



Cover by Taylor Luckenbill'15,

Theatre and Religious Studies

Congratulations to Taylor Luckenbill'15, winner of the 2012 Scholarship and Creative Arts Day program cover contest!

In class, we were encouraged to play with value and texture in our artwork. In this particular piece, I wanted to show a clear difference of dark and light, thin lines and thick lines, and detail and no detail. SCAD is a great opportunity for students to showcase their many talents that may not be seen as conventional. It shows that we, as a student body, are diverse in our talents.

"There is a great love for the freedom of expression in the arts as well as an appreciation for academics on this campus."

The Scholarship and Creative Arts Day Committee also congratulates the following student, who was recognized with an honorable mention for the cover contest:

Gina Galardi, senior, Psychology major

5TH annual **SCHOLARSHIP and Creative Arts Day**

APRIL 23-24, 2012
www.etaown.edu/SCAD

Keynote Address by
Rebecca Skloot with David Lacks

MAKING THE WORLD BETTER
ONE IDEA AT A TIME

 **Elizabethtown College**

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Welcome to ELIZABETHTOWN College

We're glad that you've joined us for Elizabethtown College's fifth annual Scholarship and Creative Arts Day!

This year – our five year milestone - SCAD is featuring the ideas and talents of 433 students who, with the guidance of their faculty mentors, have challenged themselves to explore new intellectual territory, test innovative theories, or showcase their talents. Through their experiences, they have honed their skills and have broadened their understanding of their discipline. And, as a result of their efforts, they are becoming a bigger part of our world—contributing fresh ideas and new interpretations that will benefit others. We congratulate our scholars on their outstanding efforts that have culminated with their participation in this student conference.

We are grateful to the Scholarship and Creative Arts Day committee, chaired by Associate Professor of Education Rachel Finley-Bowman, and the dozens of faculty mentors who have made our celebration possible. Fostering the college's commitment to undergraduate research, the work and dedication of these members of our community have created this remarkable forum for sharing research and creative ways of thinking.

We are excited to additionally highlight the inaugural year of the Open Book Initiative, and welcome Rebecca Skloot and David Lacks to campus as SCAD keynote speakers.

President Carl J. Strikwerda
Provost and Senior Vice President Susan Traverso
Dean of Faculty E. Fletcher McClellan

Opening Ceremony—Monday, April 23, 5:15 p.m.

- Area adjacent to Masters Mineral Gallery
- Presentation of Anna Carper Excellence in Library Research Award

Closing Reception—Tuesday, April 24, 5:00 p.m.

- M & M Mars Room
- This event is open only to the campus community

Elizabethtown College Scholarship and Creative Arts Day, Schedule for Tuesday, April 24, 2012

Concurrent Sessions I: 8:00 - 9:15											
Presentations					Presentations					Posters	Presentations
H-107	H-110	H-211	Gibble (Esben.)	BLR (Steinman)	H-212	H-213	H-214	H-215	Masters Atrium	Zug Recital Hall	
8:00 AM							Theater		Education		
8:15 AM	English	Education	Soc./Anth.		Soc./Anth	Comp. Sci.	45		OT	Music	
8:30 AM	10-13	Portfolios	20-22	Japanese 32	35-39	41-42	Business	Political Sci.	Music Therapy	95	
8:45 AM		15-16		Anime to Zen		Call to Lead	46-47	53-54	Psychology		
9:00 AM				Panel 33-34		43-44			55-91		
Concurrent Sessions II: 9:30-10:45											
Presentations					Presentations					Posters	Presentations
H-107	H-110	H-211	Gibble (Esben.)	BLR (Steinman)	H-212	H-213	H-214	H-215	Masters Atrium	Zug Recital Hall	
9:30 AM			Sustainable						Math		
9:45 AM	Spanish	Education	Soc./Anth.	Engineering	Anime to Zen	Soc./Anth	Religious	Business	Political Sci.	Biology	
10:00 AM	100-103	Portfolios	110-111	Symposium	Panel	130-134	Studies	140-142	145-147	Chemistry	Music
10:15 AM		105-106		120-122	125-129		135-139			Bio./Chem.	193-194
10:30 AM									150-175		
Concurrent Sessions III: 11:00 - 12:30											
Presentations					Presentations					Posters	Presentations
H-107	H-110	H-211	Gibble (Esben.)	BLR (Steinman)	H-212	H-213	H-214	H-215	Masters Atrium	Zug Recital Hall	
11:00 AM	Spanish								Communications		
11:15 AM	200	Education		Sustainable			Religious	Political Sci.	Theater		
11:30 AM	History	Portfolios	Social Work	Engineering	Communications	Soc./Anth	Studies	English	Panel	Soc./Anth	Music Therapy
11:45 AM	202-203	210	220-222	Symposium	240-246	250-255	260-265	270-273	280	FAPA	320-321
12:00 PM				230-233						290-315	
12:15 PM	English 204										
Lunch 12:30 - 1:15											
Concurrent Sessions IV: 1:00 - 2:45											
Presentations					Presentations					Posters	Presentations
H-107	H-110	H-211	Gibble (Esben.)	BLR (Steinman)	H-212	H-213	H-214	H-215	Masters Atrium	Zug Recital Hall	
1:15 PM			Social Work								
1:30 PM	Math	Education	351-152						Physics/Engr.		
1:45 PM	330-332	Portfolios		Communications	Soc./Anth	Biology	English	German	Comp. Sci.	Music Therapy	
2:00 PM		339-341		370-375	380-384	390-395	400-403	410-412	420-449	450-451	
2:15 PM											
2:30 PM											
Keynote Speaker: Rebecca Skloot Leffler Chapel 3:00 - 4:30											
Closing Reception - M&M Mars Room 5:00											
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Closing Reception - M&M Mars Room 5:00											

Art Exhibit: Annual Student Show in the Lyet Gallery at Leffler Chapel #1

Student presenters are listed with their session numbers at the end of this program.

Monday, April 23, 2012

Masters Center

Area Adjacent to Masters Mineral Gallery

SCAD Opening Ceremony

5:15p.m.

Welcome by President Carl J. Strikwerda

Presentation of the 2012 Open Book Creative Response Contest Winners

- First Place: "Hela" by Christine Mrozek '15, Pencil Drawing
- Second Place: "Untitled" by Chelsea Zimmerman '15, Pencil Drawing
- Third Place: "Henrietta" by Marie Loiseau '14, Poem

Presentation of Anna Carper Excellence in Library Research Award

Monday Events

- 25th Annual Juried Student Art Show—5:30 PM Lyet Gallery in Leffler Chapel
 - Occupational Therapy Graduate Research Symposium—5:30 PM Gibble Auditorium
 - Honors in Education Symposium—5:30 PM Hoover Center
 - Showcase Music Recital—7:30 PM Leffler Chapel & Performance Center
-

Tuesday, April 24, 2012

Tuesday Presentations

8:00 AM to 2:45 PM

- Presentations, Panel Discussions, Posters, Portfolios
- Hoover Lobby and lecture rooms, Leffler Chapel, Masters Atrium, Gibble Auditorium in Esbenshade, Brinser Lecture Room (BLR) in Steinman, Zug Recital Hall in Zug

Tuesday Keynote Speaker, Q & A, Book Signing

3:00 PM to 4:30 PM

Leffler Chapel, Musser Auditorium

Closing Reception

Tuesday, 5:00 p.m.

M & M Mars Room, Leffler Chapel

This event is open only to the campus community



2010 Closing Ceremony Participants and Mentors

25TH Annual Juried Student Art Show

Lyet Gallery of Leffler Chapel and Performance Center
Gallery Open Now

Reception and Awards Ceremony
Monday, April 23rd, 5:30 PM



The College's 25th Annual juried Student Art show will open with a reception on Monday, April 23, at 5:30 PM in the Lyet Gallery of Leffler Chapel and Performance Center. Selected by outside juror Claire Lavin, founder and Executive Director of the Marietta Art House in Marietta, PA, the art show will feature 77 pieces of this year's finest art from Elizabethtown's students.

An awards ceremony will begin at 6:00 PM, during which prizes will be awarded for the best work in various disciplines, i.e. ceramics, computer art, drawing, painting, photography, printmaking and sculpture. The exhibit will run till April 25th. The gallery is open from 9 AM until 9 PM, Monday through Friday, and 1 PM – 5 PM on Saturday and Sunday.



STUDENT ARTISTS

- | | | |
|----------------|-------------------|------------------|
| Vanessa Andrew | Elizabeth Karcha | Christine Mrozek |
| Laura Bach | Megan Kenneweg | Danielle Nelson |
| Ali Cavanaugh | Lynn Kesler | Mallory Slusser |
| Gina Galardi | Allison Kinney | Sarah Spang |
| Kristen Hain | Kaitlin Koons | Elise Teixido |
| Michelle Hare | Zach Link | Traci Tempone |
| Vaclav Hasik | Renae Martin | Beth Trovato |
| Lucy Hill | Elissa McNicholas | Caitlin Vajdic |
| Samantha Hugg | Anna Meerbach | Ellen Wilson |

THREE INSTALLATIONS: NATURE REVISED

Three groups of students enrolled in Sculpture I will make collaborative works near Steinman Center. The works will be assembled/constructed of all natural materials. We are seeking a collaborative experience where each student will have a voice in creating an overall concept and aesthetic. The works will be temporary. Participation and collaboration is key to the success of these works.

STUDENT ARTISTS

- | | | | | |
|--------------------|-------------------|---------------------|------------------|---------------------|
| Vanessa L Andrew | Cory B Franklin | Kathleen H Kasun | Megan E Kenneweg | Erik W Kline |
| Lauryn Krissingner | Zachary M Link | Katherine G McMahan | Anna L Meerbach | Jordan P Montgomery |
| Danielle N Nelson | Melissa L Stewart | Brian M Wenger | | |

Monday

Art Show, Presentations, Posters, Recital

FAPA-Art Juried Art Show-Monday Leffler Gallery

Monday 25th Juried Art Show # 1
5:30 PM

Presenters: Vanessa Andrew, Elizabeth Karcha, Christine Mrozek, Laura Bach, Megan Kenneweg, Danielle Nelson, Ali Cavanaugh, Lynn Kesler, Mallory Slusser, Gina Galardi, Allison Kinney, Sarah Spang, Kristen Hain, Kaitlin Koons, Elise Teixido, Michelle Hare, Zach Link, Traci Tempone, Vaclav Hasik, Renae Martin, Beth Trovato, Lucy Hill, Elissa McNicholas, Caitlin Vajdic, Samantha Hugg, Anna Meerbach, Ellen Wilson

Mentors: Mr. Aaron Brooks, Ms. Linda Eberly, Mr. Milton Friedly, Ms. Lou Schellenberg, Mr. Thomas Wagner, Dr. Hans-Erik Wennberg

FAPA-Art Installation Steinman Lawn

Three Installations: Nature Revised # 2

Presenter: Vanessa L Andrew, Cory B Franklin, Kathleen H Kasun, Megan E Kenneweg, Erik W Kline, Lauryn Krissinger, Zachary M Link, Katherine G McMahan, Anna L Meerbach, Jordan P Montgomery, Danielle N Nelson, Melissa L Stewart, Brian M Wenger

Mentor: Mr. Milton Friedly

Three groups of students enrolled in Sculpture I will make collaborative works near Steinman Center. The works will be assembled/constructed of all natural materials. We are seeking a collaborative experience where each student will have a voice in creating an overall concept and aesthetic. The works will be temporary. Participation and collaboration is key to the success of these works.

Education Posters Hoover Lobby

Monday Using Touch Technologies for Students with Special Needs # 3a
5:30 PM

Presenter: Emily Whiteside

Mentor: Dr. H. Elizabeth Coyle

Assistive technologies have been used for the past few decades to support individuals with special needs in many different ways. These technologies have ranged from low tech such as graphic organizers and pencil grips and high tech such as adapted keyboards and screen readers. More recently, sophisticated touch technologies have been integrated into classrooms at a rapid rate because of their popularity, flexibility, affordability, and portability. Among the most popular touch devices are the iPod touch, HP TouchSmart computer, iPhone, and the varying brands of tablet computers. The technology is an intriguing tool for students because of the capability to directly interact with material. More particularly, these devices have been attractive options for educators who are digital natives and have been raised with multiple forms of technology. These educators have created a grassroots movement for more information about the uses of this technology at a faster pace. The technology of this generation is being developed so rapidly, however, educators are often unable to keep up with how to fully capture its capabilities in the classroom. Touch technologies introduce a new way for students to receive the required services they need, while also keeping them “plugged in” with their technological generation. The focus of this presentation includes the multiple ways that touch technologies can be incorporated in the range of settings that children with special needs are served.

Monday Everybody In! An Integrated Curriculum # 3b
5:30 PM

Presenter: Brian Booker

Mentor: Dr. H. Elizabeth Coyle

Studies show that an integrated curriculum is beneficial for students because it allows them to incorporate multiple content areas in a single classroom setting. The concept of an integrated curriculum has been prevalent in American public schools for decades, but it is not widely utilized in elementary and secondary education. The interdisciplinary approach to education is a departure from the traditional subject-center schools (Schramm, 2000). The potential exist for Social Studies, Science, Mathematics, the Fine and Performing Arts and Literary Arts educators to intertwine concept areas and provide students with an integrated learning experience. For example, an integrated approach to social studies, where a segregated approach can involve the recitation of facts and dates becomes dull, can humanize and excite a class (Rosenbloom, 2004). Unfortunately, preservice teachers are not fully trained at integrating across a curriculum, leaving content areas segregated as well as leaving students unable to connect knowledge and concepts in order to achieve greater depth in their education. This presentation is designed to explore and analyze the current methods in which preservice teachers are being trained to implement integrated curriculum in future classrooms.

Monday

Art Show, Presentations, Posters, Recital

Monday 5:30 PM Identity development and Culturally-Responsive Teaching in Schools # 3c

Presenter: Katie Niznansky

Mentor: Dr. H. Elizabeth Coyle

Ethnic and racial diversity have increased greatly in American schools in recent history, and are continuing to increase today. Estimates suggest that forty-seven percent of students will represent minority ethnicities by the year 2020 (McDevitt & Ormrod, 2010). During their school years, students create a multifaceted cultural identity as they come to have a sense of belonging to a variety of different groups. As the number of students identifying with diverse racial and cultural groups continues to grow, schools are beginning to respond through multicultural education practices and by employing culturally-responsive teaching methods such as sharing stories and raising awareness of cultural similarities and differences (Percival & Black, 2000). This presentation will focus on the different aspects of ethnic and racial identity that students explore during their years in school, as well as various facets of multicultural education and culturally-responsive teaching. Further investigation of this topic will continue as part of an honors research project examining the effects of multicultural education on students' identity development.

