sexed and aged prior to dissection. Muscle, fat and organ samples were collected from each bird and analyzed for DDT, DDE and DDD. In addition, when possible stomach content samples were analyzed to characterize the species of fish utilized in their diet.

Tyler Kovacs

Faculty Sponsor(s): Dr. Nathan Thomas

Chemistry

1,3-Dipolar Cycloadditions of Azomethine Ylides: Prospects for Covalent Functionalization of Carbon Nanotubes

The properties of single-wall carbon nanotubes (SWNTs) have recently become a prevalent topic of study in the scientific community. Covalent functionalization is used to tune their physical and electronic properties, as well as potentially separating metallic from semiconducting SWNTs. We investigated the 1,3-dipolar cycloaddition reactions of azomethine ylides with SWNTs. Focal point analyses of this reaction with ethylene and benzene were compared with density functional theory (DFT) for use with larger systems [CCSD(T)/CBS vs. B3LYP-D/6-31G(d) and B97-D/TZV(2d,2p)]. These were then used as a benchmark for the same reaction with (6,6) SWNTs for two-layered ONIOM method geometries [B3LYP-D/6-31G(d) vs. B3LYP-D/6-31G(d)//B3LYP/6-31G(d):UFF and B97-D/TZV(2d,2p) vs. B97-D/TZV(2d,2p)// B97-D/TZV(2d,2p):UFF]. Future work will allow this method to be applied to larger systems, and adding substituents onto the ylide may alter the reactivity of the systems through stacking interactions.

Jacqueline Maguire

Faculty Sponsor(s): Dr. Dan Predecki, Dr. Steven Wheeler

Criminal Justice

Big Brother Big Sister

The main focus of our research deals with adolescents who do not have positive adult role models in their lives and how that correlates to delinquent behaviors. Empirical research suggests that at risk youth who have parents that abuse alcohol and drugs, or have previous encounters with the law are more likely to be a career criminal. The Big Brother Big Sister program helps youth ages 6-18 who are paired up with an adult role model and engage in positive activities. We performed an empirical literature review about the effectiveness of the big Brother Big Sister program before and after involvement in the program. Evidence suggests that the effectiveness of the Big Brother Big Sister program is helping to deter juveniles from committing future crime and helping adolescents realize their true potential through a positive adult mentorship.

Chelsea Keenan, Kelby Kitzmiller

Faculty Sponsor(s): Dr. Cynthia Koller, Dr. Carrie Maloney

❖

Megan's Law and Correctional Quackery

The ever prevalent push to protect our nation's children and the growing need to conserve dwindling funding for correctional programs leads us to evaluate the numerous implementations the criminal justice system has established. Megan's Law taken at face value by most people seems like an effective strategy to combat child molestation. This study examines various sources of empirical data from across the United States on whether Megan's Law and its subsidiaries are effective in achieving this goal. The findings suggest that not only is this retributive Law ineffective, it may actually hurt more people than it helps. It has also exhausted important funds that could be benefiting other, more efficient and effective rehabilitation programs. In sum, these findings suggest that policymakers and criminal justice professionals must adjust this law or at least the stipulations of the law to better meet the needs of all parties involved.

Kyle Morris

Faculty Sponsor(s): Dr. Cynthia Koller, Dr. Carrie Maloney

Exercise Science

The Effects of Sodium Bicarbonate on Anaerobic Performance

Our aim was to examine the effects of sodium bicarbonate on aerobic performance, specifically the 800m run. 11M/6F (mean±SD: age20.41±1.18yr, mass66.73±9.14kg, Ht.74±0.08m, BMI21.94±1.56 kg/m²) from the SU Track & Field team. Subjects were randomly assigned into the experimental group or control group. Subjects completed a baseline 800m run, measurements in pre and post HR,BP, and blood lactate levels, and post RPE readings. The 2nd 800m run was completed a week after the baseline and subjects ingested either the placebo or sodium bicarbonate 2 hours prior to the run. The same variables were measured. An independent samples t-test showed significant differences in pre-systolic BP on day 1 and day 2 (p=0.002 p=0.030) and in pre-lactate on day 2 (p=0.033). Significant differences were also found among males and females in pre-lactate day 1 (p=.043). Our study suggests that ingestion of sodium bicarbonate does not have an effect on anaerobic performance.

Justin Baer, Alexandra Flott, Katrina Spratford, Caitlin Stuetz, Amber Merritt, Emily Breneman

Faculty Sponsor(s): Dr. Praveen Veerabhadrappa, Dr. William (Turi) Braun, Dr. Benjamin Meyer

❖

The Effects of Time-of-Day on Running Performance

The purpose of this study was to determine if one's preferred time of day had an effect on a runner's performance. The participants of this study consisted of 17 recreationally active males and females (M±SD: age = 21.3 ± 1.7 years, height = 1.7 ± .10 m, mass = 68.17± 10.10 kg). Participants were asked to complete a one mile run, at their most comfortable yet fastest pace, on three separate occasions: morning, afternoon, and evening. Basic resting measurements were recorded prior to each run: blood pressure (BP), heart rate (HR), blood glucose (BG) after a two-hour fast, and temperature only for the morning and evening tests. Our study showed no significant difference between preferred time-of-day to run and evening running performance

Tessa Gilson, Evelyn Howe, Zach Gause, Kasey Groiss, Janel Zinn, Vanessa Elphick

Faculty Sponsor(s): Dr. Praveen Veerabhadrappa, Dr. Candice Zientek, Dr. Joohee Sanders

Effects of Beta-Alanine on the Onset of Blood Lactate and Muscular Recovery

β-Alanine delays the onset of blood lactate levels and increases the power output by the muscles. β-Alanine acts as an intramuscular buffer during anaerobic exercise, which reduces lactate to preserve the cellular enzyme activity. The purpose of this study was to determine if β-Alanine actually reduced the onset of blood lactate and if this supplementation would increase power output. Student athletes from Shippensburg University performed three Wingate protocols two separate times which were a week apart. Tests were performed with β-Alanine ingestion during the first week and the placebo loading during the following week. Power output from each of the trials was determined and analyzed taking into consideration the supplementation of β-Alanine and placebo. We were able to take the power output by recording how many 360 degree revolutions the pedal made on the ergometer every five-second intervals for 30 seconds. β-Alanine had no significant effect on performance in our study.

Justin Guy, Storm Woerner, Chase Shaffer, Andrew Foran, Andrea Heimsoth, Samantha Langone

Faculty Sponsor(s): Dr. Praveen Veerabhadrappa, Dr. William (Turi) Braun, Dr. Russell Robinson

❖

Effects of Simple Carbohydrate and Carbohydrate-Protein Supplementation on Glycogen Repletion in Anaerobic Maximum Testing

This study took a look at some of the effects of consumption of simple carbohydrate as well as a combination of carbohydrate and protein, on glucose recovery post-exercise. There were a total of eight participants in the study who were all football players at Shippensburg University. Each of the eight participants conducted three separate Wingate tests on separate days. This was due to the three conditions that were tested, which were control, carbohydrate and carbohydrate-protein. One of the findings of this study was that the carbohydrate group had the highest mean blood glucose post exercise, while the lowest blood glucose was found in the control group. This study found that there was no significant difference in glucose recovery among the three conditions. Although the highest correlation we found among the three groups was between the control and CHO group, which had a significance of p=0.051, which only slightly lower than the accepted significance of p=<0.05.

Jacqueline Kluka, Jacob Baskerville, Kadeem Clifton, Kristine Fisher, David Marks, Christopher Weidner

Faculty Sponsor(s): Dr. Praveen Veerabhadrappa, Dr. Joohee Sanders, Dr. William (Turi) Braun

Geography/Earth Science

Exploration of Geographic and Environmental Factors Impacting the Distribution of Bromelia lasiantha, Schomburgkia Humboldtii, Brassavala Nodosa, and Usnea Barbata on Mount Christoffel, Curaçao

Mt. Christoffel's location and high elevation, receives more rain than the rest of the arid island. The additional moisture supports a diverse flora found nowhere else on Curaçao. Surveys at three different sites revealed changes in the composition and abundance of vegetation. Field observations were used to categorize abundances of four specific plant taxa along an elevation gradient, in order to better understand factors influencing their distribution on the flanks of Christoffel. Orchids including B. nodosa and S. humboldtii are most abundant at high elevations and absent or rare at low elevations where humidity is greatest. B. lasiantha follows similar trends as does U. barbata. With high winds and arid conditions near the summit, these observations are enigmatic as these species typically require relatively high humidity where they grow outside of Curaçao. This study suggests that microclimates on Christoffel may play more of a role in floral distribution than previously recognized.

Joshua Levitsky

Faculty Sponsor(s): Dr. Sean Cornell

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Exploring the Growth of Residential and Resort Developments in Rural and Suburban Settings in Western Curaçao

The expansion of housing in Western Curaçao has been rapid in recent years. The driving force behind this is clearly related to an increasing demand for new housing, but there are other factors that influence this westward expansion. In this study, three sites were examined to identify potential factors driving the growth of developments. Factors being investigated include: intended audience, style, cost and size of homes, access to natural/historical sites, expansion of required infrastructure, as well as proximity to shopping districts and workplaces including the city of Willemstad. Each site investigated offers distinctive features that makes each unique. Preliminary observations show site selection has been made to cater to different intended audiences including: long-stay vacationers, retirees, and even middle class working families looking to live outside the city. Given the density of housing in the capital district continued growth in more rural settings will likely continue.

John Baker II

Faculty Sponsor(s): Dr. Sean Cornell

❖

A GIS Approach to Locating Viable Wind Farm Sites in Curaçao

Curaçao's energy demands are met entirely by the Isla oil refinery, which is highly inefficient and contributes to significant pollution. The refinery's lease to the Venezuelan-owned, PDVSA expires in 2019; this presents a quandary for future energy production. Moving forward, Curaçaoans must make a decision: whether to renew the contract, or close Isla and explore alternative energy sources. Curaçao's location, in the arid subtropical easterlies belt, is ideal for harnessing renewable wind energy. Can wind alone provide enough electric for the island, or will additional sources be needed? This study explores Curaçao's projected energy needs, and the footprint necessary to establish this energy system. Viable construction sites are determined using GIS analysis informed by development patterns, and annual climatologic data. If enough sustainable, domestic energy can be harnessed, the refinery closure could reduce pollution, and open up expanses of prime land for future investments.

Joseph Hawbaker

Faculty Sponsor(s): Dr. Sean Cornell

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Hydrogeologic Investigation of Infiltration Rates in Natural and Man-Made Beaches at Wallops Island, Virginia

Located on the Eastern Shore of VA, Wallops is home to the NASA Wallops Flight Facility (WFF). The island has faced the problem of shoreline erosion for years. WFF completed a beach replenishment project in 2012 that added >3 million cubic yards of sand. The coarser sand of the new beach has the capacity to change the hydrogeology of the barrier island. The purpose of this study was to quantify infiltration and porosity on 6 transects that span the natural and replenished beaches. In situ porosity was measured by flooding 8" push cores to determine pore volume. Infiltration rates were also collected at each site. Our analysis has shown the lowest infiltration (to .028 mL/second) and porosity values on the natural beach (as low as 10 mL/56.55 in^3 of sand). Repeated sampling has shown that there is a seasonal impact on infiltration not previously recognized and the new beach is absorbing water at rates and volumes many times the rates found on the natural beach.