Monday 5:30 PM The Use of Rewards in Elementary School Classrooms # 3d

Presenter: Nicolle Maioriello

Mentor: Dr. H. Elizabeth Coyle

Rewards and punishments have been utilized throughout classrooms in the United States since colonial times (Johns & McNaughton, 1990). What originated as the use of corporal punishment and verbal praises slowly evolved into the theory of Behaviorism, and finally today's overuse of extrinsic rewards. Are students truly cognitively engaged when all many students seek is the star, sticker, or certificate at the end of the day? Now, with a rise in student apathy and senses of entitlement, we are beginning to question these methods and their effects on our students (Caram & David, 2005). As students progress through secondary grades, how many will still be expecting rewards, and what will result when they do not receive them? This poster presentation explores the debates surrounding these Behavioristic approaches to rewards and punishments and the impacts on students. Further investigation of this topic will continue as part of an honors research study which examines the ways in which elementary teachers perceive and use rewards within the classroom and the effects on students' motivation in later grades as a result.

Monday 5:30 PM The Use of Graphic Novels to Teach Classic Literature in Middle School # 3e

Presenter: Megan McCormack

Mentor: Dr. H. Elizabeth Coyle

Pieces of classic literature have been included in the English curriculum from some of the earliest days of public schooling in the United States. However, students often find the classics to be daunting, due to the author's use of unfamiliar language and settings and situations that are bound by the time period in which the author was writing. Students often resort to Cliffs Notes or online summaries in order to understand the works and complete the reading assignments. Graphic novels contain boxed pictures with text, much like a comic book. The illustrations and the text work together to tell the story. Graphic novels have come to the forefront in recent years as a way to motivate students who are reluctant to read. Graphic novels resonate with today's students because they are part of a generation that has been surrounded by visual imagery through multiple stimuli. Knowing that graphic novels have been used effectively to motivate reluctant readers, the purpose of this study is to determine how graphic novel versions of classic literature can be integrated into the middle school English education curriculum to make the works more accessible to today's students.

Monday 5:30 PM Educational Leaders and Positive School Climates # 3f

Presenter: Alyson Thorp

Mentor: Dr. H. Elizabeth Coyle

The single most important outcome of creating a positive school climate is gains in student academic success. Additionally, a positive school climate unites the faculty and the students within a safe and empowering learning environment. Multiple factors, such as parent/guardian involvement, family's socio-economic level, school diversity, available resources, and student to teacher ratio all contribute to the development of a positive school climate. The central factor to establishing a positive school climate is the principal. "Strong leadership is the heart of all effective organizations, be they private, public, or non-profit" (Hale & Moorman, 2003, p. 7). Currently, there is a need to redesign principal preparation programs. Many researchers have suggested that principal preparation programs are "out of touch with the realities of what it takes to run today's schools" (Hale & Moorman, 2003, p. 5). There is a push to include a more extensive mentoring and clinical work experiences in principal certification programs. However, few studies have investigated whether incorporating more fieldwork and mentoring requirements help principals to foster and maintain a positive school climate. Therefore, the purpose of this study is to determine the benefits of incorporating informal education opportunities into principal certification programs.

Monday

Art Show, Presentations, Posters, Recital

Monday Peace Education in Northern Ireland

4c

6:00 PM

Presenter: Gabriel Robison

Mentors: Dr. H. Elizabeth Coyle,
Dr. Rachel Finley-Bowman

This presentation reports on a study that examined which methods of peace education are most effective in the public schools of Northern Ireland. Many methods of peace education are currently being used in Northern Ireland, including but not limited to contact intervention, individual methods, and peace education integrated in the curriculum. The success of each of these methods has been debated by experts and the implementation of each is very different. The question I examined was which peace education methods produce the most positive outcomes for the students in Northern Ireland. I used a qualitative designed, phenomenological study that used open ended, semi-structured interviews with three participants who teach in an Integrated School in Derry, Northern Ireland. The research findings indicate that contact intervention programs, or programs that bring students together from different backgrounds to discuss controversial issues, are the most effective methods of peace education. Additionally, teaching conflict resolution skills is a successful method of peace education. Finally, the results showed that divided communities, segregated education, and a lack of funding are barriers to peace education in Northern Ireland. Overall, this study confirms the previous findings that contact intervention programs hold promise as a peace education tool in mainstream public education in Northern Ireland.

Monday How Social Emotional Learning and Bibliotherapy in English Classrooms Can Mitigate Challenges to Adolescent Girls # 4d

6:00 PM

Presenter: Allison O'Boyle

Mentors: Dr. H. Elizabeth Coyle,
Dr. Matthew Skillen

This qualitative study explored the potential for social emotional learning (SEL) and bibliotherapy to mitigate challenges facing adolescent girls in the secondary English classroom. Open-ended, semi-structured interviews were conducted with five secondary public school English teachers on site at their urban and suburban school districts. The hour-long interviews explored the teachers' perspectives on SEL and bibliotherapy in English lessons. Findings from this study confirm previous research indicating that adolescent girls face ongoing social, emotional, physiological, psychological, and economic challenges that affect school adjustment and performance and that the use of bibliotherapy can be an effective tool to promote healthy personality growth and development. Findings indicate that all five teachers were using SEL and bibliotherapy during instruction and in classroom management without naming it as such. While all five teachers shared favorable views to some degree on the use of SEL and bibliotherapy in the English classroom, their beliefs regarding to what extent these teaching techniques should be used and how they can counter the challenges adolescent girls face differed. Further study is needed to explore the potential benefits of bibliotherapy on female students specifically, how teachers' classroom experiences and gender affect their implementation of SEL and bibliotherapy, and the ways in which students' age and socio-economic status affect teachers' use of SEL and bibliotherapy. Further research is also needed to investigate specific challenges facing adolescent boys as well as the impact of integrating academic and social emotional learning on standardized test scores.

OCCUPATIONAL THERAPY GRADUATE RESEARCH SYMPOSIUM 2012 GIBBLE AUDITORIUM

5:30 p.m.Welcome and Opening Remarks
Tamera Humbert, D. Ed., OTR/L, Associate Professor, Occupational Therapy Program

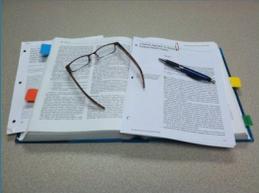
5:40 p.m. Keynote Speaker
Dr. Jacqueline Jones, Ph. D, OT Retired, Associate Professor Emerita, Occupational Therapy Department

6:00 p.m. Break

6:10 p.m.—8:55 p.m. Presentations, Posters, Fieldwork Sessions

Occupational Therapy Masters Project Presentations Gibble Auditorium (Esbensshade)

5a-# 5e

6:10 p.m.	<p>5a Examining Sensory Processing Differences in Children with Attachment Issues: An Exploratory Study <i>Courtney Baumer, B.S., MOTS; Nicole Davis, B.S., MOTS; Stephanie Musyt, B.S., MOTS, Mentor: Christine Achenbach, M. Ed., OTR/L</i></p>	7:55 p.m.	<p>5d Women’s Perspectives of Recovery from Violence through the <i>Kawa</i> Model: Considering New Possibilities <i>Jena Miller, B.S., MOTS; Lauren Ott, B.S., MOTS; Danielle Zabroski, B.S., MOTS; Mentor: Judy Beck Ericksen, Ph.D., OTR/L</i></p>
6:45 p.m.	<p>5b Exploring Play and Social Participation in Children who have CHD: Patterns and Perspectives <i>Taylor Bauder, B.S., MOTS, Ali Cavanaugh, B.S., MOTS, and Kate Rasmussen, B.S., MOTS; Mentor: Deborah Waltermire, M.H.S., OTR/L</i></p>	8:30 p.m.	<p>5e Real-time Motion Capture Technology: Developing a Tool for Motor Control Rehabilitation <i>Alyssa Paranto, B.S., MOTS; Russell Speiden; Kelly Seymour; Mentor: Daniel Panchik, D. Sc., OTR/L</i></p>
7:20 p.m.	<p>5c Perspectives on the Influence of Program Mission and Core Values on Professional Choices <i>Tabitha Bailey, B.S., MOTS; Kristin Hall, B.S., MOTS; Molly Northway, B.S., MOTS; Mentor: Tamera Keiter Humbert, D. Ed., OTR/L</i></p>		

Occupational Therapy Masters Project & Senior Honors in the Discipline Posters

6a-# 6h

	Masters Atrium 1st Floor	Masters Atrium 2nd Floor
6:10 p.m. to 8:55 p.m.	<p>6a Exploring Clients' Perspectives on the Impact of Home Modifications Regarding their Independence and Safety <i>Lauren Young, OTS; Ashton Morgan, OTS; Mentor: Judy Ericksen, Ph.D., OTR/L</i></p> <p>6b Development of the Electronic Hand Assessment Tool (E-HAT): Analysis of reliability and validity measures. <i>Bethany C. Dieffenderfer, B.S., MOTS; Alexandra L. Gold, B.S., MOTS; Mentors: Daniel Panchik, D. Sc., OTR/L; Kurt DeGoede, Ph. D.</i></p> <p>6c Are Video Games Beneficial for All Ages? The Impact of Participation on Well Elders in a Wii Group <i>Chelsie Miller, OTS; Ruth Wentz, OTS; Mentor: Ann Marie Potter, MS, OTR/L</i></p> <p>6d A Correlational Study between Adolescents’ Hand Skills and Technology Use: A Pilot Study <i>Lauren E. Carmichael, B.S., MOTS; Emily M. Carrier, B.S., MOTS; Stephanie N. Sherick, B.S., MOTS; Mentor: Kerri Hample, OT.D., OTR/L;</i></p>	<p>6e Perceptions of Evidence Based Practice Strategies: A Case Study <i>Kaitlyn Bridgeman, B.S., MOTS; Colleen LaForge, B.S., MOTS; Kellie Staab, B.S., MOTS; Mentor: Angela Salvadia, D. Ed., OTR/L</i></p> <p>6f Impact of Treatment on the Ongoing Leisure Participation of Cancer Survivors <i>Emily Ulrich, OTS; Mentor: Linda M. Leimbach, M.S., OTR/L</i></p> <p>6g How Do Habits, Routines, and Roles Influence Body Weight in Working Mothers? <i>Brenna E. Noon, B.S, MOTS; Brenda M. Piaskowski, B.S., MOTS; Rachel C. Sullivan, B.S., MOTS; Mentor: Linda M. Leimbach, M.S., OTR/L</i></p> <p>6h A Needs Assessment: Evaluation of Elderly Residents in Elizabethtown for Improvement of Residential Assistance Program (RAP) <i>Heather Slifko, OTS; Mentor: Linda M. Leimbach, M.S., OTR/L</i></p>

SCHOLARSHIP & CREATIVE ARTS DAY RECITAL



Monday, April 23, 2012
Leffler Chapel and Performance Center
7:30 p.m.

PROGRAM

Sonata **Lawson Lunde (b. 1935)**

I. Allegro

Zachary Link, alto saxophone
Dr. Justin Badgerow, piano

From Songs of Travel **Ralph Vaughan Williams (1872–1958)**

Let Beauty Awake
The Roadside

Alex Ochs, tenor
Dr. Justin Badgerow, piano

Syncopation **Fritz Kreisler (1875–1962)**

Rachel Lane, violin
Erinn Soltys, piano

Etude, Op. 25, No. 12 **Frederic Chopin (1810–1849)**

Shannon O'Leary, piano

Sonata **Bernhard Heiden (1910–2000)**

I. Adagio – Presto

Daniel Tschop, Saxophone
Dr. Justin Badgerow, piano

"Ain't It A Pretty Night" from Susannah **Carlisle Floyd (b. 1926)**

Anna Matlack, soprano
Dr. Justin Badgerow, piano

"Un Sospiro" from Trois Etudes de Concert **Franz Liszt (1811–1886)**

Thitipat (Bryant) Suksiritarnan, piano

SCHOLARSHIP & CREATIVE ARTS DAY RECITAL



Scene One from *Lysistrata* (411 BCE), by Aristophanes, translated and adapted by J. A. King and Michael M Chemers

(performed in its entirety in Tempest Theatre April 26 & 27 at 8 p.m. and April 29 at 2 p.m.)

Lysistrata: Taylor Luckenbill
 Kleonike: Alexandra Yastishock
 Myrrhine: Nicole St. Pierre
 Lampito: Rachel Saul
 Ismenia: Dani Mitchell
 Opisthenia: Doug Wilson

A Boy and A Girl Eric Whitacre (b. 1970)

Camerata

David Hiddeman, Conductor

Joseph Bomberger, Bayla Cohen, Stephanie Crawford, Amber Farah, Chad Feakins, Danielle Fishman, Keri Height, Glenn Knight, Alena Lerch, Anna Matlack, Paul Muzzo, Jason Sandonato, Daniel Tschop, Elizabeth Shea, Matthew Walters, Brian Wilson

What Saith My Dainty Darling? Thomas Morley (1557 or 58–1602)

Transcr. Richard Chenoweth (1918–2011)

Haranbee Paul Basler (b. 1963)

Elizabethtown Horn Ensemble

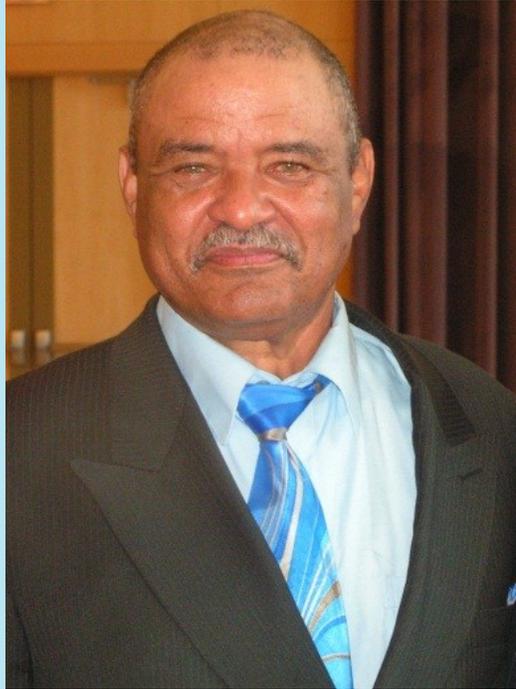
Nathan Caudill, Liz Boyer, Heidi Weidemoyer, Julia Hodge, Robert Codio

Faculty Mentors: Faith Shiffer, Sarah Daughtrey, Austin Hartman, Douglas Bomberger, Debra Ronning, Michael Swanson, Matthew Fritz, Cheryl Staherski



We Appreciate Your Mother's Gift

With Thanks and Gratitude



Mr. David "Sonny" Lacks, Henrietta Lacks youngest son.