Dana Heston, Joseph Hawbaker

Faculty Sponsor(s): Dr. Sean Cornell

❖

A Window into the Subsurface of the Cumberland Valley of Central Pennsylvania: Ground Penetrating Radar (GPR) Investigation of Karst Features in the Shippensburg Valley Quarry

Karst features are developed in carbonate bedrock as a result of chemical weathering. Such processes form sink holes, caves, enlarged fractures, solution cavities, bedrock pinnacles, etc., all of which can be hazardous. This study GPR in an attempt to identify the signature of karst features characteristic of the fold and thrust belt as developed in the Cumberland Valley of Central PA. This study looks specifically at an excavated and back-filled karst landscape developed in a quarry NE of Shippensburg, Pennsylvania in order to gain insights in order to more accurately interpret GPR returns elsewhere in the valley. The exposure was made by the quarry operator to produce a cleaner, soil-free limestone prior to blasting. Once cleared of soil, the pinnacled limestone was visually inspected and this allowed for characterization of the landform morphology. The area was then backfilled with crushed-stone before GPR (Mala X3M, 100 Mhz and 250 Mhz) surveys were taken.

Eric Rothermel, Joseph Hawbaker, Dana Heston

Faculty Sponsor(s): Dr. Sean Cornell

Successful Gekkonid Invasion on Curaçao: The Saga of a Superior Competitor

Invasive species possess an ability to displace and replace native fauna which makes the monitoring of these species of paramount importance. Introductions of Gekkonid fauna is of a frequent concern and a dynamic component of them are the group of geckos found inhabiting buildings. With this background in mind we set out to investigate the ecology of the gecko assemblage occupying buildings at the Marazul Dive Resort, on the coast of Curaçao. In order to determine the status of gecko species, eighteen buildings were censured amid a five night expanse in January of 2013. Of the five gecko species known to inhabit the island, two were detected during this study. Of the 455 gecko observations, 81 percent comprised of the recently introduced Woodslave Gecko, while 11 percent consisted of the native Dutch Leaf-footed Gecko. The Woodslave Gecko appears to be a superior competitor and is seemingly incapable of a stable coexistence with syntopic gecko species in developed locations on Curaçao.

Daniel Hughes

Faculty Sponsor(s): Dr. Sean Cornell, Dr. Pablo Delis, Dr. Walter Meshaka Jr.

❖

Historic Preservation in the Caribbean Spurs Tourism and Challenges

Curaçao's status as a UNESCO World Heritage Site bears expectations to maintain and improve the cultural assets of Willemstad's historic districts for the future. Although it is in Curaçao's best interest to restore buildings from its colonial past, the costs to do so are beyond the capacity of most investors. Reconstruction costs are extremely high, partially due to: 1) the type of building materials used, 2) the island climate, 3) pollution intensity, 4) ornate architectural styles from >300 years of Afro-European influence, and 5) limited local resources. This research project explores the building materials used in both rural and urban settings in Curaçao's past and present while outlining the challenges affiliated with historic preservation. These include sustainability and efficiency of restoration. The economic future of the Caribbean relies in part on encouraging tourism while preserving the lessons learned from the Colonial Era. Will Curaçao meet this obligation?

Matthew Hockenberry

Faculty Sponsor(s): Dr. Sean Cornell

❖

Will the Lights Go Out in Curaçao in 2019?

With an impending oil refinery lease renewal in 2019 between the government of Curaçao and the Venezuelan Oil Company (PDVSA), the future of Curaçao's energy infrastructure is in jeopardy. PDVSA imports oil from Venezuela to be refined at the Isla Refinery and sells a portion of its refined oil to Aquaelectra. Unfortunately with an aging refinery, environmental concerns, and growing conflicts with the island's other industries, the contract renewal is put into question. This project documents recent and future trends in energy production and rising costs associated with producing energy and water resources on the island through 2019. This is in an effort to explore the impacts and consequences associated with the renewal/non-renewal of the PDVSA contract with regards to Curaçao's economic and societal future. With only six years until the lease expires, what actions are needed to preserve and improve the energy and water infrastructure, and what are the implications of failure?

Clay Helm

Faculty Sponsor(s): Dr. Sean Cornell

❖

Educating U.S. High School Students on the Importance of Clean Energy: Teaching the Impact of U.S. Energy Consumption on Curaçao

High school students in the U.S. take energy for granted. Vehicles, smartphones, etc. all require substantial energy. However, availability of this energy exerts a toll on environments and people around the world. The Isla Oil Refinery in Curaçao exports oil to other countries, primarily the U.S. If students could see and smell the dense smog and understand the refinery has contaminated all fresh water supplies on the island, would their attitudes towards energy waste change? Curaçao is now operating two wind farms to explore a more sustainable energy alternative. The purpose of this project is to design, using Pennsylvania education standards, lesson units that focus on teaching global energy issues. The unit requires students to explore differences between fossil fuels and clean energy and their impacts through the Curaçao case study. As today's high school students will eventually lead future generations; it is important to explore global energy issues and possible solutions now.

Morgan Crider

Faculty Sponsor(s): Dr. Sean Cornell

❖

Effects of Local Fish Hatchery on Nitrate and Phosphorus Concentrations in Falling Spring Creek, Franklin County, Pennsylvania

Nitrate and phosphorus concentrations in freshwater streams are a source of contamination that degrade aquatic habitat and water quality. Falling Spring Creek, Franklin County, Pennsylvania is a spring fed stream that meanders through the town of Chambersburg in south-central Pennsylvania. A fish hatchery located on a tributary is believed to be a point source of pollution that interferes with the overall water quality of the Falling Spring Creek. The purpose of this project was to determine the effect of the fish hatchery on nitrate and phosphorus concentrations at the midway point on Falling Spring Creek. Samples were analyzed by a Hach colorimeter to determine the concentration of nitrate and phosphorus. This study concludes the fish hatchery does have an influence on the concentrations of nitrate and phosphorus downstream.

Calvin Mentzer

Faculty Sponsor(s): Dr. Christopher Woltemade

History/Philosophy

The Roman Influence on Egyptian Women During the Roman Occupation of Egypt

When Augustus took over Ptolemic Egypt in 30 BC, he revised the administration of Egypt, but he left the laws and traditions of the Egyptian people intact. Egyptian women had relatively good standing throughout the ancient times; elite women in Egypt were prominent in religious cults, and Egypt had a history of women rulers, which shows the Egyptian women had a powerful influence in society. Since Augustus did not change the laws regarding women after the Roman takeover, Egyptian women should not have experienced any change in their social position. However, primary sources indicate otherwise. Both upper-class women and lower-class women paid higher taxes, but elite women in particular experienced a rapid decline in political and a gradual decline in religious authority. Roman occupation introduced the era of Roman emperor rule in Egypt, which ended the reign of women Pharaohs, and powerful women priestesses in religious cults eventually disappeared under Roman rule.

Diane Klapatch

Faculty Sponsor(s): Dr. Christine Senecal

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The Kontore of the German Hanse

The German Hanse, also known as the Hanseatic League is most commonly characterized as a network of trading cities in northern Germany from the early twelfth century through the sixteenth century, however this loose confederation would not have thrived as it did without the kontore in foreign countries. The kontore were Hanse-established trading posts in cities throughout northern Europe that provided the Hanse with markets to sell German wares and access to foreign goods. Hanse merchants and their annual Diets took actions, such as securing trading privileges in foreign states and placing restrictions on the management of the kontore, that demonstrate the preeminence of the trading posts over the German towns.

Nicholas McClure

Faculty Sponsor(s): Dr. Christine Senecal

❖

Culture at Odds: Abstract Themes and Aesthetic Philosophy within Female Heian Literature

Insightful psychological and literary analysis of the texts shows the female literature of this time period to be deeply philosophical as it seeks to explore the human condition and reach out particularly to the female audience. By examining the Kiritsubo, the Akashy ladi, the Uji sisters, and the rainy night critique episodes within Muraski Shikibu's *The Tale of Genji,* along with the style of Sei Shonagon's *The Pillow Book,* and the passages from several nikki of other Heian women, one can find sophisticated ideals forming from the cult of beauty, Buddhist tradition, and personal insights of the aristocratic Heian women on their own lives which suggests the formation of separate female culture within Heian Japan.

Kyra Newmaster

Faculty Sponsor(s): Dr. Christine Senecal

Mathematics

Totally Mental: Mental Math Techniques in K-8 Students

Our research focuses on the mental mathematics techniques employed by K-8 students when faced with grade-appropriate math problems. In exploring the variety of approaches the students take to solving the math problems, we will have a deeper understanding of the mental processes involved in mathematical thinking, and insight into how better teach to a variety of mathematic learning styles.

Deborah Mathes, Lynne Dettra, Jeremy Eastman

Faculty Sponsor(s): Dr. Dave Kennedy

Modern Languages

Le « bullying » : un mal strictement américain ?Comparaison interculturelle entre les États-Unis et la France

Curieusement, le « bullying », une forme de violence scolaire très médiatisée aux États-Unis, n'a pas d'équivalent dans la langue française. On reconnaît que l'ambiance scolaire n'est pas toujours parfaite en France, mais on n'a pas de terme pour décrire ce phénomène, au point que c'est le terme anglais que l'on a récemment adopté. Le « bullying », nouveau produit d'exportation américain ? Ce projet de comparaison interculturelle va explorer la réalité du « bullying » dans les deux pays: comment il se manifeste, comment on le perçoit, quelles sont ses conséquences, et quelles solutions on lui apporte. Cette étude, basée sur le recoupement d'informations provenant de revues spécialisées, d'articles et d'artefacts culturels américains et français, identifiera les termes, les faits et les statistiques associés au «bullying » en France et aux États-Unis pour mieux comprendre les différences entre les deux sociétés dans le domaine de l'éducation et de la violence scolaire plus spécialement.

Is bullying an American issue only? Intercultural comparison between the United States and France

Interestingly, the term "bullying", a form of violence among school aged children that has been prominently featured in the American media, does not have an equivalent in the French language. While the French acknowledge that this kind of violence in schools exists, there is no French word to describe the phenomenon, so that the English term was recently adopted. This cross-cultural project will explore the reality of bullying in France and in the United States, focusing on its manifestations, its consequences, how it is perceived, and its solutions in both countries. This study will also try to understand how importing the English term impacts how the French understand and react to bullying. Through an examination of cultural artifacts, specialized studies and journal articles in French and in English, this study will identify the concepts, facts and statistics associated with "bullying" in France and in the United States, in order to better understand the underlying differences between both cultures in the realm of education and more specifically school violence.

Rouzila Nakhla

Faculty Sponsor(s): Dr. Blandine Mitaut

Psychology

Die-hard Fans? CORFing Behavior in Newspaper Obituaries

The current study examined CORFing (cutting off reflected failure) tendencies in deceased individuals' newspaper obituaries. Previous research has found that 15 percent of men's and 5 percent of women's obituaries make mention of sport fan identification (End, Meinert, Wothrman, & Mauntel, 2009). We analyzed the frequency with which Pennsylvania newspaper obituaries mentioned Penn State prior to and after the Jerry Sandusky child sex abuse scandal was publicized. Consistent with past research we found that overall more men (30 percent) were likely to mention being a fan of Penn State in their obituaries compared to women (22 percent). The Jerry Sandusky scandal did not influence the proportion of individuals who identify as being fans of Penn State in their obituaries.

Hannah Cameron, Erin Ellis

Faculty Sponsor(s): Dr. Jamonn Campbell

❖

Identification of Briefly Presented Arrow Primes and Targets

The metacontrast masking paradigm in visual perception research is one in which a stimulus presented first (the prime), is masked (but not actually covered) by a second stimulus (the target), preventing awareness of the first. In our study, the prime and target (arrows) could be concurrent or opposite in direction. Participants identified the target's direction, then the prime's, and rated their awareness of the prime. Unlike past studies, we found that conscious perception does assist in identification of primes and that low awareness was correlated with poor prime identification and high awareness ratings with better prime identification.

Nathan Oster

Faculty Sponsor(s): Dr. Steven Haase

❖

The Relationship between Dispositional Optimism, Support Systems, and Academic Stress on College Students

This study investigated the relationship between dispositional optimism, having a support system, and the effects of stress on college students. Participants (N = 194) completed the Revised Life Orientation Test (LOT-R), the Multidimensional Scale of Perceived Social Support (MSPSS), and the SCL-90. Higher LOT-R scores were correlated with higher scores on the Family Support dimension ($r = .39$, $p < .0001$) and with higher scores on the Friend Support dimension of the MSPSS ($r = .38$, $p < .0001$). Higher LOT-R scores and higher Family and Friend support were correlated with lower scores on the Global Severity Index (GSI) measure of the SCL-90 ($rs = -.39$, $-.26$, and $-.22$, respectively, $ps < .001$). After controlling for LOT-R, MSPSS did not show a significant contribution to the explained variance (R2 change = .02, $F(2, 189) = 1.70$, $p > .05$). The effect of social support (e.g., through family and friends) on levels of distress is mediated by optimism.

Rachel Haupt

Faculty Sponsor(s): Dr. Scott Madey

Adolescent Self-Perceptions of Early vs. College Dating Relationships and the Impact of Family and Friends

This research looks retrospectively at how perceptions of romantic relationships change from adolescence to early adulthood, while also looking at how family and friends impact these perceptions. From high school to college, results indicated increases in maturity and self-awareness, a greater importance of relationship qualities such as trust and honesty, and higher ratings on all aspects of the Romance Qualities Scale except conflict. Greater peer and parental support was also found in college relationships.

Angelina Castellani, Kaitlyn Cropper

Faculty Sponsor(s): Dr. Suzanne Morin

❖

Personality & Burnout: General Hurry as Moderator of the Stressors-Strains Relationship

The purpose of our study was to extend existing research on workplace stress by examining general hurry (a subcomponent of time urgency) as a moderator of the relationships between challenge and hindrance stressors, and the strain of burnout. Participants were 85 employees who completed two surveys. Data were analyzed using simple and moderated multiple regressions. Challenge stressors significantly predicted burnout but all other relationships were insignificant, possibly due to a low statistical power.

Benjamin Martin

Faculty Sponsor(s): Dr. Virginia (Jenny) Pitts

❖

Explicit and Implicit Death Attitudes in College Students

An implicit measure of death avoidance based on sentence completion was developed and administered to 140 college students together with other explicit death attitude measures (DAP-R). Consistent with the hypothesis, the newly developed implicit measure correlated positively with the explicit measures of fear and avoidance of death. In addition, multiple regression analyses revealed that death salience, as measured by attendance of funerals, predicted fear of death on the implicit but not on the explicit measures.

Sarah Antonelli, Kaitlin Merli

Faculty Sponsor(s): Dr. Adrian Tomer

Social Work/Gerontology

What's the Most Effective Way Head Start Parents or Caregivers Gain Awareness of Resources in the Community?

The purpose of this study is to find the most effective way Head Start parents or caregivers are gaining awareness of the resources available in their community. This research aims to determine which service provides the best assistance in gaining access for Head Start parents or caregivers to the community resources. A survey will be distributed in order to gather data about the effectiveness of the services including Head Starts Parent manual, newsletter, and website along with the phone book, online resources, calling 211, or face to face guidance. The data collected from the survey will help to determine the services that are beneficial as well as the services that are accessed the least by the parents or caregivers of Head Start.

Cassidy Bannan

Faculty Sponsor(s): Dr. Samuel Benbow

❖

From the Client's Perspective are Family Based Services at Momentum Services Effective in Improving Relationships?

The services that Momentum Services LLC, conduct are there to help improve the family relationships along with improving the child's relationships outside of the home. Whether this goal is actually achieved within the time the agency is open with the individual families is not observed closely enough to come to any conclusion. Secondary data on file at the agency was the main source of data used in the research. The data that was used was a survey that the family and client had a choice of filling out each month while receiving services. This survey rates the services they were receiving and if they were beneficial in improving their relationships.

Alison Barry

Faculty Sponsor(s): Dr. Samuel Benbow

❖

What Influence does Gender have on the Success Rate of Multisystemic Therapy Services offered through Cumberland County Children and Youth Services?

Throughout this research project the principal investigator asked the question of "What influence does gender have on the success rate of Multisystemic Therapy services offered through Cumberland County Children and Youth?" This question aimed to determine if the gender of a child influenced the success of Multisystemic therapy at reducing the involvement that was needed from Cumberland County Children and Youth. The principal investigator has looked at case files of past cases where the child was referred to Multisystemic therapy through their caseworker at Cumberland County Children and Youth. The principal investigator then examined if there was a higher instance of one gender reducing their length of involvement with Children and Youth.

Kaye-Lani DePaolo

Faculty Sponsor(s): Dr. Samuel Benbow

Co-occurring Substance Use Disorder and Mental Illness: The Impact on the Completion Rate of Treatment

Co-occurring SUD's and Mental Illnesses are prevalent in the United States. Out of the 18.9 million adults that have a SUD, about 8 million also have a mental illness. This number signifies that 42.3 percent of all adults who have a SUD also have a mental illness (Substance Abuse and Mental Health Services Administration [SAMHSA], 2012). This shows the need for treatment for individuals suffering from a dual diagnosis. There are many treatment programs across the country that focus on the treatment of individuals with a dual diagnosis. The purpose of this study is to compare the completion rate of treatment between individuals with a dual diagnosis and individuals with only a SUD.

Adam Felts

Faculty Sponsor(s): Dr. Samuel Benbow

❖

Identifying the Knowledge of Head Start Staff Members on the Topic Transportation Challenges for Clients

In Cumberland and Franklin County, Pennsylvania, transportation is a problem that low income families face every day. Some of the families that are experiencing low-income status have children currently enrolled in the Shippensburg Head Start, which is a national preschool program for children from low-income families. This research study will identify if Head Start staff members have the knowledge to speak to clients about transportation and if training on transportation is needed. A questionnaire will be provided to gauge the Head Start staff member's knowledge of their clients transportation challenges.

Megan Gabriele

Faculty Sponsor(s): Dr. Samuel Benbow

❖

Moral Reconation Therapy

The location of where criminal offenders start the Moral Reconation Therapy and its affect on their success in the Day Reporting Center program will be discussed

Jessica Hess

Faculty Sponsor(s): Dr. Samuel Benbow

What are the Perceptions of Previous Data Collected in the Discharge Section of the Patient Satisfaction Survey?

The objective of this study is to use secondary data to assess patient satisfaction in the discharge section of the survey in the Mental Health Facility acute unit. With score fluctuation, hospital staff are eager to determine key issues causing patients to be dissatisfied with their care. The researcher will be able to provide staff information based on findings so that in the future the staff could implement a plan of action. Two posing questions for research are, what are the perceptions of previous data collected in the discharge section of the patient satisfaction survey and what are the reasons for inadequacy in relation to discharge based on the patients' comments?

Julie Kachnoskie

Faculty Sponsor(s): Dr. Samuel Benbow

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How Traumatic Events Affect Adjudicated Youth

An individual who has either witnessed or experienced abuse that is physical, sexual, emotional or psychological does make them more prone to act out with criminal behaviors in their community. The study utilized both qualitative and quantitative data collection methods. The data was collected using the Trauma Screening Tool. The researcher based on the information had concluded that traumatic events do greatly affect adjudicated youth's lives.

Jamie Levy

Faculty Sponsor(s): Dr. Samuel Benbow

❖

How has Fayetteville Elementary School Benefited from having the Family Life Center?

For the past four months, I have been interning with Laurel Life, a grant funded agency that provides behavioral health support for students in elementary schools. Based on the elementary school that I was at, I created the research question of how the Family Life Center has benefited Fayetteville Elementary School. Within my research I was looking at how the behavior of students has changed over the years and how group sessions, family intervention, and counseling contribute to the impact of the school. I was able to collect research based on secondary data. Teachers and administrators were given surveys and based on their results; Laurel Life was able to see the Family Life Center's strengths and areas for improvement.

Victoria Marthouse

Faculty Sponsor(s): Dr. Samuel Benbow

The Relationship Between Safety and Morale at Roxbury Treatment Center

Examining the relationship between safety and morale for employees is the proposed research project. This research will be used to determine how employees feel about safety in the work place, as well the morale of the working environment. This data will assist Roxbury Treatment Center's employees in recognizing if employee needs are being met. This will also help determine if employees feel safe and content while working at Roxbury Treatment Center.

Matthew Taylor

Faculty Sponsor(s): Dr. Samuel Benbow

❖

How do the Program Components Impact the Success of Female Students at Yellow Breeches Educational Center?

Alternative education programs provide for students who are at risk for failing or dropping out of traditional high school as well as students who have been taken out of their home school due to illegal activity or behavior problems. Students with emotional, social, and learning needs that are not addressed in traditional school settings, frequently have major problems with their mental health and wellbeing, peer relationships, and home/family life. Students with complex needs often fall between the cracks in the education system without access to services they need to be successful. YBEC at Fishing Creek Girls Program is an alternative education program for secondary school-aged female students who are identified with emotional support needs and are at risk to fail in the traditional academic setting. There are 5 main program components used to enhance students' abilities and experiences: Academic, Service Learning, Adventure Education, Family Involvement and Character Training.

Kathryn Werner

Faculty Sponsor(s): Dr. Samuel Benbow

❖

The Effectiveness of Truancy Elimination Plans

This study wished to explore the effectiveness of Truancy Elimination Plans (T.E.P's) at reducing truancy referrals sent to Cumberland County Children and Youth Services. This study sought to examine factors that influenced the effectiveness of the Truancy Elimination Plans.

Katie Whitney

Faculty Sponsor(s): Dr. Samuel Benbow

Self-Esteem, Self-Growth, and The Vagina Monologues

This study is an exploratory look into the connection between self-esteem, self-growth and participation as a cast member in The Vagina Monologues. The participants are all members of the 2013 cast of Shippensburg University's production of The Vagina Monologues.