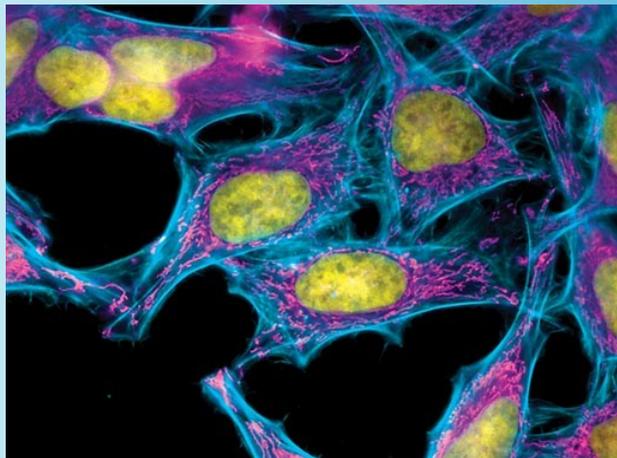


Photo by Omar Quintero, courtesy of The Smithsonian Institution
Gallery of Henrietta Lacks' Immortal Cells

Rebecca Skloot

Keynote Speaker

Tuesday, April 24, Leffler Chapel

- 3:00-3:30 p.m. Keynote Speech
- 3:30-4:00 p.m. Discussion, Audience Q & A
Mr. Lacks joins Ms. Skloot
- 4:00-4:30 p.m. Book Signing with both
Leffler Chapel 1st floor

Author of *The Immortal Life of Henrietta Lacks*

Ms. Rebecca Skloot, author of *The Immortal Life of Henrietta Lacks*, will be the featured keynote speaker to celebrate the 5th Anniversary of Scholarship and Creative Arts Day at Elizabethtown College. She will be sharing her thoughts on the processes of research and writing, and offering insights about how this project contributed to her own personal growth.

Following her address, she will be joined by Mr. David Lacks, son of Henrietta, who will provide his own unique perspective about HeLa and the larger story of his mother and family through a "question and answer" panel discussion with the audience.



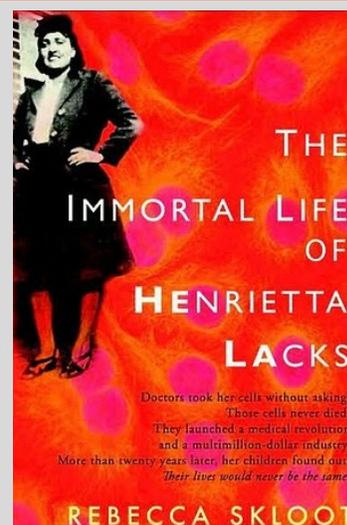
The discussion will be moderated by Dr. Jane Cavender, Professor of Biology, at Elizabethtown College.

[The Immortal Life of Henrietta Lacks](#), Skloot's debut book, took more than a decade to research and write, and instantly became a *New York Times* best-seller.



Book Signing with Ms. Skloot and Mr. Lacks

Her name was Henrietta Lacks, but scientists know her as HeLa. She was a poor black tobacco farmer whose cells—taken without her knowledge in 1951—became one of the most important tools in medicine, vital for developing the polio vaccine, cloning, gene mapping, in vitro fertilization, and more. Henrietta's cells have been bought and sold by the billions, yet she remains virtually unknown, and her family can't afford health insurance. --from the official description on [author's website](#).



English Panel Discussion H-107

8:00 AM Staging Beckett # 10

Presenters: Kirsten Beyer, Allison Waskow, Kaitlin Tackels, Marissa Aulenbach Mentor: Dr. Mark Harman

Samuel Beckett, author of numerous plays and novels such as *Endgame*, *Krapp’s Last Tape* and *Molloy*, has been widely praised for his innovative literary style. His most famous play, *Waiting for Godot*, has become a classic of modern drama. To fully appreciate Beckett, one needs an understanding of the historical backdrop against which he produced his work for the stage as well as the page. I hope to immerse you in Beckett’s world by exposing you to sample passages in his script as well as to the San Quentin Workshop’s celebrated production of *Waiting for Godot*.

8:15 AM Staging Beckett # 11

Presenters: Marissa Aulenbach, Kaitlin Tackels, Allison Waskow, Kirsten Beyer Mentor: Dr. Mark Harman

In my section of the panel, I will explore the challenges of putting on a performance of Beckett’s *Waiting for Godot*, and bringing his play to life. One of the overarching challenges in staging *Waiting for Godot* is how to interpret the work in light of the plethora of meanings that have been assigned to the play. Some of the specific interpretations that will be outlined in my presentation reflect the choices made by individual actors in creating a persona as well as the director’s underlying vision. The persona created by the actor includes individual interpretations of facial expressions, body movements, and voice inflection. A director’s interpretation is conveyed through the casting of appropriate actors, the guidance given to the actors in rehearsals, the blocking of action, and set design. These challenges will be examined in depth by looking at specific passages in the play. (#2 in the panel)

8:30 AM Staging Beckett # 12

Presenters: Allison Waskow, Kirsten Beyer, Kaitlin Tackels, Marissa Aulenbach Mentor: Dr. Mark Harman

Perhaps as much for personal as for artistic reasons, Samuel Beckett criticized *Waiting for Godot* harshly, calling it “messy” and “not well thought out.” This presentation will explore his criticism further, introducing several reviews of a number of productions that illustrate the controversies stirred up by this seminal modern drama. I will also expand upon the challenges that the play poses for directors and actors.

8:45 AM Staging Beckett # 13

Presenters: Kaitlin Tackels, Kirsten Beyer, Marissa Aulenbach, Allison Waskow Mentor: Dr. Mark Harman

Samuel Beckett was quoted as saying the following about *Waiting For Godot*: “I loathe it. It’s a great struggle for me even to have to listen to it. I can’t bear to think that it’s what I’m most associated with.” I will comment on Beckett’s opinion and come up with reasons for his dislike of the play. I will then be using reviews of various United States and United Kingdom performances to prove the brilliance of the play. I will use clips from the performances to show how individual directors rose to the challenge of putting on a production of *Waiting for Godot*.

Education Portfolio Presentations H-110

8:00 AM A Framework for Teaching: Professional Portfolios for Educators # 15

Presenters: Jaclyn Light, Tess Lutz, Matthew Matyas, Colby Miller Mentors: Dr. Kathleen Blouch, Dr. Carroll Tyminski

Pre-service teachers seeking certification in Elementary, Special, and Secondary Education in the state of Pennsylvania will present their electronic professional portfolios showcasing best practices in the four domains of teaching responsibility: Planning and Preparation, the Classroom Environment, Instruction, and Professional Responsibilities. The portfolio signifies the capstone project of a student teacher’s career at Elizabethtown College, accentuating achievements in coursework, field experience, pedagogy, and professional development.

8:40 AM A Framework for Teaching: Professional Portfolios for Educators # 16

Presenters: Allison O’Boyle, Sierra Miller, Amber Petrucy, Marcy Bennett, Maggie Troutman, Ross Benincasa Mentors: Dr. Kathleen Blouch, Dr. Carroll Tyminski

See abstract # 15

Sociology and Anthropology Presentations H-211

8:00 AM Can You Hear Me Now?: A Content Analysis of Cell Phone Policies in Syllabi at Elizabethtown College # 20

Presenter: Barbara Prince

Mentor: Dr. Michele Lee Kozimor-King

Cell phone use is rampant across college campuses. According to a 2011 study by HackCollege, 88 percent of college students report texting during class. Furthermore, 4 in 10 students report using their phone to study before a test while 13 percent report using their phone to cheat. With this increase in prevalence and diversity of cell phone use, one major debate in higher education currently focuses on cell phone use in the classroom. Although many studies have examined cell phone policies in elementary and high schools, there is limited research about cell phone policies in higher education. This research will add to the scholarship of teaching and learning by examining the frequency and type of cell phone policies found in syllabi at Elizabethtown College from Fall 2003 to Fall 2011. Comparisons will be made across academic departments, gender and title of professor, level of class, and year. Results will be presented. The findings of this research will be useful for teaching and learning scholars.

8:15 AM Where Are You Going Generation Y? Examining the Effects of Community Perceptions, Socialization, and Environmental Views on the Residential Preferences of Generation Y # 21

Presenter: Michael Shields

Mentor: Dr. Michele Lee Kozimor-King

The first suburbs have been facing a range of issues once thought to only afflict urban cores: shrinking populations, abandonment, a dwindling tax base and limited resources. Once prominent communities have lost population do to the mass migration exiting and bypassing these first suburbs. This study seeks to address this social issue from the perspective of Generation Y - those born between the years 1983 and 2001. Previous research has examined the effect an individual's socialization and environmental views have on their future residential preference. Residents of a given community have been shown to develop very strong sentimental and emotional attachments to the places in which they spend their lives. Socialization, both from primary and secondary agents, has been widely studied by many scholars. These scholars agree that secondary agents such as the media have assumed a much larger role in the socialization process. Residential choice has been shown to be influenced by environmental views as well. The data for this proposal was obtained from the Residential Preferences of Generation Y Questionnaire constructed for this study. Five institutions of higher education were selected from a sampling frame consisting of all colleges and universities in Pennsylvania. Each school represents a different region of Pennsylvania and offers diverse pockets of Generation Y students. Each particular institution was classified as either city, suburban, or rural using the urbanicity trait from Nielson's MyBestSegments. Results of this study will be presented and can be used by urban scholars, demographers, urban planners, state legislatures, and sociologists.

9:00 AM Status Update: The Effects of Sex and Age on an Individual's Facebook Status # 22

Presenter: Erin Bixler

Mentor: Dr. Michele Lee Kozimor-King

Facebook was started in 2004 by Mark Zuckerberg, who at the time was a Harvard student. When Facebook was originally started it was only available to Harvard students. Since then, Facebook has become one of the world's largest social networking sites. Of the 845 million Facebook members, over 80 percent of them are from outside the United States and Canada. Facebook has been a popular topic of many media outlets. Stories are being televised frequently about individuals being fired or grounded because of their activities on Facebook especially updating statuses. One video that went viral was of a father who found his daughter posting negative comments about him for everyone to read. In reaction to the Facebook status, the father shot his daughter's computer and grounded her. If the daughter had never posted her opinions on Facebook her father might never have found out about them. The daughter used Facebook as an outlet for her feelings; the father used Facebook as a way to keep a close eye on his daughter. Depending on the user, Facebook, especially statuses, serve a number of different purposes. Previous research has examined the effects of sex and age on the type and frequency with which individuals post a status to their Facebook wall. The data for this study will be obtained from a content analysis of Facebook statuses using a stratified cluster sample. Results from this study will be presented. The findings will be useful to psychologists, sociologists, employers, parents, and young adults.

Modern Languages Presentations BLR

8:30 AM Introducing the Japanese Haiku # 32

Presenter: Christina Foss

Mentor: Dr. Mahua Bhattacharya

Haiku is among Japan's best known art-forms, and since its introduction to the West has become one of the world's best-known poetic forms. This presentation looks at the similarities and differences in the concepts behind and subject matter of both Japanese and Western haiku. A few examples of Western haiku and Japanese haiku (in translation) will be read aloud to illustrate these points.

Modern Languages **Anime to Zen Panel** **BLR**

8:45 AM **Japan’s Experience of Terrorism: The Japanese Red Army** **# 33**

Presenter: Maggie Stromoski Mentor: Dr. Mahua Bhattacharya

When one thinks of Japan, the common conception is of an incredibly safe and friendly culture. One doesn't usually think about the darker side of Japan, including the fact that it has also been touched by the vile hand of terrorism. In this presentation, I will be focusing on a main political terrorist group, called Nihon Sekigun – more commonly known as the Japanese Red Army. We will trace the roots of this group through the 1970’s student movement, to the formation of its militant stance, and then onward to the international activities and connections the Japanese Red Army created throughout the 1970’s to the 1990’s.

9:00 AM **Japan’s Postwar Relations with the US, Germany, and China** **# 34**

Presenter: Stephen Harris Mentor: Dr. Mahua Bhattacharya

This presentation looks at how the Pacific War changed Japan’s international relations with three powerful countries that were heavily involved in the war: the U.S., China, and Germany. Japan’s relations with all these three countries changed greatly because of certain developments during the war. Over the years following the war, Japan has been able to rebuild many of these relationships. The purpose of this presentation is to follow these relationships from the devastating results after the war to their current status.

Sociology and Anthropology **Presentations** **H-212**

8:00 AM **The Church of the Brethren's Encounter with Conscription During World War II** **# 35**

Presenter: Corey Eshelman Mentor: Dr. Donald Kraybill

My presentation will examine the Church of the Brethren’s encounter with conscription during World War II My research investigates the following research question: How did the Church of the Brethren respond to conscription during World War II? Through the use of a variety of primary and secondary sources, such as the Church of the Brethren Annual Conference and The Brethren Encyclopedia, as well as reflections from modernity theory on choice, individuation, and growth of government, I provide evidence to support my argument that the Church of the Brethren became more modern as a result of conscription during World War II. My study suggests that members of the Church of the Brethren became more modern in various aspects, including choice and individuation. I learned that nationwide events and issues have the power to initiate change in even the most traditionally conservative groups.

8:15 AM **A Peaceful People During Wartime** **# 36**

Presenter: Megan Brown Mentor: Dr. Donald Kraybill

My presentation will focus on the topic of the Amish people during wartime in America. My research investigates how the Amish people handled the draft, the rebellious among them who did join the army and those who wanted to help without being involved in the fighting. I will be answer the question: With so many wars dotting America’s past, one must wonder how a non-violent community would handle them. Using a variety of both primary and secondary sources, I provide evidence to support my thesis which states: Although the Amish did not assist with the fighting of the wars, some did assist in other, still very important, ways. My findings suggest that the Amish did in fact involve themselves in several ways in the multiple wars dotting America's past even though almost none of them actually fought. I have learned so much about Amish beliefs and convictions through writing this paper.