Stephanie Diaz

Faculty Sponsor(s): Dr. Marita Flagler

❖

The Fifth Grade Teachers Perspective on the Emotional and Social Impact of Truancy

Fifth grade students, who do not attend school on a regular basis, not only suffer academically but also socially and emotionally. Emotional and social supports are very important for students and are a major part of the development in children not only in the fifth grade but in all grades. Students learn socially how to behave appropriately and inappropriately. Ten fifth grade teachers from Chambersburg Area School District will be surveyed to help us get an understanding of the social and emotional impact of truancy. Attending school for students is very important. Through this study we will see what these teachers think their students miss socially and emotionally by not attending school. The importance of why fifth grade students should attend school will be looked at through this study as well. We will see the relationship between truancy causing emotional and social effects, and emotional and social impact causing truancy.

Kara Anderson

Faculty Sponsor(s): Dr. Marita Flagler

❖

Self-Care Could Impact Level of Vicarious Trauma in Child Care Workers

Working in the profession of a child welfare worker can be the most rewarding career for those people who have the empathic capacity to want to keep children healthy and safe. It can also be one of the most psychologically damaging for workers in the child welfare setting because of the trauma workers can experience by listening and seeing horrors that are done to children on a daily basis. This type of trauma is called Secondary Traumatic Stress (STS). STS is the result of being exposed to other people's trauma and their life's stressors due to negative events in their lives, professionals who are in the field of being "helpers" call this the "cost of caring" (Jankoski, 2010).

Andrea Becker

Faculty Sponsor(s): Dr. Marita Flagler

❖

Ways Children & Youth Workers Deal with Vicarious Trauma

This research was conducted with the staff at Adams County Children & Youth. Each day case workers come in contact with many traumatized clients. However, there has been little research done to help the individuals that deal with these clients. The question is how should caseworkers cope/deal with the traumatic events they hear about in order to lower their risk of Vicarious Trauma.

Lauren Dolan

Faculty Sponsor(s): Dr. Marita Flagler

Effects of Unemployment on Donations

Human services often rely heavily on the support of donations from outside sources. However, do the changes in the unemployment rate affect these donations? This study seeks to explore the possible correlation between the unemployment rate of Pennsylvania and the amount of donations received annually by United Cerebral Palsy (UCP) of Central Pa. Secondary data was used to create a graph displaying the relationship.

Jennifer Garrett

Faculty Sponsor(s): Dr. Marita Flagler

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Depression, College Students, and the Awareness of Community Mental Health Resources

The commonness of depression in university students in the United States is steadily increasing. Young adults in the United States have a higher incidence of depression than other age groups and a 2005 national survey found that 86 percent of college students suffer from depression along with other psychological illnesses."(Goldring, 2012). Sadly, many students suffering from this mental illness do not seek out counseling services. Campus counseling is provided through college tuition however, traditional counseling services can be constrained with their ability to service all the students in the university. Therefore, the purpose of this study was to investigate Shippensburg University's students' awareness of community mental health services.

Danielle Holt

Faculty Sponsor(s): Dr. Marita Flagler

❖

Activity Participation and Depression Levels

The purpose of this study is to find if there is a correlation between the number of activities that older adults participate in and their levels of depression. The research is aimed to determine whether or not the higher number of activities that an older adult participates in lowers their levels of depression. Information will be collected through previous existing data at LIFE Lutheran Services. The data will consist of Geriatric Depression Scale (GDS) scores and the number of activities that the participants take part in the month prior to when the GDS was administered. By examining this data, it will allow for LIFE Lutheran Services to see if the number of activities participants partake in effects their levels of depression or not.

Andrea Kashner

Faculty Sponsor(s): Dr. Marita Flagler

Attitudes towards Children and Adults with Autism

Autism is defined as a developmental brain disorder that causes impaired social interaction, problems with verbal and nonverbal communication, and unusual, repetitive, or severely limited activities and interests. Approximately 1 in 110 children in the United States are diagnosed with autism. This study has two purposes. The first purpose is to investigate the attitudes of people that reside in the Chambersburg and surrounding area towards children and adults with autism. The second purpose is to see if there is a difference in attitudes about autism between males and females.

Sierra Reigle

Faculty Sponsor(s): Dr. Marita Flagler

❖

Attitudes towards Autism in Central Pennsylvania

Autism Spectrum Disorders (ASDs) are developmental disabilities that affects ones social development and communication skills. These disorders have been increasingly diagnosed over the last few years. Around 1 in 105 children has an ASD. Considering the rate that these disorders are being diagnosed, it is likely that most people have come in contact with someone who has an ASD. The purpose of this study is to explore how accepting community members of Chambersburg, Pennsylvania and surrounding areas are of people with Autism Spectrum Disorders. The study is also exploring if community members who have had a lot of interaction with people with ASDs are more accepting than community members who have not had a lot of interaction with people with ASDs.

Jaimie Serowsky

Faculty Sponsor(s): Dr. Marita Flagler

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Workload Management in Child Welfare

The purpose of this research project is to assess workload management in a child welfare agency. One's workload in child welfare is referred to as their caseload. The Child Welfare League of America recommends that child welfare workers manage an average of twelve cases at a time, because Child welfare cases are multifaceted and require thorough intervention. Proper workload management is extremely important for the client's benefit as well as the worker's. It reduces burnout and retention rates in child welfare agencies and ensures that clients receive proper care. My study will investigate the factors that impact workload management the most in the child welfare setting. The three factors investigated include: the use of teaming (triages), supervisor support (instrumental and emotional), and the worker's ability (experience, major of highest degree, knowledge of resources).

Jessica Snyder

Faculty Sponsor(s): Dr. Marita Flagler

The Attitudes and Beliefs of DCSSCY Employees regarding the Positive Outcomes for Children in Kinship Care Versus Non-kinship Care

The purpose of the study is to explore the attitudes and beliefs of employees at Dauphin County Social Services for Children and Youth regarding the positive outcomes of kinship care as compared to non-kinship care. This researcher is determining kinship care versus non-kinship care will be increasingly favored by employees at Dauphin County Social Services for Children and Youth. This study aims to provide DCSSCY results as to what type of placement is favored regarding more positive outcomes for children.

Kristina Taylor

Faculty Sponsor(s): Dr. Marita Flagler

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ESPI's at Hoffman Homes

Hoffman Homes for Troubled Youth is a psychiatric residential treatment program for children. The mission of Hoffman is "to be committed to promoting personal growth and achievement of those we serve through continuous quality improvement, education, staff development, and the use of evidence-based practices." The purpose of this study is to investigate/explore the effectiveness of the ESPI (Emergency Safety Physical Interventions) at Hoffman Homes over a two month time frame. This study is important because there are twelve young men that are affected every day. It is hard to get a sense if physical interventions are necessary but most importantly effective. Through various research and data collected from Hoffman Homes I hope to discover a correlation.

Milton Webber

Faculty Sponsor(s): Dr. Marita Flagler

❖

The Impact of A Day Program on Caregiver Stress

In the past year 65.7 million (29 percent of the U.S. adult population) provided care for someone who is ill, disabled or aged. Providing care for a loved one can be a rewarding job, but it can also be stressful on the individual providing care. As life expectancy increases there will be an increased amount of older adults needing support which will result in an increased demand for caregivers. Adult day centers were designed to provide quality care for an older adult through social stimulation and recreational activities. For the caregiver, adult day centers provide respite care, enabling caregivers to work or to take a break from caregiving responsibilities. This research study looks at the impact of a day program on caregiver stress.

Rasheeda Wright

Faculty Sponsor(s): Dr. Marita Flagler

Religion and Politics and the Coming-Out Process in Young Adults

The purpose of this study is to explore how the attitudes of a LGBT person's family affected their coming out process. Specifically, it addresses family culture, religious views, and how much experience the family had already had with the LGBT community using the Perceived Parental Reactions scale, the Lesbian Gay Bisexual Identity Scale, and a series of proprietary political ideology questions. The research will help examine the effects of socialization on the coming out process. The study is mostly quantitative with some qualitative elements mixed in. This presentation reports the results of a project conducted by a student-led BSW Research Club. The researchers sampled LGBT undergraduate students across Pennsylvania via electronic survey. The findings fill a gap in the current literature and give social workers insight into the factors that contribute to how a person comes out and the factors that might complicate that process.

Tina Matos, Stephanie Diaz, Brittany Foulds, Kathleen Prest, Paul Gilmore

Faculty Sponsor(s): Dr. Michael Lyman, Dr. Andrew Dunlap

Teacher Education

Pre-Service Teachers Leading Professional Learning Communities to Enhance their Peers' Knowledge, Skills, and Dispositions

A group of senior Early Childhood Education majors, with the desire to become better professionals, took the opportunity to provide junior level Early Childhood majors to learn the materials professors wish they had time to teach in class. Junior level Early Childhood majors attended workshops put on by a group of seniors to learn more information in the areas of: children's literature, classroom management, text leveling, technology in the classroom, student teaching, and more.

Megan Lontz, Lynne Dettra

Faculty Sponsor(s): Dr. Lynn Baynum

Celebrating
POSTER SESSION II

Accounting & Management Information Systems

Citizen Centric Reports for Pennsylvania Local Governments

Students in the Government Accounting course prepared Citizen Centric Reports for twenty-two small Pennsylvania local governments. The reports communicate who the governments are, their key service efforts and accomplishments, financial results, and challenges for the futures.

Hellam Township, York County
Brandon Bear

Lower Paxton Township, Dauphin County
Nick Breon

Bensalem Township, Burks County
Christopher Buchanan

Derry Township, Dauphin County
Nelson Capote

Ephrata Borough, Lancaster County
Michael Casper

Carlisle Borough, Cumberland County
Erica Chilcote

Somerset Borough, Somerset County
Devon Fisher

Middlesex Township, Cumberland County
Michael Frenette

Hummelstown Borough, Dauphin County
Jason Gardner

Upper Leacock Township, Lancaster County
Alex Kepeck

Glen Rock Borough, York County
Mary Kessler

Shippensburg Borough, Cumberland County
Cierra Knepp

Red Lion Borough, York County
Chris Man

Halifax Township, Dauphin County
Aaron Miller

Marcus Hook Borough, Delaware County
Sean Minford

Baldwin Township, Allegheny County
Kim Nguyen

Greene Township, Franklin County
Michael Porter

Cooke Township, Cumberland County
Kendra Rook

Carroll Valley Borough, Adams County
Nick Shearer

Mont Alto Borough, Franklin County
Allison Steinruck

White Oak Borough, Allegheny County
Kyle Varner

Faculty Sponsor(s): Dr. Patricia Patrick

Art & Design

Body Casting Experience

My current work deals with emotionally powerful content including themes about child molestation, rape, and substance abuse. I expose and display perpetual social issues through figurative work, mixed media, and found objects. I use casted body parts and objects to provoke specific feelings or emotions that may be unsettling to some. Transforming existing objects gives me the ability to use the former functions of objects to evoke thoughts and feelings within the viewer. These works were produced using various body casting methods, such as plaster, alginate and latex casting. All of the pieces displayed will be donated to the Women's Center to help others relate and heal during their own personal struggles.

Kayla Bennett

Faculty Sponsor(s): Prof. Steven Dolbin

Biology

Identifying Genes that Regulate the Timing of Development in the Spotted Salamander

Spotted salamanders have genetic mechanisms that function to repress or activate development based on environmental conditions including lack of oxygen or nutrients and the presence of predators. Ambystoma maculatum is a species with little known genetic information, despite its unique developmental processes. We have been able to successfully isolate RNA of two selected genes, fibroblast growth factor 10 and thyroid hormone receptor-b, using primers we created based on known sequences from related organisms. We were able to reverse transcribe the isolated RNA into cDNA followed by PCR amplification. The next step will be to clone the amplified DNA to reveal its genetic sequence for both genes. We also plan to obtain Ambystoma maculatum egg masses to supervise growth under regulated conditions and monitor the associated gene expression patterns, so that we can gain a better understanding of their development.

Kerrianne Morrow, Elizabeth Pflaum

Faculty Sponsor(s): Dr. Sherri Bergsten

An Examination of the Morphological Variation in the Ringneck Snake, Diadophus Punctatus (Linnaeus, 1766), in Pennsylvania

The Ringneck Snake, Diadophis punctatus, is a small cryptic species native to Pennsylvania. Two subspecies have been described in the neighboring states: D. p. punctatus (Southern Ringneck Snake) and D. p. edwardsii (Northern Ringneck Snake). The two subspecies are distinguished morphologically by differences in ventral scale counts, ventral patterns, and cervical ring size and shape. Although only the Northern Ringneck Snake has been reported in Pennsylvania, anecdotal evidence exists that hybrids of both subspecies are present. This research will examine preserved museum specimens and photographs of individuals collected in the field, of which geographic data are available, and from these will quantify the ventral patterns, extension of the ventral markings, ventral scale count, and cervical ring width and shape. This data will clarify the presence and biogeography of the subspecies of Ringneck Snakes in Pennsylvania.

Julia Russell

Faculty Sponsor(s): Dr. Pablo Delis

❖

Snake Assemblage in an Urban/Rural Disturbed Habitat in Cumberland County, South-central Pennsylvania: Implications for Conservation

Shippensburg University is located in an urban environment with a wealth of semi-natural landscapes. The campus provides the opportunity to set up studies on urban ecology. The Burd Run watershed flows through the university supplying habitats, along with the Rails to Trails path and the BioPond. In 2012, March to November, we studied the snake community in the campus and adjacent areas, using cover boards and opportunistic searches. Snakes were measured, sexed, and individually marked and released on site. We detected four species: Eastern Milk Snake, Northern Water Snake, Common Garter Snake, and Eastern Rat Snake. A total of 145 snakes were captured, with 27 recaptures. The Common Garter Snake was the most abundant species, 93 percent, and only one Eastern Rat Snake was found. The Common Garter Snakes had a female-biased sex ratio of 3.1:1. This continuing study helps us better understand how land use of urban/agricultural environments affects snake communities in Pennsylvania.

Montrell Wilkerson

Faculty Sponsor(s): Dr. Pablo Delis

❖

Female Reproductive Biology of Marbled Salamanders, Ambystoma opacum, in a Population of South-central Pennsylvania

The Pennsylvania native Marbled Salamander, Ambystoma opacum, is a fall breeder that oviposits on dry land. We studied the reproductive biology of Marbled Salamander females in south-central Pennsylvania by determining morphological, egg, and larva characteristics. In September 2012, we set up two 15-cover grids in two vernal pools: North and Missile Ponds. Covers were checked for the presence of females, eggs or larvae. When pools filled, we estimated the larvae density by dip netting. Females approaching the breeding site were gravid but covers were not successful in attracting females. Only one female and her clutch (80 eggs) were found under a cover. Larvae appeared six weeks after lying but none were found at North Pond. Larvae density at Missile Pond was 2.11 larvae/liter. North Pond had a shorter and sporadic hydroperiod. Density differences in females and larvae suggest that Missile Pond might be the only effective breeding site.

Stephanie Williams

Faculty Sponsor(s): Dr. Pablo Delis

❖

Elucidating the Role of Autophagy and Atg5 in Infection and Survival of Shigella Flexneri

Autophagy is the major housekeeping process used by eukaryotic cells to recycle cellular components and survive stressful situations such as starvation. It has also been demonstrated to function as an alternative mechanism for clearance of intracellular pathogens including Shigella flexneri. In this study three glioma cell lines were used to monitor whether infection of glioma cells with S. flexneri stimulates autophagy and the role ofAtg5 autophagy regulator in infection and survival of the bacteria. Glioma cells expressing fluorescently tagged LC3, a marker for autophagy, indicated that infection with S. flexneri does stimulate autophagy over basal levels. Glioma cells overexpressing Atg5 were used to elucidate the role of this autophagy regulator on the efficiency of infection and survival of S. flexneri when compared to control glioma cells, which express low levels of functional Atg5.

Abigail Kraus, John Pilato, Kyle Chelius, Shannon Stokes, Jonathan Schulz

Faculty Sponsor(s): Dr. Lucinda Elliott

❖

Identification of Bacterial Isolates Using rRNA Sequence Analysis

Bacteria can be identified and classified based on sequence homology in the rRNA gene. In this study, primers to conserved sequences of the bacterial rRNA gene were used to amplify genomic DNA extracted from 25 bacterial isolates tentatively characterized based on morphology and biochemical characteristics. PCR sequences were compared to known genes sequences stored in databases at NCBI and Michigan State University to identify the isolates and confirm or disprove the tentative. Preliminary data from four soil samples tentatively identified as Xanthomonas were compared to the NCBI database and determined to be closely relates species of Pseudomonas; all are known soil organisms. Additional PCR samples have been purified for sequencing and the results will be included in this study.

Shannon Lee, Luke Perry, Chris Batties

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

Multiplex PCR Detection of Shiga Toxin-Producing Escherichia Coli in Odocoileus Virginianus Fecal Samples Collected from Pennsylvania and West Virginia

Shiga-toxin producing Esherichia coli (STEC) strains are emerging food-borne pathogens that have been detected in wildlife and can be passed from animal reservoirs to humans; potentially causing life-threating illnesses. Fecal samples (n=50) collected from white-tailed deer were plated on EMB. Boil lysis was performed on lactose (+) colonies to extract DNA. DNA was screened using multiplex PCR to amplify specific E. coli genes (mdh and shiga toxins (stx1 and stx2)). Six percent (n=3) of the samples tested were positive for stx2, 2 percent (n=1) were positive for stx1, and 54 percent (n=27) tested positive for mdh. STEC positive samples were isolated from a deer population in Gerrardstown WV. This study provides evidence that white tailed deer can serve as reservoirs for STEC; potentially transmitting the pathogen to humans by a variety of previously discussed routes.

Sarah Johnston, Kaitlyn Wallace

Faculty Sponsor(s): Dr. Marcie Lehman

❖

Prevalence of Pathogenic Escherichia Coli in Pennsylvania and Surrounding States

Escherichia coli (E. coli) are a large and diverse group of bacteria that are commonly found in human and animal intestinal tracts. Strains of E. coli that produce a virulence factor known as Shiga toxin (STEC) can cause severe illness in humans. Odocoileus virginianus (white-tailed deer) can serve as asymptomatic carriers of STEC serotypes and have recently been linked to foodborne illness. Fecal runoff from potential carriers (such as deer) into lakes, rivers, and streams can lead to water contamination. Contaminated water can then be consumed by humans, causing disease. In this study, water samples taken from sites located near the deposition of deer fecal pellets were collected and plated onto EMB and MAC agar. DNA was extracted from lactose (+) samples using a boil lysis technique and PCR performed using an E. coli specific primer sets. Results indicated the presence of E. coli, but not necessarily Shiga toxin producing strains.

Kaitlyn Wallace, Sarah Johnston

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

❖

Prevalence of Copper Resistant Xanthomonas in Stone Fruit Orchards

Copper-containing compounds have been frequently used in agriculture to control and reduce plant pathogenic bacteria, but the use of low-level copper-containing compounds selectively pressures microbial pathogens to develop and spread copper resistance genes. Xanthomonas arboricola pv. Pruni, the causal agent of bacterial spot in stone fruits, causes fruit and leaf damage which results in major crop losses. Seven stone fruit orchards in south-central Pennsylvania were surveyed for the presence of copper resistant Xanthomonas (Xap). Culture techniques specific for Xap isolation were conducted and identification confirmed with PCR using Xap specific primers. Broth susceptibility assays using different copper concentrations were used to determine the prevalence of resistant isolates for each orchard. Results demonstrate that each orchard has a different level of resistance. The severity of resistance is highest at 200 mg/L of CuSO4 and then decreases as the concentration increases.

Kari Showers, Sarah Bardsley

Faculty Sponsor(s): Dr. Marcie Lehman

❖

Macroinvertebrate and Chemical Assessment of the Water Quality in Middle Spring Creek

Middle Spring Creek flows through Shippensburg and agricultural areas, and has an underlying limestone geology. Macroinvertebrate assemblages are often used to determine water quality, but invertebrate communities differ dramatically between limestone-influenced and freestone streams, requiring the use of specialized biotic indices. I collected macroinvertebrates and measured temperature, pH, conductivity, dissolved oxygen, turbidity, alkalinity, nitrate, and phosphate levels at eleven sites in the fall of 2012. The water quality of each site will be determined using the ALLARM Macroinvertebrate Survey (for volunteer monitoring), an index for freestone riffle-run streams, and an index for limestone streams. Nitrate and phosphate levels ranged between 2.0-4.6 mg/l and 0.08-0.22 mg/l, respectively. The turbidity levels ranged between 1.81-7.71 NTU. The alkalinity at nine of the eleven sites was over 140 mg/l, indicating a limestone influence within the creek.

Tammy Smith

Faculty Sponsor(s): Dr. Theo Light

❖

Terrestrial Ecology of Ambystomatid Salamanders

Three species of mole salamanders inhabit south-central Pennsylvania: the spotted salamander (Ambystoma maculatum), Jefferson salamander (A. jeffersonianum) and marbled salamander (A. opacum). These species have been studied in their aquatic larval stage but little is known about their interactions during the terrestrial adult stage where there is much niche overlap. In the aquatic stage there is a known hierarchy of size and aggressiveness among the three species. We performed a study to assess competitive/aggressive interactions among terrestrial individuals. Competitiveness did not appear to carry into the adult stage. We also designed a complementary study to assess movement frequency of individuals of the three species. The frequencies were averaged and compared and there were no significant differences between species. Based on these results and the known niche overlap between these species, there is still a lot to learn about Ambystomatid salamanders in their terrestrial stage.

Stephanie Summers, Kelsey Miller, Benjamin Ahlswede

Faculty Sponsor(s): Dr. Timothy Maret

Relative Salt Tolerances of Monarda Punctata (Lamiaceae) from Marine and Lacustrine Shores

Salinity is a major stress for plants and can occur through salt sprays or through soil salinity. Global sea level rise threatens native and crop plant species with increased salt exposure. Monarda punctata is one species of native flowering plants that exists in both lacustrine and marine shores. This research is important as it shows the extent to which a physiological trait has evolved between two populations of a single plant species and tests the extent sea level rise may impact native Atlantic Coast populations. Seeds from marine and lacustrine populations were germinated for 2 weeks at salinities of 10,000, 1,000, 100, and 0ppm salt. Percent of seeds germinating and root lengths of seeds that did not germinate were recorded. Seeds were also planted in pots of sterile sand for 2 weeks. Sprays of undiluted sea water, 1:4 dilution sea water, and distilled water were applied twice daily for 2 more weeks. Plant morphology, condition, and dry biomass were recorded.