8:30 AM **Plain Dress, Complicated Problems** **# 37**

Presenter: Madeline Magill Mentor: Dr. Donald Kraybill

My presentation will focus on the topic of the Brethren Society and their views on dress throughout the twentieth century. My research examines both Old Order Brethren as well as the Church of the Brethren and how their beliefs on plain dress differ. In addition, I will address the following research question: why were there such opposing views between the Brethren Society on dress, and why was the idea of plain dress so symbolic to them?

8:45 AM **Chiques Changes Clothes** **# 38**

Presenter: Jennifer Brandt Mentor: Dr. Donald Kraybill

My presentation will focus on tracing the progression of dress within Chiques Church of the Brethren. My research undertakes the following research questions: How have the dress codes within Chiques Church of the Brethren changed, and how does its evolution compare to that of other churches within the Eastern Pennsylvania Church District? Through the use of a variety of primary and secondary sources and insights from the modernity theory on individualism and choice, I provide evidence to support my thesis that Chiques was much less progressive in the area of dress than other churches within the district. My findings suggest that, when compared with other Eastern District churches, Chiques was reluctant to adopt more lenient standards in respect to prescribed dress for members, and therefore have protected their more conservative roots. I discovered that the preservation of collective church dress codes, prevented many problems with modernity. Identical plain dress removed individualism and choice from the church. When the separation of unique garb disappeared, the Brethren way of life changed and lost some of its distinction.

Session I: 8:00 – 9:15 a.m.**Tuesday****9:00 AM The Feminist Movement In the Brethren Religion**

39

Presenter: Haley Kearns

Mentor: Dr. Donald Kraybill

My presentation will focus on the topic of women's rights and the feminist movement in the Brethren religion. My research will address the question of how the Brethren religion responded to the feminist movement and the reasons why they responded in the manners that they did. Using primary and secondary sources, interviews, and insights from the modernity theory of pluralism, discontinuity, and individualization, I will provide evidence to support my thesis that the Church of the Brethren was more accepting when it came to women's rights compared to the rest of the Brethren religion. My findings suggest that the COB was more accepting because it was more progressive and "welcoming" to new ideas and mainstream American culture.

Computer Science Presentations H-213**8:15 AM Misma: An Innovative Content-Based Image Comparator**

41

Presenter: Leann Johnson

Mentor: Dr. Barry Wittman

Intellectual property rights have become increasingly difficult to enforce, given the drastic rise in popularity of the Internet. It is relatively simple to copy an image found online and re-post it as one's own. While there are existing popular programs which are able to store, organize, and search for images based on their content, few are able to find similar images if they have been edited significantly. Misma is a program which strives to organize a collection of images based on their extracted features and return similar images based on a query by example. The novel aspect of Misma lies in the comparison algorithm: the program will be able to return similar images even if they are a super-image or sub-image of the given image.

8:30 AM Predicting Image Compression Quality

42

Presenter: Andrew Sides

Mentor: Dr. Barry Wittman

Image compression ratio is an important aspect of storing images on computers. Many file formats are available, such as PNG and JPEG. However, not much research has been done in storing parts of images in one format and parts in another format. This project was created to determine if breaking down images and storing blocks of images in different formats would save memory on computers when storing images. To examine this question I wrote a program what would store blocks of images in both formats, then take the more efficient storage format for each block and see if the total image was compressed more efficiently using both formats. Future research into this area could lead to a new file format being created for images.

Called to Lead Presentations H-213**8:45 AM Redefining the Meaning of 'Good': Social Entrepreneurship**

43

Presenters: David Nagel, Min Tun

Mentor: The Rev. Tracy Sadd

Social entrepreneurship is more than just charity. It is an initiative which uses knowledge and skills normally associated with business and entrepreneurship to solve social problems—rather than focus solely on profit. This presentation will explore both the theory and the practice of social entrepreneurship, including highlighting key organizations, individuals, and success stories in this relatively recent leadership movement. Participants will listen to the story of a fellow E-town College classmate—an aspiring social entrepreneur—and learn how to unleash the leader in you by identifying and attacking a social issue. Social entrepreneurship has a message for all of us: We can help redefine the meaning of 'Good'.

9:00 AM Leadership Development and Exploration of Vocation in Madagascar

44

Presenter: Laryssa Witty

Mentor: The Rev. Tracy Sadd

As part of a study abroad experience in Madagascar in Spring 2011, the presenter investigated local perspectives regarding social, economic, and health conditions following the construction of a mine in Fort Dauphin, a town located in southeast Madagascar. The goal of this investigation was to find clues to the overall attitudes, perspectives, and knowledge of the local population toward Qit Madagascar Minerals (the mining company owned by RioTinto) from the local level. The majority of persons interviewed were supportive of the mine yet their reasoning for their support revealed underlying discontent. This presentation will focus on how both research and study abroad in a developing nation can develop students as leaders and also challenge them to think about their own vocations, careers, and majors at a deeper and more complex level. The presenter will highlight how her results on the Kouzes and Posner Leadership Practices Inventory (LPI) have given her a framework for understanding the transformative impact that study abroad in Madagascar had on her life and how the LPI can help her think about her future life work. The presenter also will discuss what factors made her study abroad experience different than what research reveals is the "average" study abroad experience.

Theater Presentations H-214

8:00 AM "To Whom Shall I Compare a Summer's Day?": Exploring the Subject/Audience Debate in Shakespeare's Sonnets # 45

Presenter: Rachel Saul Mentors: Dr. Michael Swanson, Dr. Louis Martin

Over the course of his life as an actor and playwright, William Shakespeare wrote 154 poems in sonnet form. This structure entails fourteen lines of poetry in iambic pentameter with an ABAB, CDCD, EFEF, GG rhyme scheme. These poems deal with such themes as the passage of time, love, truth, beauty, and the impermanence of life, and employ a variety of mysterious characters and audiences. For my Scholarship and Creative Arts Day presentation, I will explain the most significant scholarly theories surrounding the subject and audience of each Shakespearean sonnet, and use these insights to hypothesize about whom Shakespeare wrote the sonnets. Additionally, I will rhetorically analyze and perform a selection of the sonnets that I find most appealing, informational, or unique. I will then compare and contrast these sonnets in terms of structure and literary devices therein. This project constitutes both an academic presentation and a performance; it also serves as partial fulfillment of my completion of the Honors Program.

Business Presentations H-214

8:30 AM Ambient Scenting: The Role of Scent in the Retail Environment # 46

Presenter: Katie Gantz Mentor: Dr. Bryan Greenberg

Previous research on olfaction has demonstrated that this sense differs from other senses due to the ease in which it can be experienced without conscious attention, its direct link with the amygdala-hippocampal complex (which is critical for the experience of emotion), and its association with semantic and episodic knowledge. Given the role of emotion and knowledge in consumer behavior, it isn't surprising that scent has drawn the attention of marketing professionals. This is especially the case in the retail environment with respect to ambient scenting, which refers to scent present in the environment but not emanating from a particular product. Despite limited findings on the effectiveness of ambient scenting as a marketing tool, there are increasing claims that ambient scent does in fact influence consumer perception of both the overall retail environment and the products within it. Retailers offering a diverse array of products with no connection to a specific smell are employing customized scents for their store's environment in hopes that this scent will strengthen brand image, improve brand recall, increase the amount of time and money the consumer spends in the store, and augment the perceived quality of their products. While there has been limited research on the role of scent, this research has mainly focused on the effects of what is perceived as a pleasant ambient scent. This study, utilizing an experimental method, seeks to explore the role that negative ambient scents, or scents that may be perceived negatively, may have on consumer behavior.

8:45 AM To Give, or Not to Give: A Review of Credit Policy During this Recession. # 47

Presenter: Jennifer Malik Mentor: Dr. Hongsong Neuhauser

Every company must decide whether they should extend credit to customers or not. The potential advantages of extending credit to customers are improved customer loyalty and increased sales. However, credit policy may be expensive to a company in terms of selling expenses such as monitoring and collection costs. The real question, and what companies should consider when deciding on implementing a credit policy, is: "Does extending credit to customers result in a positive impact on the bottom line for a company?" This research will focus on comparing companies who sell on cash to companies who sell on credit. Thirty companies will be selected from each of the three different industries, during a four-year of economic downturn from 2008 to 2011. Companies will be examined annually at the fiscal year end. The chosen industries at the center of this research project are the retail industry, the manufacturing industry, and the food industry. These three industries are selected to give a broad overview of consumer's semimetal value and the stock performances of the companies during an economic downturn given their different credit policies. The ultimate goal of any company, regardless of what industry, is to maximize their shareholder wealth. Therefore, this research will demonstrate how companies selling on credit would generate a higher shareholder value. This research will be beneficial to corporate management when deciding if they should extend credit to their customers, and answer the critical question: to give or not to give?

Political Science Presentations H-215

8:30 AM Secession: South Sudan's Journey Toward Independence # 53

Presenter: Kelsie LeVan Mentors: Dr. Oya Ozkanca, Dr. Dana Mead

With the end of World War II in 1945 came the end of European colonialism and the decolonization of continents such as Africa. With this newfound independence came the marginalization of ethnic groups and military dictatorships governing many African countries. As these countries attempted to redraw the random borders previously established by colonial powers, widespread instability, corruption, violence and a series of independence movements erupted throughout Africa. One recent example of an African secession is South Sudan's recent independence from North Sudan. After a long period of tension, conflict, and struggle, the two have finally separated and South Sudan officially became an independent nation on July 9, 2011. This topic is important because there are ongoing conflicts in many African countries and examining a recent case of secession will provide a greater understanding of the secession process and its relevance in international law. Through an examination of literature and theory related to secession as well as the history of tension between the North and South, I intend to address the following questions: (1) what factors contributed to the South's desire to secede, (2) what conditions allowed the South to declare independence rather peacefully and with little opposition from the North, and (3) how did they become a member of the United Nations?

Session I: 8:00 – 9:15 a.m.**Tuesday****8:45 AM Culture and the Peace Process: Examining the Political Murals in Northern Ireland # 54**

Presenter: Ashley Yagielniskie

Mentor: Dr. April Kelly-Woessner

Political violence in Northern Ireland takes a toll on civilians both physically and emotionally, in turn some of these individuals produce wall murals as an outlet for stress and pent up frustrations. Mary Treaftis explains that “for Northern Ireland, the response to the many years of conflict has manifested itself in a manner unique to its history and circumstances: specifically there has evolved in Northern Ireland the use of wall murals, not only for memorialization but for propaganda and demarcation as well.” This form of ‘speaking out’ can be seen as an important form of culture for both major identities in Northern Ireland. This presentation will examine the use of wall murals in Northern Ireland and how they serve not only to express political viewpoints, but to create physical and conceptual spaces as well. Through the use of mini-mobilizations of political propaganda, they have strongly influenced the current peace process. For a long time the murals reflected the conflict and contributed to its perpetuation as the images reinforced bitterness on both sides. Today, however, many murals have been “re-imagined” as instruments of peace.

Education	Posters	Masters Atrium
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8:00 AM Eco-Justice and Sustainability Research Paper Mentor: Dr. Kathleen Blouch # 55-67

Eco-justice links ecological sustainability and social justice from an ethical and often educational perspective. The 21st century demands a more sophisticated citizen capable of making sound decisions that impact our natural environment. Students in the Freshman Seminar researched questions related to topics of sustainability and justice and presented their papers in a poster format.

Presenters:	Katie Appleby	# 55
Presenters:	Bryan Baldwin	# 56
Presenters:	Brigid Flynn	# 57
Presenters:	Caitlin Hogan	# 58
Presenters:	Danielle Jakubowski	# 59
Presenters:	Abigail Kelley	# 60
Presenters:	Emily Longenecker	# 61
Presenters:	Kimberly Myers	# 62
Presenters:	Jessica Plue	# 63
Presenters:	Carly Schrider	# 64
Presenters:	Brittany Stepp	# 65
Presenters:	Kathryn Sutcliffe	# 66
Presenters:	Desiree Vanderlick	# 67

8:00 AM Becoming Transformative Agents?: Reexamining Multiculturalism in Secondary Social Studies # 68

Presenters: Christine Nagle, Jessica Swank, Jordan Laliberte, Kristen Wallis Mentor: Dr. Rachel Finley-Bowman

Per PDE, NCATE, and NCSS expectations, this presentation explores the content and pedagogical requirements for multi-cultural education in secondary social studies teacher preparation programs (grade 7-12) in the state of Pennsylvania. It assesses whether pre-service social studies teachers, as the next generation of educators, are culturally competent enough to become transformative agents for critical thinking, innovation, and engagement of diversity in all its forms. Results of a qualitative survey will be discussed.

8:00 AM Using Culturally Responsive Instruction to Teach Middle School Social Studies # 69

Presenters: Jessica Swank, Kristen Wallis

Mentor: Dr. Rachel Finley-Bowman

This poster examines strategies in culturally responsive instruction (CRI) which facilitate powerful learning for ethnically diverse students in a 7th grade course on world civilization. Teaching the comparative concept of “civilization” through developmentally appropriate lesson plans on women’s roles and militarism in ancient societies is explored. Conclusions and results from an audience self-audit of cultural competence, conducted at the 109th Middle States Regional Conference on the Social Studies, will be discussed.

Occupational Therapy Posters Masters Atrium

8:00 AM Exploring Clients' Perspectives on the Impact of Home Modifications Regarding their Independence and Safety # 70

Presenters: Lauren Young, Ashton Morgan Mentor: Dr. Judy Ericksen

Participants will discover how home modifications received through Rebuilding Together (RT) have impacted individuals' independence and safety. And understand how important aging in place is relation to the well-elderly. The purpose of this study was to examine outcomes of Rebuilding Together (RT) services. Researchers sought to gain insight into clients' perspectives after receiving home modifications. Methods: In collaboration with Rebuilding Together, the researchers developed an interview guide and then conducted semi-structured interviews with participants. Information was gained about the clients' perspectives of RT services. Participants were 50 years of age or older, had received home modifications between the years of 2008-2010, and had not received a follow-up evaluation after modifications. Overall, modifications received by the participants allowed them to feel safer and more independent in their homes. Information gained from the interviews supported current literature by reinforcing the importance home modifications can have on individual's ability to successfully age in place. Conclusion: The results of this study will contribute to Rebuilding Together's program evaluation efforts as well as existing literature on the impact home modifications have on aging in place. Due to the small sample size, further research is needed on the outcomes of these services to determine their overall impact.

8:00 AM Impact of Treatment on the Ongoing Leisure Participation of Cancer Survivors # 71

Presenter: Emily Ulrich Mentors: Mrs. Linda Leimbach, Ms. Ann Marie Potter

A cancer diagnosis and its subsequent treatment have a considerable impact on an individual. Not only is engagement in basic daily living activities affected, but participation in leisure activities can be impacted, as well. Four participants were interviewed about their individual cancer experiences, including diagnosis, treatment, and the impact both had on their daily lives. This study aimed to investigate the leisure activities that individuals participated in before, during and after cancer treatment, and the impact that the cancer diagnosis and treatment had on participation in those activities. Potential uses for the results include providing pertinent information to occupational therapists regarding the leisure participation of individuals with cancer as well as suggesting supplementary ways to guide occupational therapy practice for this population. Results from this study will be presented in poster format.

8:00 AM A Needs Assessment: Evaluation of Elderly Residents in Elizabethtown for Improvement of Residential Assistance Program (RAP) # 72

Presenter: Heather Slifko Mentor: Mrs. Linda Leimbach

Two years ago, I created the Residential Assistance Program (RAP) through the Center for Community and Civic Engagement at Elizabethtown College. The volunteer program provides assistance with household maintenance such as leaf raking, snow shoveling, and spring cleaning to elderly residents in Elizabethtown. College students "adopt" a resident for an academic year and help with these tasks when needed. The goal of my Honors in the Discipline project was to improve the offerings and structure of the RAP program. To do this, the demographic factors of the aging population were examined, the available community resources were considered, and a Needs Assessment survey was conducted with a sample of the elderly in Elizabethtown, with the goal of identifying their need for assistance in various additional areas such as cleaning, pet care, meal preparation, transportation, and completing paperwork. Recommendations were then made as to how the RAP program could be improved, using an occupational therapy approach.

8:00 AM Are Video Games Advantageous for All Ages: The Impact of Participation in a Wii Group on the Well-Being of the Well Elderly # 73

Presenters: Chelsie Miller, Ruth Wentz Mentor: Ms. Ann Marie Potter

The world's population is rapidly aging. This age shift coupled with the expansion of technology, specifically video games, into rehabilitation has created new questions for researchers and clinicians. Additionally, some research has indicated that well-being tends to decline with age. The aim of this study was to determine if a Nintendo Wii group made a positive impact on the well-being of community dwelling older adults. A five week program was conducted at a local senior citizen center, and a total of seven members (age 66-85) volunteered to participate in the study. Each week, between three and five participants attended a one hour Wii sports group, led by two occupational therapy students. Pre and post program questionnaires regarding personal health and well-being, and views on video games, were completed by each participant. At the end of each session, participants filled out a rating scale about how engaging in the Wii group made them feel. Results indicated that participants reported feeling better after engaging in the group than they did before they played the games. Common themes of exercise, novelty, and friendship emerged as positive aspects of the group. This small study illustrated that engaging in a Wii group with peers positively impacted physical, cognitive, and social dimensions for the group of participants. Findings demonstrate that video games may be a meaningful and socially acceptable occupation for older adults.

Psychology Posters Masters Atrium

8:00 AM Exploring the Effects of Deep Pressure Sensory Input on Attention # 74

Presenter: Courtney Baumer Mentor: Dr. Catherine Lemley

Deep pressure is a type of sensory input that is used to produce calming effects by hugging, squeezing or compression. It occurs naturally, when a mother swaddles a crying baby or gives a ‘bear hug’ to an upset child. Occupational therapists often use it with pediatric patients to refocus the child or increase on task attention (particularly those with autism and ADHD) by applying weighted vests or compression garments. While there is a plethora of clinical observations and reports of the benefits of deep pressure when treating these children, there is limited empirical evidence to support this. The few studies that have been performed were comprised of very small samples of specific populations and included multiple confounding variables, thus limiting the reliability, validity and generalizability of the results. There is even less research on the effects of deep pressure with the general population. This study considered the possibility that the general population may experience the same increase in focused attention as has been reported in individuals with autism and ADHD. To do so, the researcher designed a dichotic listening task to measure focused attention under two conditions; one with no deep pressure sensory input, and one with a calculated amount of deep pressure sensory input via a weighted vest. The participants were asked to repeat part of the listening task while errors were recorded, which were later compared between the two conditions. The results contribute to our understanding of the impact deep pressure sensory input may have on sustained attention.

8:00 AM Investigating the Connection Between Creativity and Synesthesia # 75

Presenter: Jennifer Heimbach Mentors: Dr. Catherine Lemley, Dr. Jean Pretz

Synesthesia is a condition where one sensory experience triggers another sensory experience involuntarily. For example, someone who is looking at letters may also see colors adhering to or appearing as mist in front of those letters, or someone who hears music may see shapes of different colors for every note in the song. People who have synesthesia are more likely to be involved in jobs and activities that require creativity (e.g. painter, musician) than non-synesthetes, so there is strong interest to study the link between creativity and synesthesia. Existing studies on synesthesia and creativity have caused controversy because of discrepant findings. Some studies find that synesthetes perform better on creativity tasks, while others find that synesthetes perform the similarly to controls. The goal of this study was to employ a more complete battery of tasks in order to understand which aspects of creativity might be related to synesthesia. Twelve control participants and five synesthete participants completed a Remote Associates Test, insight problems, two divergent thinking tasks, and a creativity questionnaire. Synesthetes performed significantly better than controls on solving insight problems, but did not perform significantly better on any of the other creativity measures used in this study. Possible explanations of why synesthetes only performed significantly better on insight problems will be discussed.

8:00 AM CISP Proposal: “The Role of Synesthesia in Cognitive Function” # 76

Presenters: Amanda Kowalsky, Jenn Heimbach, Nevin Brown Mentor: Dr. Catherine Lemley

We are conducting an interdisciplinary line of research supported by a CISP grant to use fMRI, behavioral, and neuropsychological testing to investigate the role of synesthesia in cognitive function along with its implications for brain plasticity (response properties of neurons shaped by experience) and rehabilitation. Synesthesia is a variation of normal perception in which the stimulation of one perceptive modality involuntarily leads to co-activation of another modality that is typically not activated by that stimulus in others. For instance, in an individual with sound-color synesthesia, stimulation of the auditory center of the brain also activates parts of the visual cortex responsible for color processing. Although there has been a recent surge of basic research investigating various aspects of the synesthesia, little research has been directed toward possible applications that might arise from this knowledge. Synesthesia may serve as a model of altered neuronal function and connectivity leading to new experiences and at times functional gain in specific domains. Because there is some evidence that synesthesia may be acquired, it may be possible to learn how synesthesia can be achieved and whether similar techniques can be used to activate neuronal pathways within the normally existing neuronal architecture of the brain. This may theoretically allow researchers to tap into existing alternative neuronal pathways or to establish new ones in order to replace function that has been lost by brain injury. Preliminary fMRI, behavioral, and neuropsychological findings will be presented.

8:00 AM Synesthesia and Mental Imagery: An Emotional Connection?

77

Presenter: Amanda Kowalsky

Mentor: Dr. Catherine Lemley

The purpose of this study is to examine the relationship between mental imagery and synesthesia by investigating the shared emotional component between the two. Mental imagery is the mental representation of stimuli when stimuli are not physically present. Synesthesia is a relatively rare condition in which the stimulation of one sensory modality involuntarily activates the same or another sensory modality. Some researchers believe that synesthesia is a unique form of mental imagery. Previous research has shown that using mental imagery to imagine unpleasant events raises anxiety levels more than simply reading the a description of the event. Furthermore, research has shown that synesthetes have more vivid mental imagery. Although synesthesia and mental imagery have an emotional component, no study has been completed investigating this relationship. The current study seeks to compare emotionality in synesthetes and controls. Baseline levels of anxiety were compared to state measures of anxiety after synesthetes and controls completed an emotional mental imagery task. The mental imagery task required participants to imagine unpleasant events. Anxiety levels were assessed by the State Trait Anxiety Inventory (STAI), a self-report assessment measuring both state and trait anxiety. State anxiety refers to a temporary state of anxiety, whereas trait anxiety is relatively stable and results due to individual differences in anxiety. Mental imagery ability was assessed using the Object-Spatial Imagery Questionnaire (OSIQ). It was predicted that in comparison to controls synesthetes would have greater mental imagery abilities and, in addition, report higher levels of anxiety after completing the mental imagery task.

8:00 AM Are a Person-Color Synethete’s Colors Related to Personality?

78

Presenters: Amanda Kowalsky, Jennifer Heimbach

Mentor: Dr. Catherine Lemley

Synesthesia is an involuntary perceptual experience in which the stimulation of one sensory modality involuntarily triggers a concurrent perception in the same or another modality. It can occur among any of the senses: For example, synesthetes may hear sounds in response to smell, or see colors when they hear words. Here we report a rare case of a synesthete, DR, for whom the sight of people triggers colored ‘auras.’ DR reports that her synesthetic colors have a direct correlation to her perception of, and relationship to, the person. Moreover, she maintains that there is a relationship between her synesthetic colors and personalities. In order to learn more about this rare form of synesthesia, we designed an experiment to investigate the relationship between DR’s synesthetic colors and personality traits. Although the literature regarding synesthesia contains references to individuals with person-color synesthesia, there have been no empirical studies investigating this form of synesthesia. To advance our knowledge of the cognitive mechanisms underlying person-color synesthesia, we sought to determine the following: Whether DR’s synesthetic colors were modified by experience and if there is a relationship between her synesthetic colors and personality traits. DR completed personality inventories and provided descriptions of her synesthetic colors based upon her first, second (two weeks later), and third (6 months later) impressions of 12 undergraduate students that were unknown to DR. The 12 undergraduates also completed the personality inventory on the three occasions. Comparisons between DR’s ratings and student self-ratings suggest that experience plays a role in this form of synesthesia.

8:00 AM Exposure Effects for Attractive Faces: Focal Attention is Necessary

79

Presenters: Ruohui Zhang, Caitlin Carroll

Mentor: Dr. Catherine Lemley

The mere exposure effect (MEE) describes a phenomenon where previously viewed stimuli are rated more favorably than new ones. Previous research indicates that focal attention is necessary to produce a mere exposure effect (MEE) for average-looking faces. Additional research suggests that attractive faces presented peripherally may pull attention from competing tasks. The current experiment was conducted to determine whether or not focal attention was necessary for attractive faces to produce a MEE. Eighty-eight students from Elizabethtown College completed a computer task where they focused their attention centrally on a “T” target, centered among eight crosses. Participants identified if the “T” was either upright or inverted. While they were engaged in this focal task, attractive and unattractive pictures of faces were individually flashed either to the left or right of the target (peripherally). Next participants provided liking or familiarity ratings of eight previously-seen faces, and eight novel faces. An ANOVA was conducted and revealed a significant difference in liking rating across the four conditions (attractive vs. unattractive; exposed vs. new), and no difference in familiarity ratings across the four conditions. Both the average reaction time and the accuracy rate were similar for attractive faces and unattractive faces. The findings demonstrated that focal attention is required to produce MEEs for attractive as well as unattractive faces. The degree to which these patterns extend to other types of visual stimuli remains unexplored.

8:00 AM Mental Imagery in Attention Deficit Disorder/Attention Deficit Hyperactivity Disorder and Posttraumatic Stress Disorder

80

Presenter: Meghan Jones

Mentor: Dr. Catherine Lemley

Kosslyn's (2005) theory of reflective thinking suggests that all reflective thinking involves mental imagery, and that it is only through this process that information is able to be encoded verbally. However, Attention Deficit Disorder/Attention Deficit Hyperactivity Disorder (ADD/ADHD) may interfere with reflective thinking in that individuals may not sufficiently attend to the mental imagery to establish a strong verbal database. Not only could this lead to a heavier reliance on mental imagery, it may also play a role in the memory of traumatic experiences. One of the most intrusive symptoms of Posttraumatic Stress Disorder (PTSD) is flashbacks, vivid and emotional mental images that interrupt one's life. A heavier reliance on mental imagery may make an individual more susceptible to traumatic flashbacks and PTSD. Here we examined mental imagery, traumatic experience, and PTSD symptomology in relation to ADD/ADHD. Participants completed the Object-Spatial Imagery Questionnaire (OSIQ; Blajenkova, Koszhenikov, & Motes, 2006), the Auditory Imagery Scale (AIS, Gissurarson, 1992), the Sexual Experiences Survey-Revised (SES-R; Koss & Oros, 1982), the Dissociative Experiences Scale (DES; Carlson & Putnam, 1986), the Psychosocial Distress Scale (PDS; Henry, Heilbronner, Mittenberg, Enders, Stevens, Ducks, 2011) and the Trauma Symptom Checklist (TSC-40; Briere & Runtz, 1989) and reported diagnosis and treatment of ADD/ADHD.

8:00 AM Feature Focused Bias in Change Blindness for North American College Students

81

Presenter: Rebecca Dowling

Mentor: Dr. Catherine Lemley

Cultural differences exist in visual perception, specifically in patterns of attention when attending to visual stimuli. Previous research indicates that European-Americans engage in feature focused perception, attending to salient focal objects while ignoring contextual information. While, East Asians engage in holistic perception, attending to focal objects as well as the context in which the objects are embedded. The goals of this study are twofold. Study 1 examined the perceptual inference habits of twenty-nine Elizabethtown College students with a change blindness task. Detection rates of focal versus contextual changes indicated the student's inference habits. Results indicate that North American college students show a significant bias towards perception of focal object changes. Cultural differences in visual perception may be related to long standing intellectual differences which contribute to the societal values of a culture. Westerns cultures are often categorized as individualistic, emphasizing the individual and self-reliance. Eastern cultures are categorized as collectivist, placing the emphasis on interdependence and the importance of cohesion. Study 2 examined the influence of social context on visual perception. Participants were primed with either independent or interdependent mind-set with a brainstorming task. In the independent condition participants were asked to write "I am" statements. Participants in the interdependent condition were asked to use collective pronouns and write about their family. All participants then completed an additional change blindness task. Future research will extend upon the limitations of current research and explore cultures that do not easily fit the confines of east or west.