Brandon Hang

Faculty Sponsor(s): Dr. Heather Sahli

❖

Organismal Exclusionary Methods Used in Agriculture

Herbivores are a major problem to plant owners and their crops. They destroy seedlings, eat roots, and introduce diseases to healthy plants. With the increasing popularity of buying fresh, organic produce, community gardens help build a healthier, more environmentally conscious community. Using different kinds of exclusionary methods, we can better understand more effective ways to protect our plants from herbivores without the use of pesticides, while increasing overall crop yield. We tested two different exclusionary methods commonly used in agriculture: chicken-wire fencing, which excludes larger herbivores, and micro-screening, which excludes both small and large herbivores. We quantified crop damage and crop yield under these two barriers and compared both to control plots containing no herbivore barrier. We hypothesized that the micro-screening barrier would be the most efficient method of exclusion and would produce the highest crop yield.

Lindsey Wayland, Sarah Komisar, Paige MacWilliams

Faculty Sponsor(s): Dr. Heather Sahli

Communication/Journalism

Racial/Ethnic and Gender Representation in Entertainment Media: A Content Analysis of Super Bowl Commercials, Popular Music Videos, and a TV Show

The purpose of this research was to examine three different types of entertainment media content—five popular music videos in 2011, ten super bowl commercials in 2012 and a prime-time television show Veronica Mars—from the perspectives of ethnic and gender representation. Student researchers involved in this study utilized content analysis method. The analytical framework, media framing, and identity concepts, "fault lines" and "stereotypes," were used to analyze the findings. In all three types of entertainment content, except the lead character in Veronica Mars, the pattern in gender representation suggested that the most desirable women are young, thin, obedient, and barely dressed; and in terms of roles, female characters are involved in insignificant activities compared to their male counterparts. Though a non-White was a lead singer in a music video amid the trend of over-representation of Caucasians in lead roles, the depiction was mostly stereotypical.

Elizabeth Rachlin, Kayla Krebs, Jozalyn Gregor

Faculty Sponsor(s): Prof. Masudul Biswas, Dr. Carrie Sipes, Prof. Margaret Evans

❖

How Facebook Advertisements Affect College Students

Social media is changing the way companies communicate with the public. My study explores what college students think about advertisements on Facebook and how those advertisements affect their behaviors. The advertisements on the internet and mobile versions of Facebook are both taken into account. This study also discovers the attitudes that students have about an organization's or company's Facebook page and if the students see these pages as type of advertisement when they see that one of their friends likes a page. When someone likes a page it usually shows up in their friends news feed. With technological changes comes opportunity for businesses. The end result will examine if these businesses are succeeding at making an impact on college students with the use of Facebook.

Stephen Stefan

Faculty Sponsor(s): Dr. Joseph Borrell

❖

College Student's Addiction to Social Media and How it Affects their Information Consumption

The purpose for this study is to find out if college students are addicted to social media and how it influences the way they obtain their information. Social media has become a regular part of most people's daily routine, in particular, college students. They rely on social media for various reasons some of which include; news consumption, connection with family and friends, and obtaining information. The real question is if social media is being used for convenience or, are they addicted to the information they obtain through social media. The Method being used to collect data is a survey of Shippensburg University students. In the conclusion of the study, a correlation between students' social media addiction and their information consumption will be found.

Amy Gulino

Faculty Sponsor(s): Dr. Joseph Borrell

Jihad: A Tension Between Definitions

Upon hearing the word Jihad the average American may experience emotions ranging from fear to confusion and even anger. As an Arab American I have been troubled by the misuse of the word Jihad in American media. I will attempt to show the dichotomy between Western representation of Jihad and the true meaning it holds within Islam. First I will provide the definition of Jihad by looking at religious sources such as the Quran and by interviewing people who speak Arabic and have a greater understanding of the root of the word itself. My research will include focus groups, surveys and a look at statistics from media outlets and news agencies definitions of the word Jihad. I will also examine the changing relationship between the way Jihad was interpreted and the frequency of its use before and after September 11th in Western media. I hope to show that there is a genuine tension between the definition of Jihad within the Arab world and its potential propagandistic use in Western media.

Amanda Rahman

Faculty Sponsor(s): Dr. Joseph Borrell

❖

Keeping Newspapers Alive

Newspapers are slowly removing themselves from the print world. However, there are those that can not and will not change to the only digital format, leaving them as the only daily print in their area. How will they survive? Any paper still in print must make changes if it hopes to grow its readership and increase revenue in hopes of prospering. What changes need to be made? Where is the new readership coming from? How is being the only daily affecting the online component? These are questions that need to be answered as the forms of media change and adapt to the times.

Kathryn Fitzgerald

Faculty Sponsor(s): Dr. Joseph Borrell

Criminal Justice

Adolescent Gang Involvement Prevention: Tactics from Different Institutions

The evolution of gangs in the United States has created one of the largest institutions of crime that this country has ever witnessed. Not only must our establishments of criminal justice actively fight gangs and their practices, but it is also vital to tackle the initial involvement of youth joining street gangs. This practice will ultimately inspire youth to become productive individuals in society; it will also potentially save their lives and the lives of others. In order to study youth gang involvement intervention strategies, an empirical literature review was performed to analyze the effectiveness of such programming. The evidence suggests that groups ranging from schools, police departments, and medical personnel have implemented successful efforts to curb adolescent gang participation. These programs have shown to reduce mental health issues, inspire improved academic performance, decrease gang involvement, and increase relations with pro-social peers.

Matthew Murray

Faculty Sponsor(s): Dr. Cynthia Koller

Aggression Replacement Training

Aggression Replacement Training, or ART, has been instituted since the early-1980s, focusing on juvenile delinquents and used in juvenile institutions. ART is an intensive, interactive program that incorporates three components, including, social skills training, anger control, and moral reasoning (Glick & Gibbs, 2010). ART is a cognitive-based therapy method implemented in correctional programs which focus primarily on juveniles; it has recently been successful when implemented with adult offenders as well. This highly structured and effective research-based program is implemented on average in a ten-week program. The empirical literature examined for this project suggests that when implemented correctly, ART has been an effective rehabilitation program. Studies have also shown this program to be cost-effective, as well as easy to implement in a variety of settings.

Kayla Warmuth, Kylee Lantz

Faculty Sponsor(s): Dr. Cynthia Koller, Dr. Carrie Maloney

❖

An Exploratory Study of TWD among College Students

Texting while driving (TWD) is a growing national epidemic in the 21st century that has quickly become one of the top reasons for traffic-related crashes and deaths in the United States. Although almost all of the states have adopted legislation to either ban or moderate TWD, statistics show that drivers are still participating in this dangerous activity. The purpose of the present study is to examine TWD behaviors among college students from three universities in the U.S. Various demographics, such as age and gender, are examined along with the current literature. The findings and policy implications of the review will be discussed.

Alexa Barrick

Faculty Sponsor(s): Dr. Melissa Ricketts

❖

Economics

Do Computers Make You Smarter?

This study investigates the effects of hours spent on the computer per week on student's educational outcomes. The data for this study comes from the last round of the US Bureau of Labor Statistics National Longitudinal Youth survey's website 1997-2010 (NLYS97). The regression was conducted by programming using STATA. The main variables of interest are the highest grade completed for the interviewee at the time of interview along with the number of hours spent on the computer per week for the individual. Using the ordinary least squared regression analysis, it has been statistically proven that spending more time on the computer increases the individual's educational attainment. There have been very few cases in the past that focus on computers affecting educational outcomes. However, previous literature results have been consistent with my hypothesis.

Fauzia Chaudhary

Faculty Sponsor(s): Dr. Freddy Siahaan

Oil Consumption: A Ten Year Panel Data Analysis

This research investigates oil consumption around the world and factors that affect the consumption across countries. The data used in this study comes from the International Monetary Fund's World Economic Outlook (WEO) database that was updated in April 2012. The outcome of this study confirms that oil imports into a country, GDP per capita, and population affect the oil consumption. Furthermore, unemployment shows to be an insignificant variable in the outcome.

Kiley Groft

Faculty Sponsor(s): Dr. Freddy Siahaan

❖

Internet Access and Educational Attainment

The objective of this study is to examine the impact of using different internet access points on educational attainment. This study intends to identify which access point has the greatest affect on educational attainment. This study's data come from the National Longitudinal Survey of Youth 97 (NLSY97). To determine the relationship between internet access points and their affect on educational attainment, regression analysis was done using the ordinary least squares model in the STATA platform. The data shows that internet access in public schools has the largest positive effect on academic attainment, while public library internet access had an insignificant negative impact on educational attainment.

Lane Radbill

Faculty Sponsor(s): Dr. Freddy Siahaan

❖

Should it be the Government's Responsibility to Protect the Environment?

This study investigates the effects of personal, socioeconomic, and family characteristics on people's perspectives of government intervention with regard to environmental protection. The data for this study comes from the 2006 round of the National Longitudinal Survey of Youth-97 (NLSY97). By utilizing the Ordinarily Least Squared (OLS) regression analysis we found that females are more likely to favor the government intervening with environmental protection than males. The study also suggests that there are more teens against government intervention, in terms of environmental protection, than there are in favor.

Haley Challenger

Faculty Sponsor(s): Dr. Freddy Siahaan

Geography/Earth Science

Investigating the Formation of Coastal Bokas in Curaçao's Shete Boka National Park: Part 2: Investigating Linkages between Sea-Level change and Cave Formation

The formation of boka's, like those in Shete Boka, results from a complex series of processes that include: acid water runoff, limestone dissolution, and sea level which controls cave development. Previous studies have shown that Curaçao has been impacted by sea-level change during the last 2 million years. This formed the limestone terraces around the island. Nevertheless, little data has been published linking cave levels to the records of sea-level change since the lowest terraces formed ~120 thousand years ago. This research project focuses on a detailed review of the most recent published global sea-level records and relates these changes to the various cave levels identified during field studies in Curaçao. Based on this initial work, it is proposed that the bokas and the caves that formed them are the product of multiple high-order sea-level oscillations. Thus bokas as observed today are much older than the current sea-level allows based on dissolution rates.

Quintin Emberg, Jesse Derick

Faculty Sponsor(s): Dr. Sean Cornell

❖

Investigating the Formation of Bokas in Curaçao's Shete Boka National Park: Part 1: Investigating Linkages between Climate, Hydrogeology, and Limestone Dissolution Rates in Boka Development

Shete Boka, located on the coast of Curaçao, is known for a series of notches cut into coastal limestone terraces. Previous studies have explored processes responsible for boka formation and although mechanisms are well understood, it is clear that many details remain to be worked out. For instance, little data exists concerning dissolution rates given the hydrogeologic conditions of NW Curaçao. This research uses modern climate and local hydrogeologic conditions to model rates of boka formation. Dimensions of Boka Wandomi and Tabla were taken in the field to constrain the volume of rock dissolved to form each boka. Between 26 and 41,000 m3 of rock was removed to form each. Given modern conditions and their estimated age, it is not likely that modern dissolution could have produced the bokas. This research suggests that the bokas are either: the product of much different hydrogeologic conditions than exist today, or are much older than allowed for given modern sea-level position.