8:00 AM The Relationship between Musicians' Practice and Rumination and Depression

82

Presenter: Meghan Jones

Mentor: Dr. Michael Roy

Musical creativity has been associated with both rumination and depression (Akinola & Mendes, 2008; Jamison, 1993). Although rumination has typically been linked with maladaptive consequences (such as depression), researchers have recently explored benefits. For example, rumination is associated with enhanced performance on goal-maintenance tasks (Altamirano, Miyake, & Whitmer, 2010). It is possible that rumination may also be beneficial for musicians because the repetitive thought patterns in rumination may facilitate the repetitive practice involved in mastering an elaborate piece of music. In terms of negative consequences of rumination in musicians, the content and type of rumination may be critical. Watkins (2008) found that repetitive thought was unconstructive with a high level of construal (abstract) but could be constructive with a low level of construal (concrete). Treynor, Gonzalez, & Nolen-Hoeksema (2003) identified two distinct types of rumination: reflection and brooding. Brooding rumination involves pondering about one's distress, negative mood, and current state compared to some unachieved standard. Reflective rumination involves a more purposeful effort to understand the causes of one's distress. Here we examined musician's thoughts about practice in relation to rumination and depression. Thirty-two undergraduate musicians completed the Ruminative Response Scale (RRS, Treynor, Gonzalez & Nolen-Hoeksema, 2003), the Center for Epidemiologic Studies Depression Scale (CES-D, Radloff, 1977), and a questionnaire that we created to measure construal level as related to music practice. Abstract, but not concrete, thoughts during practice were significantly correlated with depression symptoms and brooding, but not reflective, rumination.

8:00 AM Effect of a Music Intervention in South Africa on Students' Outlook # 83

Presenter: Erika Schnarrs Mentor: Dr. Michael Roy

In the spring of 2009, we started a fully functional concert band program at a high school in KwaZulu-Natal, South Africa. In the fall of 2011, we returned to the school to measure the impact of the music intervention on the students' attitude and outlook. During our initial and return visits, we measured feelings of self-esteem, optimism, positive and negative affect, motivation to avoid losses and motivation to seek gains. We compared participants in our music intervention group to a control group of students at the school who were not part of the music program. At the second testing there were 20 of the original students remaining in the concert band and 11 of the original students in the control group. In the two and a half year period, all students (music intervention and control) experienced an increase in self-esteem and in motivation to avoid losses. Specific to our interests, the band members, and not members of the control group, showed increased levels of optimism and motivation to seek gains as a result of the intervention. There was no change in either group during the period in either positive or negative affect. The music intervention appears to have improved certain aspects of attitude and outlook for participants in the program: students in the band were more likely to be motivated to seek gains in life and also more likely to have an optimistic attitude as a result of the program.

8:00 AM Memory, Engagement and Bias in Remembered Duration # 84

Presenters: Mary Settle, Michael Roy, Meghan Jones, Erika Shnarrs Mentor: Dr. Michael Roy

People are often wrong in estimating previous task duration (Roy, Christenfeld, & McKenzie, 2005). Implications of involvement in a task, such as self-concept and self-esteem, could be a cause for bias (Mead, 1959). Alternatively, bias may also be due to the amount of information about the task that is stored in memory (Ornstein, 1969; Block & Reed, 1978). In this experiment, we examined the role of motivation and engagement with a task by comparing the bias of an actor with that of a present observer and also with the bias of an actor participating alone. To understand the influence of memory storage size on bias, the relationship between the number of ideas remembered from a speech about why it is important to go to college and the bias in remembered time estimation was examined. Results indicate that memory size is more important than motivation or involvement in estimation bias. Actors and observers did not differ in level of reported engagement. Actors giving the speech to an observer were also less likely to overestimate duration than were actors giving the speech alone. For actors overall, bias in estimation was related to their memories for number of concepts covered with more concepts leading to increased overestimation. However, bias was not related to level of engagement for the actors. Overall, it appears that bias in memory for previous task duration is more likely tied to the amount of remembered components than it is to how involved the person was with the task.

FAPA Posters Masters Atrium

8:00 AM Music Therapy and the Neurobiology of Alzheimer's Disease # 86

Presenter: Elizabeth Shea Mentors: Dr. Gene Behrens, Dr. Aaron Cecala

The purpose of this study is to examine the neurobiological components of Alzheimer's Disease and how music therapists apply this knowledge to develop effective treatments. Although current neurobiological research documents the physiological changes that occur in the brain as Alzheimer's progresses, there is limited application within music therapy literature. This study examines a) the current neurological research and theories of the disease and b) music therapists' understanding and application of research when working with this population. Following an extensive review of the neurobiological and music therapy literature related to Alzheimer's Disease, a survey was constructed and administered to determine how music therapists work with this population and their current level of knowledge of the neurobiology of Alzheimer's Disease. The results will provide focuses for future research and publications. This presentation will include a summary of the literature on the neurobiological aspects of Alzheimer's Disease and the use of music therapy with this population, the results of the survey, and recommendations for the development of a neurobiological, research-based protocol for treating clients diagnosed with Alzheimer's Disease.

8:00 AM The Influence of Tempo, Dynamics, and Modality on Listener Perception of Emotion Within Short Digital Music Selections # 87

Presenters: Sarah Biedka, Erin Burg Mentor: Dr. Gene Behrens

This study investigated whether the manipulation of various combined music components would result in melodies that were better perceived as anxious, sad, or angry. Music components included all possible combinations of three dynamic levels (soft, moderate, loud), three tempo levels (slow, moderate, fast), and two modes (major, minor). One 30-second melody was digitally composed and adjusted for all possible combinations of the music components to create 18 music selections. The 37 undergraduate participants were randomly assigned to one of the six randomized variations of the electronic test form. Participants listened to the music selections and rated the emotional content as anxious, sad, and angry using a 4-point scale (1=does not express to 4=does express). Results from a 3x18 within-subject ANOVA evaluated at $\alpha = .05$ indicated significance for the interaction effect of emotion and music components, $F(17.62, 634.27) = 15.73, p = .000, \text{Partial } \eta^2 = .30$. To identify where the significant differences existed, follow-up dependent t-tests were conducted and evaluated at a Familywise alpha level of .05. In that the highest mean ratings indicated which combinations were perceived as best expressing an emotion, only those differences are discussed. A pattern of significant differences (p ranging .000 to .009) for the highest means suggested: (a) fast tempo was a key component for identifying anxious, (b) slow tempos and minor modality were key components for identifying sad, and (c) loud and minor components were important for identifying angry. These results indicated that isolated music components may be important when distinguishing emotional content in music.

Session I: 8:00 – 9:15 a.m.**Tuesday****8:00 AM How Tempo, Dynamics, and Modality Influence Listener's Perception of Emotion Within Short Acoustical Music Selections # 88**

Presenter: Sarah Biedka

Mentor: Dr. Gene Behrens

The purpose of the study is to replicate a previous investigation of the combined effect of tempo (slow, moderate, fast), modality (major, minor), and dynamics (soft, moderate, loud) on listener's ability to identify anxiety, anger, and sad in short selections of music (Biedka & Burg, 2011). Changes will include the use of acoustic rather than digital instrumentation, two melodies, and additional participants. Subjects are being solicited from three colleges; each will be randomly assigned to one of six electronic test forms created using Jot Form. An emotionally-neutral minor and major melody will be improvised on piano and then each melody rewritten as its harmonic minor or relative major. The resulting four melodies will be performed on piano at three tempos, and the dynamics will be manipulated using Audacity. Participants will listen to and rate the perceived anxiety, anger, and sad emotional content of the 20-second music selections using a 4-point Likert scale. A 3x18 within-subject ANOVA will be used to test the hypothesis at $\alpha = .05$. If the interaction for music components and emotions is significant, dependent t -tests will be conducted to identify where the patterns of significant difference exist. The results will be used to discover which music components aid listeners in identifying anxiety, sad, and angry in the music. Results will be discussed during the presentation.

8:00 AM How Tempo, Dynamics, and Modality Influence Listener's Perception of Emotion Within Short Acoustical Music Selections # 89

Presenter: Sarah Biedka

Mentor: Dr. Gene Behrens

See abstract #88

8:00 AM The Influence of Tempo, Dynamics, and Modality on Listener's Perception of Emotion within Short Digital Music Selections # 90

Presenters: Erin Burg, Sarah Biedka

Mentor: Dr. Gene Behrens

This study investigated whether the manipulation of various combined music components would result in melodies that were better perceived as anxious, sad, or angry. Music components included all possible combinations of three dynamic levels (soft, moderate, loud), three tempo levels (slow, moderate, fast), and two modes (major, minor). One 30-second melody was digitally composed and adjusted for all possible combinations of the music components to create 18 music selections. The 37 undergraduate participants were randomly assigned to one of the six randomized variations of the electronic test form. Participants listened to the music selections and rated the emotional content as anxious, sad, and angry using a 4-point scale (1=does not express to 4=does express). Results from a 3x18 within-subject ANOVA evaluated at $\alpha = .05$ indicated significance for the interaction effect of emotion and music components, $F(17.62, 634.27) = 15.73, p = .000, \text{Partial } \eta^2 = .30$. To identify where the significant differences existed, follow-up dependent t -tests were conducted and evaluated at a *Familywise alpha level* of .05. In that the highest mean ratings indicated which combinations were perceived as best expressing an emotion, only those differences are discussed. A pattern of significant differences (p ranging .000 to .009) for the highest means suggested: (a) fast tempo was a key component for identifying anxious, (b) slow tempos and minor modality were key components for identifying sad, and (c) loud and minor components were important for identifying angry. These results indicated that isolated music components may be important when distinguishing emotional content in music.

8:00 AM Effect of Music Stories on Short-Term Memory in Typically Developing Preschoolers # 91

Presenters: Melissa Gerner, Elizabeth Shea, Pauline Jarvie

Mentor: Dr. Gene Behrens

This study investigated whether sung or spoken presentations of a story would impact short-term memory of typically developing preschoolers. Nineteen participants, 8 males and 11 females (mean age=4.0), were randomly assigned to sung or spoken groups. Phase one involved presenting an original story, which was spoken or sung with accompaniment written by the researchers. Phase two occurred one hour later. Students' memory was individually tested using nine short questions drawn from the story. Responses for each item were scored on a 3-point scale: 0=totally incorrect, 1=partially correct, and 2=totally correct. A total score out of 18 was calculated for each student by adding the item scores. The difference between total scores for the music ($M=5.00$) and spoken ($M=7.67$) groups was evaluated using an independent t -test at $\alpha = .05$. The results indicated no significant difference between mean total scores for the groups, $t(17) = -1.61, p = .127$. A strong effect size, Cohen's $d = .74$, indicated that if more participants were involved, the spoken group may have significantly scored higher than the sung group. Two post hoc analyses were conducted and the results indicated: (a) no significant differences between total scores for females ($M = 5.55$) and males ($M = 7.25$), $t(17) = -.972, p = .345$; and (b) significant differences were found based on difficulty of questions, easy ($M = .37$), moderate ($M = .97$), and hard ($M = .54$), $F(2, 36) = 10.66, p = .000, \text{Partial } \eta^2 = .37$. Significance was found between scores on easy compared to moderate questions, $p = .001$, and moderate compared to hard questions, $p = .005$. Overall results imply that music may be distracting for typically developing preschoolers.

8:00 AM

World Musics Research

95

Presenters: Pauline Jarvie, Elizabeth Shea, Alyson Thorp, David Ebsworth, Laura Farnish, Maddy Jackson, Emily Levine, Lindsey Zearfoss Mentor: Dr. Kevin Shorner-Johnson

Students within the world musics course are tasked to do qualitative research with individuals on their lived experience as it relates to music. Presentations in this session will include Jackie Evancho: From YouTube to the Stage (Laura Farnish), The Youtube Music Movement (Pauline Jarvie), Examining Music within Roman Catholic Culture (Alyson Thorp), Exploring Music within Jewish Culture (Emily Levine), Seattle Sound Wave: The Culture of Music within an American Soccer Team (David Ebsworth), The Transmission of Music within the Elizabethtown UCC Church (Maddy Jackson), Stephen Gunzenhauser and the Culture of the Lancaster Symphony Orchestra (Liz Shea), and Musical Experiences of Native Bosnians in York (Lindsey Zearfoss).

Modern Languages Presentations H-107

9:30 AM Expanding Language Learning and Teaching Horizons via College-Community Collaboration # 100

Presenter: Shannon Brown Mentor: Dr. Charla Lorenzen

This presentation shares an Elizabethtown College Spanish Education student's experience teaching in a foreign language enrichment program that expands language learning opportunities in the local community and engages pre-service language teachers in sustained, supported teaching and reflective experiences.

9:45 AM English as a Survival Skill: Learning the Language to Survive and Thrive in an English Dominated World # 101

Presenter: Allyson Wells Mentor: Dr. Charla Lorenzen

Known as the “Land of Opportunity,” the United States provides a plethora of avenues for those looking to succeed; however, only for those fortunate enough to have mastered the English language. Many argue the fact that those living in the United States should have to know English as a prerequisite to entering the country, but it is not that simple. A myriad of situations can bring an individual to this country without knowing the language, but more importantly, it is impossible for these individuals to learn English without the proper resources. Without said resources, non-English speakers become lost in the crowd. Learning English becomes synonymous with learning any other survival skill; it becomes a necessity. To aid these individuals, I created a database of resources of options in the Elizabethtown Area to be utilized at their convenience. Through personal experiences working with those in need, I have developed a passion for helping Spanish-speaking individuals gain their independence via improving their English abilities. My research has been bolstered by face-to-face interviews, translations, peer-reviewed articles, and investigating what is already present in the Elizabethtown area for these individuals. One of the most important aspects of my research is to identify resources not available to those in need, as well as introduce individuals to resources currently not being utilized. Not only will this research help Spanish-speaking individuals expand their venues to practice English, but further increase their independence in an English dominated society.

10:00 AM Looking at Occupational Therapy in Latin-American Countries # 102

Presenter: Brittani Nelson Mentor: Dr. Charla Lorenzen

The purpose of this study is to gain a better understanding of occupational therapy in Latin-American countries. In this study I will look at the history, education, and current practice of Occupational Therapy in these countries. This research will also provide some insight into practicing occupational therapy in the United States with clients who are from Latin America.

10:15 AM Learning Together: The Linguistic, Cultural, and Disciplinary Border Crossings of an Occupational Therapy / Foreign Language Education Collaboration # 103

Presenters: Brittani Nelson, Allyson Wells Mentors: Dr. Charla Lorenzen, Dr. Tamera Humbert

Elizabethtown College students of Spanish and Occupational Therapy, under the guidance of their professors, have engaged in the translation, coding, and thematic analysis of interviews with Spanish-speaking immigrants to the U.S. on occupational issues. The initial findings regarding the challenges and rewards of cross-cultural, interdisciplinary research involving non-native speakers will be presented at this session.