Ryan Haas, Tyler Clemens

Faculty Sponsor(s): Dr. Sean Cornell

❖

Waste Management on the Island of Curaçao: Past, Present and Future?

Curaçao is a Caribbean island that has recently seen economic growth. Given the small land area and increasing population and development, can the island's Malpais landfill continue to accommodate waste disposal? With limited area, it is essential that Curaçao explore options involving more environmentally friendly ways of managing waste. Having come a long way from dumping waste at sea, Curaçao is now exploring recycling and incineration options. This study explores the history and future of the island's waste management. In an effort to quantify future growth in waste generation, population trends are analyzed. If a more environmentally appropriate waste program is to be realized, it must be driven by economic advantages, rather than by changes in environmental ethic. Field-based observations in Curaçao have shown that commercial ventures are raising awareness of waste disposal issues that appeal to locals and tourists alike. Can such initiatives produce lucrative change?

Amanda Henry

Faculty Sponsor(s): Dr. Sean Cornell

Micro-Weather Analysis and Soil Conditions and the SU Farm

Foremost, studies included an analysis of the soil conditions at the Shippensburg University Farm as it pertains to plant production. Parameters intended to test include soil pH, humus, and other macro-nutrients. Results will aid in making decisions regarding soil amendments on the farm. Also, comparisons in weather variability were made against data collected outside Shearer Hall. Parameters of data collected include temperature, wind speed and direction, dew point, barometric pressure, and rain depth. Data collected on weather conditions help make various decisions regarding farm management and results will help determine whether it would be useful to collect weather data on site or if existing campus data collection is sufficient.

Brian Schilling, Alex Moats, Zared Shawver

Faculty Sponsor(s): Dr. Sean Cornell

❖

Cultural and Physical Geographic Investigation of Dutch Land Houses in Pre- and Post-Emancipation Curaçao

Having developed its economy around its trade ports, rural land houses were the site of Curaçao's first domestic industries. Unlike plantations elsewhere, Curaçao's arid-climate plantations were meager and developed primarily to provide agricultural products used locally or traded for minimal profit. Dutch-owned land houses were thus maintained as symbols of prominence. These country houses depended entirely on the labor provided by African slaves to eke out their meager existence. This research project explores the histories of two of Curaçao's prominent plantations: Savonet and Jan Kok in the context of major historical events of the 18th and 19th centuries. Each plantation was influenced by different geographic factors and natural resources. In the post-emancipation era, although each became an anchor around which small communities developed, they continued to struggle and eventually white land owners abandoned them and left the small expatriated slave communities to their own devices.

Brandon Yurkow

Faculty Sponsor(s): Dr. Sean Cornell

❖

Managing the Biotic Invasion of Pterois volitan (Lionfish) in Curaçao: Economically, Culturally, and Biotically

When non-native species are introduced to a new environment, they often experience population explosions when not limited by the checks and balances of their native communities. The lionfish, Pterois volitans, is a poisonous fish native to the Indo-Pacific that has invaded waters of Curaçao. In the Caribbean they have few predators due to their spines, yet are voracious predators of other fish. Conservationists have advocated extirpation to preserve native species; however, exploding populations suggest eradication is not possible. This study also explores the feasibility of management. Recent discussions with divers, restaurant owners and internet research suggests Curaçao can capitalize on the invasion by implementing a range of strategies such as: developing a demand market for lionfish harvest, incorporating lionfish into local cuisine, developing a sports fishery and lionfish tournaments, as well as advocating for a spearfishing harvest program marketed to dive-based tourists.

Logan Wright

Faculty Sponsor(s): Dr. Sean Cornell

Countdown to 2019 and the Future of Curaçao's Isla Oil Refinery Contract

The contract between Curaçao and Venezuela for Curaçao's Isla Oil Refinery expires in 2019 and the future relationship is unknown. There are contrasting opinions on what should be done to the refinery before this deadline but no one solution has been reached. Three strategic options were proposed by the European consulting company, Ecorys, regarding the refinery's future. They include: (1) keeping the refinery at its current location, (2) building a new refinery elsewhere, or (3) closing the refinery entirely. This project focuses on strengths, weaknesses, opportunities, and threats for each option by conducting SWOT analyses. Factors explored in the analyses include economic cost, environmental concerns, production forecasts, and employment trends. Each option presents its own advantages and disadvantages, but any choice will have social and political implications that will impact the future of Curaçao. Nevertheless failure to act on any plan could be devastating for Curaçaoans.

Bridget Ringer

Faculty Sponsor(s): Dr. Sean Cornell

❖

Exploring the Feasibility of Solar Power in Curaçao's Future

This project will examine whether solar energy is feasible for the island of Curaçao as an alternative to the petroleum based electricity that is currently used. Curaçao is dependent on the oil that is refined on the island for their electric demands. Recently, there have been studies that look at why the prices of oil have been fluctuating. Studies have also been done on the possibility of using wind energy as a major energy contributor. However, there have not been any studies done on trying to harness solar power as another way of becoming electrically more independent. There have been many advances in solar technology globally that make it feasible. Some of the types that could be incorporated into everyday life on the island are photovoltaic cells, passive solar heating, and solar electricity. This project will look at how much energy each of these can generate, will it meet the demand for Curaçao's rising population, and is it worth the investment in the long run.

Jillian Ricks

Faculty Sponsor(s): Dr. Sean Cornell

❖

A GIS Approach to Mapping Sedimentation Patterns in the Letterkenny Reservoir, Franklin County Pennsylvania Using Kayak-Deployed Ground Penetrating Radar (GPR)

The use of GPR is an environmentally safe, non-invasive way to study subsurface features. This study focuses on the use of a Mala X3M GPR to image the bottom of Letterkenny Reservoir to examine sediment

distribution patterns and rates. Sedimentation into the lake occurs via a series of minor ephemeral streams. Additional sediments enter the lake via mass wasting and runoff from the access road which is eroded during storms. Trimble GPS units and a data dictionary were used to collect coordinate point data. These were output to ArcMap for production of a bathymetric map of the reservoir. Interpolation techniques were used to produce a continuous raster surface. Our analysis revealed, tree stumps, submerged logs, and various bottom types. The NE end of the lake shows bedrock controlled sedimentation. A series of inter-layered convex upward anomalies were identified in a shore parallel transect. These are interpreted as a series of overlapping slump deposits.

Brian Pawling

Faculty Sponsor(s): Dr. Sean Cornell

❖

Biometeorological Evaluation of Stadium Microclimate to Determine Spectator Thermal Comfort: A Case Study

Human thermal comfort is the thermal sensation experienced by an individual where there is no preference for a warmer or cooler environment. Studying human thermal comfort with respect to spectators at sporting events is important to ensure: (1) favorable spectator experience (2) health and safety protocols, (3) conditions favoring return trips – a university financial incentive. College football events subject thousands of spectators to similar thermal conditions simultaneously; thus assessing the microclimate of college football stadiums is essential. This case study utilized in situ microclimate parameters to assess the spectator thermal comfort through the Kilma-Michel predicted mean vote (PMV), predicted percentage of dissatisfied (PPD), and psychological equivalent temperature (PET) thermal comfort indices during a football game at Shippensburg University. Data were analyzed for temporal and spatial trends in comfort indices, as well as the overall average throughout the event.

Kevin Eaton

Faculty Sponsor(s): Dr. Tim Hawkins

❖

Integrated Stormwater Management Design in a Karst Landscape: Shippensburg University Campus

The Campus RainWorks competition, held by the US EPA, offered an opportunity to develop an innovative stormwater management system for the Shippensburg University campus. An integrated system of stormwater BMPs was developed to achieve volume attenuation, peak discharge reduction, and pollution abatement; additionally, education and public interaction were emphasized. The combination of selected BMPs - stormwater harvesting, constructed wetland, pervious concrete, and vegetated swales (all controlled by a SCADA system) led to a total volume and peak discharge reduction of 100 percent for events with a recurrence frequency up to two years (24 hr. duration). Educational and public interaction components ensure the site acts more than just a stormwater management system, but rather a platform for green infrastructure awareness. Implementation of such a system into the SU campus would provide ecological, budgetary, educational, and public relations/university image benefits for the university.

Kevin Eaton, Benjamin Ahlswede, Samuel Finn

Faculty Sponsor(s): Dr. Christopher Woltemade

History/Philosophy

Tycoons in Tailcoats: The Pennsylvania Iron Industry

This project is a fusion of two projects regarding the Pennsylvania iron industry. The subject of this project concerns how the early iron industry was a factor in the development of the Commonwealth, and the iron industry's role in the American Revolution. We found that the iron industry was an integral part of how the state developed, and that where furnaces modernized into using coal and coke, towns usually formed. The second part of the project focused on the influence of the industry on the American Revolution. Several factors, including prisoner of war labor, ironmaster politics, and the production of cannon, shot, and other armaments are factors from which we can understand the industry's importance. The industry's importance is also gauged by Washington's placement of the army during the 1777 Pennsylvania Campaign. The Pennsylvania iron industry was an important part of the Revolutionary War effort, and is indicative of how other industries in the colonies influenced the war.

Mark Shifflet, Jonathan Goos

Faculty Sponsor(s): Dr. John Bloom

❖

La connaissance de la vigne: An Exploration into the Development of the Early Pennsylvania Wine Industry

Recent trends in the field of environmental history have focused on the ways in which cultural, economic, and natural landscapes combine to shape the historical evolution of certain crops used in our daily lives. My project focuses on the relationship between social science, agriculture, plant pathology, and marketing practices in the development of grapes in Pennsylvania. As Europeans came to America, famous figures such as William Penn promoted European style wines on American soils. Unbeknownst to them, a fungal louse, later identified as phylloxera, would kill European vines from the roots before they reached maturity. In addition, the Little Ice Age as well as the Great Freeze of 1835 provided more challenges. In order to cope with these challenges the introduction of hybrid varieties both hearty and reminiscent of Europe helped the industry to thrive. As Pennsylvania's wineries gain importance this project seeks to tell the untold story of the vine in America.

Jonathan Goos

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

❖

Arras Tapestries: Giving Credit Where Credit is Due

During the fourteenth and fifteenth centuries, Arras, now part of modern day France was the tapestry-weaving center of Europe. Arras is unrivaled with respect to the quality of tapestries it produced and the impact the tapestry industry had on its economy along with the changes made to accommodate the luxury trade. Arras had higher quality tapestries than any other tapestry center. Despite the evidence, Paris, Tournai, and other tapestry towns of the Southern Netherlands that began after Arras' success are given more credit and are written about more often.

Ashley Seyler

Faculty Sponsor(s): Dr. Christine Senecal

Learning Center

Writing Fellow Assessment: Searching for the "Proof" of our Effectiveness

Our poster will discuss the assessment of our Writing Fellow program. We will discuss how we conducted our quantitative and qualitative research and the results we drew from our assessments. In our discussion we will explore the benefits a fellow program has in enriching our educational experiences and the lives of our writers. We believe our results will encourage student-researchers to conduct investigations to explore their effectiveness as practitioners and inspire others to participate in exciting paraprofessional roles that will help them develop proficiency for their future careers while helping new students experience success on the Shippensburg campus.