Education Portfolio Presentations H-110

9:30 AM A Framework for Teaching: Professional Portfolios for Educators # 105

Presenters: Allison Oberg, Lauryn Krissinger, Kathleen Kasun, Alyson Schimpf, Jayci Scannaieco, Lorin Mellinger, Rebecca Page, Audra Byerly Mentors: Dr. Kathleen Blouch

Pre-service teachers seeking certification in Elementary, Special, and Secondary Education in the state of Pennsylvania will present their electronic professional portfolios showcasing best practices in the four domains of teaching responsibility: Planning and Preparation, the Classroom Environment, Instruction, and Professional Responsibilities. The portfolio signifies the capstone project of a student teacher's career at Elizabethtown College, accentuating achievements in coursework, field experience, pedagogy, and professional development.

10:10 AM A Framework for Teaching: Professional Portfolios for Educators # 106

Presenters: Alena Lerch, Danielle Moyer, Danielle Fishman, Ashley Huttenstine, Stephanie Crawford Mentors: Dr. Kathleen Blouch, Dr. Carroll Tyminski

See abstract # 105

Sociology and Anthropology Presentations H-211

9:30 AM What’s In It For Me: The Effects of Denomination and Religious Experiential Preference on an Individual’s Commitment to Organized Christian Religion # 110

Presenter: Lindsey Summers Mentor: Dr. Conrad Kanagy

Religion is a cultural universal, part of every society known to humankind. Human society is ever changing and, therefore, religion has changed along with it. In modern societies, each individual has the opportunity to be exposed to many different religions or versions of the same religion and then choose which one best suits them. This marketplace of religions has created competition and a power struggle for followers. Christianity, one of the world’s major religions, has also evolved into a marketplace composed of different denominations which continue to split from one another. When an individual selects a church they are able to do so from a multitude of Christian denominations resulting in competition between the denominations. Since there are many choices for an individual in terms of their religious preference, it is necessary to evaluate the variables which affect an individual’s commitment to Christian religion. As an individual is socialized into an institution they may either become more or less committed to that institution. The commitment level which an individual has to their religious institution will affect if they stay with their denomination or move to the next in the marketplace. This study will examine the effect of denomination, and religious experiential preference on an individual’s commitment to organized Christian religion.

9:45 AM Community, Harmony, and Humility: Core Values of Amish and Japanese Culture # 111

Presenter: Katherine McMahan Mentors: Dr. Donald Kraybill, Dr. Mahua Bhattacharya

The Amish and the Japanese are two societies that appear both physically and culturally far apart—however, similarities can be found in their core values. Using sources such as newspapers, journals, books, and my personal experience studying abroad in Japan, I found that both cultures value harmony, community, and humility. The Amish are united by their Anabaptist doctrine, which emphasizes sacrificing ambitions of the individual for the sake of the community. The Japanese, in contrast, find unification through their traditional Confucian sense of duty and living up to the expectations of others. The value behind harmony, community, and humility in these societies stem from different roots. Nevertheless, despite the erosion of modernity, these traditional values have remained prevalent in these two cultures.

Physics and Engineering Sustainable Engineering Symposium Gibble

9:30 AM Symposium Introductory Remarks
9:45 AM Solar Panel Sun Tracking # 120

Presenters: Elizabeth Starkey, Andrew Vanderpool, Mark Yorgey Mentor: Dr. Tomas Estrada

Solar panel sun tracking is used in many Photo Voltaic systems and implemented in several different ways. After researching the methodology and efficiency of existing one-axis and two-axis tracking systems, we proposed our own method of sun tracking. Our system employs a hybrid method of tracking, in which the elevation angle of the panel tracks throughout the year using chronological values and the horizontal angle tracks throughout the day using active tracking. Utilizing Phoenix Contact equipment, we implemented our system and intend to show how our hybrid tracking method is an efficient method of dual axis tracking.

10:00 AM Solar Panel Cooling # 121

Presenters: Matthew Rice, Sean Sheehan Mentor: Dr. Sara Atwood

It is well known that temperature affects solar panel efficiency. At higher temperatures, the panels are less efficient. To control the temperature of a panel and increase its efficiency, some type of cooling system needs to be used. The goal of our project was to test the concept of a proposed cooling method. The proposed method was chosen from evaporative cooling, heat pipes, and having a six inch clearance to allow for convection. We determined the best method to be evaporative cooling and developed a design of this type of cooling system. Four experiments were determined to test each component and the system as a whole. During the experiments, we recorded data on current, voltage, and temperature. From this data, calculations of power, efficiency, annual savings, and time to pay back were made. A conclusion on the feasibility of this type of cooling method was made from these results.

Session II: 9:30 – 10:45 a.m.**Tuesday****10:15 AM SunPlug: Plugging into the Sun****# 125**

Presenters: Garrett Koep, Andrew Vanderpool

Mentor: Dr. Tomas Estrada

Electric cars are back! They have made their way into the lineups of major US auto makers and are slowly making their way into our homes. This push for electric cars is part of an even bigger green, energy movement around the world. However, how “green” can an electric car be if the energy used is coming from a coal power plant? The SunPlug Project addresses that problem and assures the driver of that they lug-in” to is coming from a renewable and sustainable energy source; the Sun. Phoenix Contact has partnered with Elizabethtown College to install a solar powered, electric car charging station at both the Elizabethtown College Campus and the Phoenix Contact campus. The SunPlug Project has been awarded about \$60,000 by the PA Department of Environmental Protection (DEP) as part of their Alternative Fuels Incentive Grant (AFIG) program. In addition, Phoenix Contact has pledged a matching \$80,000 for the project. Although both projects have the same goal, to charge an electric car from a renewable source, they each go about achieving that goal in a different way. The charging station located on the Elizabethtown College Campus will consist of 40 state-of-the-art solar panels, each using its own micro-inverter, resulting in 9.6kW of energy and be connected to the grid. The autonomous charging station located in a single parking lot on the Phoenix Contact Campus will consist of 12 high efficiency panels, battery backup, and a centralized inverter creating 2.8kW. Despite the design differences between each station, both will allow the driver of the EV to “Plug-in to the Sun”.

Modern Languages Anime to Zen Panel (continued) BLR**9:30 AM The Future of the Japanese Automotive Industry in Japan, Asia, and the World # 125**

Presenter: Joseph Shute

Mentor: Dr. Mahua Bhattacharya

Given the importance of cars in our everyday lives, the performance of the automotive industry affects consumers worldwide and has a crucial stake in the global economy. As industry leaders in quality, efficiency, and pricing, Japanese automakers contribute dramatically to the fate of the global automotive industry. Recent events such as the 2011 Tsunami damaged the supply chains and productive capabilities of Japanese automakers and caused speculators to consider the effects that these setbacks would have on the future of Japan’s industrial standing. The future of the Japanese automotive industry will be shaped by several industrial, economic, and cultural factors, as well as by the decisions of Japanese automakers and how they will ultimately respond to recent market pressures. This presentation will examine the historical core competencies that Japanese automakers have developed and how domestic and international factors, and the decisions of the companies, will affect their future performance in the global automotive industry.

9:45 AM Miyamoto Yuriko and ‘Kaze ni notte kuru Koropukkuru’ # 126

Presenter: Andrew Vanderpool

Mentor: Dr. Mahua Bhattacharya

The Japanese literary work “Kaze ni notte kuru koropukkuru” is a fictional work about a boy named Irenkatomu. He is a special character in the story, which is set in a small Ainu village. The Ainu are indigenous peoples of Japan and were treated very poorly by the rest of the Japanese people. This boy was chosen by the village to be a person of authority. The author of this work is Yuriko Miyamoto. She grew up in a wealthy family but always had sympathies for the lower classes. Later she became a proletarian writer and eventually went on to write about women’s rights. She later was also imprisoned for her communist views. Her works were victims of censorship because of her views. In my paper I will discuss the translation of the story and the meanings behind it. I will also relate the story to her life and views and how she perceived the world.

10:00 AM Japanese Fantasy Tale “Kino no Tabi” # 127

Presenter: Ryan Gartman

Mentor: Dr. Mahua Bhattacharya

Japanese people of all ages tend to have a voracious appetite for fantasy stories, even more than Americans. These stories are told in many mediums, some of which are uniquely Japanese (manga, Japanese-style anime, and video games, to some extent). The series of novels from which I’m translating a story, Kino no tabi (Kino’s Journey), has made it into several of these mediums. My thesis examines possible reasons, including culture, mythology, and societal pressures, that may explain the popularity of fantasy in Japan. The short story I am translating from Kino’s Journey will provide a useful example of Japanese fantasy and its influence on Japanese society.

10:15 AM Studio Ghibli’s Foray into Video Games: Ni no Kuni # 128

Presenter: Mallory Hendricks

Mentor: Dr. Mahua Bhattacharya

My project focuses on the most recent work of the animation company, Studio Ghibli. The work is a video game called Ni no Kuni (“Second World”) and is the first time that Ghibli has used this medium. I plan to discuss the history of the company, their breadth of work, and how they’ve impacted Japan and the rest of the world. Using the video game guide translation, gameplay, and external sources, I will discuss how Ni no Kuni furthers or hinders Studio Ghibli’s future vision. I will also discuss how it fits into their history and what the success or failure of the game could mean for the company’s future.

Session II: 9:30 – 10:45 a.m.**Tuesday****10:30 AM Japanese Influence on Western Art****# 129**

Presenter: Ellen Wilson

Mentor: Dr. Mahua Bhattacharya

Many believe that the western world heavily influenced Japan once the country opened its doors to the world in 1853, after more than two hundred years of isolationism. What is less known, however, is how much Japanese culture also influenced the West. The importation of Japanese art, especially woodblock prints, sparked a change in the art world starting with the Impressionists. This presentation examines the effect of Japanese art on Western art in the modern period, not only on painting, but also graphic art that includes modern animation.

Sociology and Anthropology Presentations H-212**9:30 AM Mennonite Education****# 130**

Presenter: Faith Walter

Mentor: Dr. Donald Kraybill

My presentation will focus on the topic of Mennonite Education. My research investigates the following research question: How does the type of school that Old Order Mennonite children attend impact their ability to practice nonconformity and resist modernity. This paper also investigates the reason why some Old Order Mennonite children attend public schools, while others attend private Mennonite schools. Using a variety of primary and secondary sources, including interviews with Old Order Mennonites, I provide evidence to support my thesis that Old Order Mennonite children who attend private Mennonite schools will be more resistant towards conformity and modernity than Old Order Mennonite children who attend public school. My analysis suggests that private Mennonite schools put more emphasis on the principles valued in Old Order Mennonite society than public schools do, and are more aligned with the society that these children live in.

9:45 AM Mennonite Clashes with the Car**# 131**

Presenter: Daniel Gresh

Mentor: Dr. Donald Kraybill

My presentation will focus on the topic of the automobile and its influence on Mennonite societies. The project investigates the following research question: Why have various Mennonite groups responded so differently to the automobile? Using an assortment of primary and secondary sources and insights from modernity theory on vehicles, I provide evidence to support my thesis that Old Order groups wish to preserve nonconformity and their close-knit communities, whereas progressive groups desire to advance into modern culture. My findings suggest that Mennonite groups welcome or reject the car depending on their religious ideologies. Old Order groups reject automobiles because they symbolize pride and fragment community life. Progressive groups by comparison allow cars because these churches are more open to modern ways. I found that the automobile provides a crucial border between progressive and Old Order groups.

10:00 AM Special Education in the Amish Community**# 132**

Presenter: Emily Cirullo

Mentor: Dr. Donald Kraybill

My presentation will focus on the topic of special education and how the Amish handle children who need such education. My research explores the following research question: Is the Amish approach to children with special needs unique in modern society? Using a variety of primary and secondary sources such as personal accounts from Amish families with special needs, articles from an Amish special needs magazine, and insights on modernity from the education field, I provide evidence to support my thesis that the Amish use different but equally effective methods in the special education of their children. My research suggests the Amish provide extra support for children with a variety of needs similarly to the rest of society, but I found that their lack of technology and knowledge on many disorders also leaves the Amish unequipped to accommodate some students with special needs.

10:15 AM Photography in the Lives of Amish, Brethren, and Mennonites**# 133**

Presenter: Robert Graham

Mentor: Dr. Donald Kraybill

My presentation will focus on the topic of photography in the lives of the Amish, Brethren, and Mennonites. My research examines how each religious group addressed the issue of whether or not to accept photography as a part of their lifestyle. Using sources such as meeting , interviews and other readings, I will provide evidence to illustrate how each group responded to photography.

10:30 AM From A Cappella Unison Singing to Worship Bands: The Evolution of Brethren Music # 134

Presenter: Amy Wagner

Mentor: Dr. Donald Kraybill

My presentation will focus on the topic of Church of the Brethren music. My research tackles the question of why and in what ways the Church of the Brethren has modernized its views of vocal and instrumental music being used in worship and daily life. Using a variety of primary and secondary sources and insights from modernity theory on individuation, I provide evidence to support my argument that the change in style of music stemmed from the wave of individualism sweeping across the nation that caused younger members to seek out new kinds of music. My findings suggest that music changed to become a style more appealing to younger generations. Instruments were slowly allowed in homes and worship services, and hymnals were made that contained notes. Both had been forbidden decades earlier because of their connection to the outside world. I discovered that small allowances for instruments and vocal music were repeatedly made, so the boundary of what music was acceptable kept being pushed until it was no different from other protestant churches.

Religious Studies Presentations H-213

9:30 AM Methods of Hate: Similarities Between Native American and Jewish Persecution and Extermination # 135

Presenters: Crystal Greenawalt, Randy Burkholder, Jordon Godfrey, Jacob Teske
Mentor: Dr. Amy Milligan

This research paper compares the Native American genocide as it occurred to the first societies living in the Americas and the Holocaust as it was experienced by the Jewish people. The research specifically focuses on and compares the extermination methods used in each of these genocides as contrasted to the other, including a discussion of killing and persecution techniques. Seven main similarities exist between these two genocides: the creation of a master race by a leader, the singling out of a specific group of people from the larger community, the profound impact of Christianity, the use of death marches, the infliction of mass murder, the use of ghettos and mission houses, and the urge of the persecuted to fight back. In addition, current attitudes of the United States population toward the Native American genocide are examined and compared to contemporary attitudes toward the Holocaust.

9:45 AM Behind the Scenes: Establishing the Ideological Framework for Adolf Hitler’s Rise to Power # 136

Presenter: Allison Kinney
Mentors: Dr. Amy Milligan, Dr. Jeffery Long

In this thesis I will argue that Nazi ideology did not stem solely from the ideas of Adolf Hitler but rather from preexisting cultural aspects and mindsets leading up to Hitler’s rise to power. The conditions I identify as critical to the behind the scenes work for Hitler’s ideologies are the legacy of European anti-Semitism, the conditions of post WWI Germany, and the development of race ideology and genetics.