Lauren Nearhoof, Cara Dunn

Faculty Sponsor(s): Dr. Karen Johnson

❖

Changing Identities: Transitioning from an Undergraduate to a Graduate Tutor Position

The poster will: discuss the types of professional growth experiences, increased responsibilities, and proficiencies in technologies while transitioning from tutoring into the workforce. Poster Presentation: How does a tutor's identity change when transitioning from an undergraduate to a graduate tutor position? What are the challenges and advantages of these changes? This poster presentation will frame the two identities and the different proficiencies gained in: undergraduate and graduate peer tutors. Furthermore, this poster will discuss why these proficiencies are important for graduate tutors seeking employment in their respective fields

Michelle Fisher

Faculty Sponsor(s): Dr. Karen Johnson

Management/Marketing

Revisiting the Historic Staff Ride for Understanding Situated Action

Staff rides recreate significant historical events while engaging participants in open reflection and dialogue. Grounded in experiential learning theory, staff rides 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. Seventy-nine participants provided qualitative and quantitative information; we evaluate the efficacy of the experiential method.

Nicole Campana

Faculty Sponsor(s): Dr. Wendy Becker

Psychology

From A to Z: An Exploration of Cultural Knowledge on Cognitive Processing

In the psychological literature there is no understanding of how much cultural knowledge gained through interactions with people in childhood has on later cognitive processing. For example, are fairy tales and idioms a form of training in cognitive skills that foster analogical fluency? The present study is a correlational design that measures how knowledge of idioms, fables, fairy tales, and nursery rhymes is related to academic performance and analogical reasoning. Relationships were observed between GPA and analogical reasoning with total cultural knowledge, fairy tale recall, nursery rhyme task performance, idiom task performance, and fable task performance. The data suggest that the more cultural knowledge students have, the higher their GPA and ability to reason analogically. This study has implications to create a new understanding of cognitive processing relative to cultural experiences.

Zared Shawver, August Capiola

Faculty Sponsor(s): Dr. Lea Adams

❖

Evaluating Online Experimentation: The Serial Position Effect

Two online data collection methods were used to replicate the serial position effect. Subjects were recruited and presented word lists at different rates, with or without an intervening task via Craigslist or Amazon's Mechanical Turk. Comparing the serial position results with those found in the classic literature suggests poor reliability when conducting experiments with recall methods an online environment.

Brian Benchoff, Zared Shawver, James Evans

Faculty Sponsor(s): Dr. Lea Adams, Dr. James Griffith

❖

Effects of Ovulation on Judgments of Attractiveness

Several factors influence judgments of attraction. Kenrick, Gutierres, and Goldberg (1989) found that men, but not women, who were exposed to centerfolds rated their partner as less attractive, and that they were less in love. However, the menstrual cycle has a large impact on judgments made by women. When women are ovulating, they are more prone to forfeit the importance of resources for things such as physical attractiveness (Penton-Voak, Perrett, Castles, Burt, Koyabashi & Murray, 1999). Gangestad, Thornhill and Garver (2002) found that women reported greater attraction toward men other than their partner during fertile phases of the menstrual cycle. The current study aims to explore effects of the menstrual cycle on women's ratings of attractiveness and love. Specifically, we hypothesize that women who are ovulating will rate their primary partner as less attractive after exposure to photographs of attractive men.

Samantha Lisko Troy, Allison Smeltzer, Megan Warner

Faculty Sponsor(s): Dr. Angela Bartoli

The Implications of Problem Solving for Embodied and Symbolic Cognition: An Examination of Cognitive Load in Puzzle Play

Within cognitive science, there has been much recent debate regarding the underlying processes and essential nature of thought. Currently, there are several prominent theories of cognition. One of the theories is the traditional, classical cognitivism theory, which states that the computational processes in the mind are central to all human behavior. Alternatively, the embodied cognition theory argues that cognitive processes are not dependent solely on "symbolic" computation, but also on real-time, continuous perceptual and motor actions. Questions that will be explored are how problem solving is influenced by interference, how problem solving impacts subjective use of resources (i.e., cognitive load), and to what extent different problem solving approaches can help identify which theory is more correct or applicable in particular circumstances.

Francisco Arroyo

Faculty Sponsor(s): Dr. Steven Haase

❖

Rule Breaking & The Dark Triad: Do They Really Know the Rules and Just Choose to Break Them?

The present study tested the Dark Triad (i.e., Machiavellianism, psychopathy, & narcissism) and Social Exchange, using the Dirty Dozen and Wason Selection Task. It was hypothesized that those scoring high in the Dark Triad would score higher on both types of the Wason. There was no significant difference in either type of Wason score between high/low Dark Triad, suggesting that those high in the Dark Triad perform equal with the average person on logic tests. Prior findings were replicated. Subjects scored significantly better on the Social Exchange questions than the descriptive questions. Males scored significantly higher on the Dirty Dozen than females. There were no differences between males and females on the Wason; though, there was an interaction between sex and Wason type that approached significance; females scored better on Social Exchange questions and males scored better on descriptive questions. All measures had reliable Cronbach's alphas.

Mike Smith

Faculty Sponsor(s): Dr. Robert Hale

❖

Attitudes Toward Dying and Death: A Comparison of Recreation Groups among Older Men

Examination of the relationship between attitudes toward dying and death and recreational activity has not received much attention, but the current study examined attitudes toward dying and death of older men categorized into four groups defined by recreational activities. The groups included skydivers (high death risk), nursing home residents (high death exposure), volunteer firefighters (high death risk and high death exposure), and a control group. The analyses found that skydivers reported the least fear of death, while nursing home residents reported the highest level. In addition, skydivers and firefighters had higher death acceptance scores than nursing home residents and the control group for the confrontation dimension, whereas skydivers had higher death acceptance scores than all groups and firefighters were more accepting of death than nursing home residents for the integration dimension.

Colby Stouffer, Jake Warner, Brooke Deschenes, Lucy Gu

Faculty Sponsor(s): Dr. Robert Hale

Social Work/Gerontology

Program Evaluation of a Community Sexual Assault Program

Community sexual assault programs in Pennsylvania are required to disseminate Empowerment and Satisfaction Questionnaire – Long Form (ESQ-LF) to all participants in the program after the third individual counseling session. This study is a program evaluation of one local center from calendar year 2011–2012.

Shelby Hawk

Faculty Sponsor(s): Dr. Liz Fisher

❖

Effectiveness of Behavioral Rewards Programs in Alternative Education Schools

Absenteeism and defiant behavior interfere with students' learning and educational objectives. Such factors often lead to placing the student to an Alternative Education for Disruptive Youth Program (AEDY). Alternative Education programs provide emotional/behavioral support that is not provided in regular school settings (Flower, A., McDaniel, S. C., Jolivette, K.,2011). Behavioral reward programs are used in these settings to modify delinquent tendencies. The All-Stars Program is designed to reward middle-school and high-school students for perfect attendance and positive behaviors. The purpose of this exploratory study is to examine the experiences of students who have participated in the All-Stars Program and gain an understanding of what would motivate other students who have not participated in the program. The results of the interviews will be presented.

Delyara Mamedova

Faculty Sponsor(s): Dr. Liz Fisher

❖

The Effectiveness and Benefits of the Lincoln Intermediate Unit Migrant Education Program After-School Programs for Migrant and English as a Second Language Students

The purpose for this study is to identify the effectiveness and benefits of the 21st Century PASOS and Wilson College after-school programs operated through Lincoln Intermediate Unit Migrant Education Program (LIUMEP). The LIUMEP is directed to help migrant families and their children succeed in education through the use of educational tools and services. The research study will include two questionnaires for students and parents. An examination of student grade reports and behavior reports will also be identified. The data from the questionnaires and the reports will be used to show the benefits and show the effectiveness of the program. It will also allow for suggestions for improvements based off of data collected by parents and students.

Keleigh Neyhart

Faculty Sponsor(s): Dr. Liz Fisher

Bereavement Support

Everyone handles grief differently, based on many factors including but not limited to age, race, gender, culture, religion, environment, experience and personal knowledge. The purpose of this study is to understand what resources are available to bereaved caregivers and how they will positively benefit from the support. This study will also examine how demographic factors play a role in the grieving process. While focusing on what specific bereavement methods help each caregiver, this will enable the staff members at Horizons Hospice to better serve the bereavement needs of their clients. This article presents the results of a qualitative study on the effects of proper bereavement care.

Heather O'Donnell

Faculty Sponsor(s): Dr. Liz Fisher

❖

Social Engagement in Nursing Homes

The presentation will cover a survey performed at Forest Park Health Care Center and Rehabilitation. Due to the lack of resident participation in activities, the survey will ask cognitively intact residents suffering from depression what kinds of activities they would like to do. After the surveys are collected the most common recommended activity will be held. After the activity the residents who completed the survey will, then, complete a survey that will measure their depression after attending the activity.

Ashley Reese-Reinhart

Faculty Sponsor(s): Dr. Liz Fisher

❖

The Self-care Practices and Burnout Rates among Human Service Professionals

Self-care is often divided into physical, mental, emotional, spiritual and social categories and can be used to protect helping professionals from several negative outcomes including burnout and stress (Moore, Bledsoe, Perry & Robinson, 2011). Managing personal and professional stress promotes resiliency and self-care among workers with exposure to traumatic materials (Sprang, Craig & Clark, 2007). The purpose of this quantitative study is to determine the self-care practices and burnout rates of human service workers from multi county agencies. The results will be collected through a survey and further discussed.

Danelle Wagner

Faculty Sponsor(s): Dr. Liz Fisher

The Correlation between Activity Participation and Depression

There are 35 million older adults living in the United States; depression affects 6.5 million older adults. Many of these older adults go undiagnosed with depression because older adults and physicians believe it is a normal part of aging, although it is not. The three common treatments are medication, psychotherapy and electroconvulsive therapy. These thee treatments or the combination of treatments have been found to be 80 percent effective. This study looks at older adults over the age of 65 living in a nursing home. The study will look at whether a person that attends more activities is less likely to show depression. Depression levels will be measured using the Medicare/Medicaid MDS 3.0 PHQ-9 mood interview. The score from the PHQ-9 will then be compared with residents' attendance level. The results of this research will give insight into how activities affect depression levels and understanding this aspect of depression that can help along with traditional treatment.

Katelyn Fager

Faculty Sponsor(s): Dr. Liz Fisher

Women's and Gender Studies

Emotions After Hooking Up: Development of Three Scales

For this study, 369 individuals (71 male, 278 female, and 20 declined to answer) completed questions regarding hooking up, or casual sexual encounters, and alcohol drinking behaviors. Subjects were recruited from a medium-sized public university from the Northeast and Midwest and a treatment facility on the West Coast. This presentation describes the factor structure and correlates of a questionnaire measuring emotions after hooking up, or casual sexual encounters. Factor analysis yielded three dimensions -- negative emotions, excited emotions, and connected emotions. Reliability analysis revealed acceptable internal consistency coefficients for each subscale (.920, .876, and .835, respectively). Females scored higher on negative emotions while males scored higher on connected emotions. Binge drinking behavior (8 or more drinks in 1 night), number of hookup partners, and number of hookup experiences were positively correlated with the excited emotions and connected emotions subscales.

Mike Smith, Brian Hammond

Faculty Sponsor(s): Dr. Rebecca Ward

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