10:00 AM The Mauritius Miracle: An Examination of Genocide and Dictatorship in Island Nations # 137

Presenters: Jacob Teske, Randy Burkholder, Jordon Godfrey, Crystal Greenawalt
Mentor: Dr. Amy Milligan

The term “genocide” is typically used to mean the deliberate and systematic destruction of a racial, ethnic, religious or cultural group, in whole or in part. The historical examples that come to mind are events on an international scale, but these ideas can also help us to identify an emerging atmosphere that could possibly escalate into a genocidal environment. Small islands and archipelagos, for example, are often difficult places to support emerging nations. Although small communities may exist rather happily, the general lack of resources tends to cultivate a weak economy. From this steady downturn of poverty, civil strife and crime tend to rise, which in turn leads to a governmental body attempting to seize control, often violently through a dictatorship. This trend of small, relatively undeveloped nations facing oppression is not uncommon among the island nations of the world, but there is one notable exception that gives hope for the future: the small island Mauritius. It is my intention, through this presentation, to highlight the key causes of a genocidal atmosphere in small island countries and how the tiny island of Mauritius is an international miracle. I also emphasize the importance of examining Mauritius’ success is to the future successes of larger nations, who possess both the budget and will to emulate the astounding achievements of this humble island republic.

10:15 AM The Sudanese Struggle: A Brief History of Sudan and the Region’s Genocides

138

Presenters: Jordon Godfrey, Randy Burkholder, Crystal Greenwalt, Jacob Teske Mentor: Dr. Amy Milligan

The Republic of Sudan, located in northern Africa, shares its borders with Chad, Egypt, Ethiopia, and Libya. Including its two main populations of Arab and Black Africans, Sudan is the home to hundreds of tribes and is one of the most ethnically diverse countries in Africa. This diverse population of Sudanese residents, estimated by the most recent census at 41.1 million, has gone through a tumultuous history of governmental upheaval and violence. After attaining independence from Great Britain in 1956, the country plummeted through two civil wars and one of the most publicized genocides in the twenty-first century. In recent years the United Nations has passed resolutions and deployed aid workers in an attempt to achieve peace in Darfur. Arrest warrants for the Sudanese Minister and Janjaweed militia leaders have been issued in the hope of attaining justice for the atrocities. Throughout the five year Darfur conflict, it is estimated that over 300,000 people have been killed and over 2.7 million have been displaced. Although true justice can never be attained, those deemed responsible are being tried for their war crimes by the International Criminal Court.

10:30 AM The Psychology of Mass Violence And the Role of Propaganda in Its Perpetration

139

Presenters: Randy Burkholder, Jordan Godfrey, Crystall Greenawalt, Jacob Teske Mentor: Dr. Amy Milligan

This paper seeks to present genocide propaganda as an integral cog in the propagation and perpetration of genocide. To stage a successful genocide the génocidaires must have the cooperation of a majority of the civilian populous, and they must illicit from that majority the willingness to participate in mass violence against the population they seek to eliminate. Presented here-in is a case study of the propaganda of Germany under the authority of the National Socialist Workers (Nazi) Party against the German Jewish population, and that of Rwanda which led to the 1994 genocide against the Rwandan Tutsi population. The focus of this study will be on the research of Herbert Kelman, whose work laid out the necessary conditions which must be meant for a population to willingly participate in mass violence. Kelman cites three principal elements which lead to the weakening of moral constructs: authorization, routinization and dehumanization. Each of these three will be addressed independently with references and citation from the perpetration of both the Jewish Holocaust and Tutsi Genocide.

Business Presentations H-214

9:30 AM A Global Perspective on America's Wealth Disparity

140

Presenter: Patrick Doughty Mentor: Dr. Sanjay Paul

This proposal is for research I am conducting on wealth disparity in the United States. This topic has become very popular of late and is also quite significant. The focus of my work is looking at the economic causes and outcomes of high wealth disparity. I am exploring a possible link between the levels of wealth disparity and a country’s economic condition. My hypothesis is there is a link between a high wealth disparity and a declining economy. According to a report released last year by the CBO, the current levels of wealth disparity is very similar to that of the high wealth disparity just prior to the Great Depression and largely different from that of the Franklin D. Roosevelt Presidency and the New Deal era. Also from the preliminary research I have done, I believe we see a connection in wealth disparity and economic policy. I think a less progressive tax system, like the one created after the Bush Tax Cuts, for example, along with a decline of redistributive welfare programs cause wealth disparity to increase. Alternatively, this would mean by implementing a more progressive tax and increasing levels of redistributive policies, wealth disparity would decrease.

10:00 AM The Sarbanes-Oxley Act of 2002: Is it Worth It?

141

Presenter: Marc Weber Mentor: Ms. Terrie Riportella

Nearly ten years have passed since the enactment of the Sarbanes-Oxley Act. Many studies have been conducted on the benefits of SOX relative to its costs, but the question of whether the benefits are worth the costs still has not yet been answered. Every SOX cost-benefit study that has been conducted has yielded different results, and while the costs and benefits have been largely defined, each study interprets the costs and benefits differently. My study begins with an analysis of the costs and benefits resulting from the Sarbanes-Oxley Act, which is similar to analyses that have been previously conducted. What makes this study somewhat different is the realization that indirect costs, such as shifts in managerial risk taking, have an equal or greater impact on total compliance costs relative to direct costs of compliance. What also makes this study somewhat different is the realization that companies can establish a competitive advantage by thinking of SOX as a value creation exercise rather than a compliance exercise. Unfortunately, even this study cannot produce a clear answer. We will see that each company is affected by SOX differently depending on factors such as size in terms of market capitalization and the riskiness of operations. It is likely that nobody will ever know for sure if SOX is really worth its costs. Researchers are not placing as much emphasis on SOX studies because it has been nearly ten years since it was enacted and more emphasis is being placed on other contemporary business issues.

10:15 AM Kindling the Greek Financial Crisis

142

Presenter: Zach Mitchell

Mentor: Dr. Hossein Varamini

Capable of uprooting the foundations on which the European Union is based, the Greek financial crisis greatly influences the way the European Union conducts business, not only within its borders, but throughout the rest of the world as well. The crisis has already caused severe social unrest within Greece's borders as other European powers demand change within Greece's government, and the crisis continues to affect financial activities around the world. This study analyzes the relationship between certain key economic elements and the current economic crisis in Greece. Results of previous studies already associate certain economic variables with fueling economic crises. Other research also demonstrates the effect some economic factors have on inhibiting growth in developing countries. The intent of this study is to determine what economic variables played a role in determining Greece's current economic state. Preliminary analyses, through the use of multiple regression functions, show that multiple elements impacted the development of the crisis. Another purpose of this study is to link the factors associated with Greece's financial trouble with other countries that face similar drawbacks, such as Portugal. Further preliminary results indicate that the situations other countries face, like Portugal, are not necessarily due to the same economic factors affecting Greece. This study is important because it demonstrates that economic crises do not occur as a result of a few definitive factors, but rather from a wide variety of variables unique to individual countries.

Political Science Presentations H-215

9:30 AM When Will We Get it Right? : A Comparative Legal Analysis of the Health Care Systems in the United States and Denmark # 145

Presenter: Sarah Kittle

Mentor: Dr. Kyle Kopko

The United States does not currently have a universal health care system. Even though the Obama Administration is making an effort to help individuals without health care, the nation is not close to universal health care and is even currently in a debate about cutting government funds for Planned Parenthood, a service that is very important for low-income families. The United States should use Denmark as a model for universal health care, as their system is very successful, particularly with family planning and contraceptive use. This paper uses examples of Law in both Denmark and the United States to explain the differences in Health Care policies, explain the pros and cons of implementing universal health care in The United States, and ultimately concludes that The United States should adopt a universal health care system

9:45 AM Syria: a Repeated History or a New Phenomenon # 146

Presenter: Abdallah Ata

Mentors: Dr. E. Fletcher McClellan,
Dr. Oya Ozkanca

With the recent civil unrest and violence, Syria has become the focus of the International Community as people demand for their freedom. Throughout this research, Syria's history and their past struggles have been compared to the current turmoil. The research asked the question of whether this up-rising is different than that of 1982. What implication will this revolution and recent elections result in surrounding countries change regional dynamics? There has been many concern about whether the so called "Arab Spring" will turn into an "Arab Winter"

10:15 AM A New Beginning for the Elderly: Medicaid and Nursing Home Care # 147

Presenter: Paul Mackey

Mentors: Dr. Michael Pisapia,
Dr. W. Wesley McDonald

Using the federal Medicaid program as a context, this paper examines the engagement of the public and private sphere in nursing home care. Families, individuals, churches, charities, and other civil society organizations as well as local, state and federal government have played a role in supplying nursing home care to the elderly throughout the evolution of elder care from colonial poor houses to modern skilled nursing facilities. I develop a theory for a moral system of care for the elderly where private and public responsibility and resources merge to create a viable delivery mechanism, considering especially the impact of Medicaid. Underlying the moral argument for this type of healthcare system are three basic principles: maximizing freedom of individuals, maximizing the responsibility of family, along with assuring the welfare of other individuals of the community. This paper critiques the Medicaid model of public sphere support for nursing home care, arguing that Medicaid policy has thwarted the role of the private sphere, especially the family and civil society organizations, in supplying the long term care needs of the elderly. My theory holds that Medicaid has manipulated the long term care industry by existing as an entitlement program fostering a culture of dependency on public resources, a scenario in which individuals within the private sphere experience coercion, are limited in their voluntary actions, and lose freedom.

Biology	Posters	Masters Atrium
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9:30 AM	Carbon Sequestration by Trees on the Campus of Elizabethtown College, Pennsylvania	# 150
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Presenter: Autumn Phillips

Mentor: Dr. David Bowne

Carbon sequestration is the process of capturing carbon from the atmosphere and storing it for long periods of time in a carbon sink. Trees sequester carbon through the process of photosynthesis by taking carbon dioxide from the atmosphere and storing the carbon in its biomass. The purpose of this study was to measure the amount of carbon sequestered in the trees on the suburban campus of Elizabethtown College, PA. In the fall of 2011, we measured the diameter at breast height (DBH) for the 755 trees planted on campus. These trees represent 30 species. We are currently using species-specific allometric equations, obtained from the literature, to calculate the aboveground biomass of each tree and will then convert that value into mass of carbon. The ability of trees to remove carbon from the atmosphere and store it for a relatively long time could be environmentally beneficial in light of current elevated levels of carbon dioxide in the Earth's atmosphere and the resulting changes in climate. The results from this study will be used by Elizabethtown College to determine how much of its carbon emissions are currently sequestered by trees on its campus.

9:30 AM	Pre-Restoration Stream Data for Amphibian Populations at Big Spring Run, Lancaster County, PA.	# 151
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Presenters: Chelsea Payne, Samantha Hartzell

Mentor: Dr. David Bowne

In order to improve the ecosystem services provided by a stream in an agricultural landscape, a consortium of scientists, state and federal officials are conducting an experimental stream restoration project in which legacy sediments are removed. The intent is to return Big Spring Run, PA to a condition similar to that of pre-European settlement. Our study focuses on the pre-stream restoration status (spring/early summer 2011) of amphibian populations, specifically frogs and salamanders. To assess and identify the presence of frog species at Big Spring Run, frog call recordings were collected for 30 minute intervals at dusk and dawn during the spring and early summer months and are currently being analyzed using the program SongScope. Salamander data were collected using four capture techniques (litterbags, kick nets, dip nets, and manual capture) in four branches (Main, West, East, and Kennel) of Big Spring Run. Kennel Branch served as a control stream as it is not part of the restoration. Of the three salamander species identified, 97.3% were *Eurycea bislineata*. The dip net method yielded the most salamanders, but variation existed between the species caught and the capture method. Data collection following the removal of legacy sediment will be necessary to determine the impacts of the restoration on frog and salamander populations.

9:30 AM	A Comparison of Soil Respiration in Turf Grass and Agricultural Environments	# 152
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Presenter: Erin Johnson

Mentor: Dr. David Brown

Soil respiration is the process by which carbon dioxide is released from soil organisms into the atmosphere. Land use type and environmental factors such as soil moisture and temperature have been found in many studies to influence levels of soil respiration. Few studies have, however, examined differences in soil respiration between contrasting human-dominated land uses. In this study, we tested the hypothesis that soil respiration, as measured by CO₂ flux, would differ between agricultural and turf grass environments in Lancaster County, PA. We had eight study sites, four were residential lawns and four were corn fields. Soil respiration, temperature, and moisture were measured at two locations in each study site using the LI-8100 Automated Soil CO₂ Flux System once a week for ten weeks in fall of 2011. The data were then analyzed using a repeated measures GLM. Soil respiration occurring in turf grass environments was significantly higher ($F_{1,7}=7.46$, $p=0.034$) than the levels in corn fields, with means of 2.05 $\mu\text{mol CO}_2 \text{ m}^{-2} \text{ s}^{-1}$ and 1.23 $\mu\text{mol CO}_2 \text{ m}^{-2} \text{ s}^{-1}$, respectively. Rates of soil respiration significantly decreased over time in both land use types ($F_{9,37}=37.34$, $p<0.001$). Transitioning from agricultural land to developed areas such as housing developments could mean an increase in CO₂ production per unit area of converted agriculture. This has implications when considering land use change and the effect this has on the overall increase in worldwide emission of CO₂.

9:30 AM	Expression of the heat shock proteins mortalin and HSP70 in Hydra	# 153
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Presenter: Scott Douglas

Mentor: Dr. Diane Bridge

Members of the heat shock protein 70 (HSP70) family are important in maintaining normal protein folding, especially under conditions of environmental stress. They are also known to affect lifespan in organisms including fruit flies and nematodes. Members of the invertebrate genus *Hydra* show variation in lifespan. *Hydra vulgaris* does not show increased mortality with age, while *H. oligactis* does. *H. oligactis* also fails to increase levels of HSP70 proteins in response to stress. To investigate the possibility that differences in HSP70 protein regulation are involved in differences in lifespan between *Hydra* species, we are examining expression of the HSP70 genes mortalin and HSC70 in *H. vulgaris* and *H. oligactis*. In situ hybridization shows that mortalin is expressed in epithelial stem cells in both species. We are also in the process of producing an expression vector to use in producing transgenic *Hydra*. This will allow us to determine whether increased mortalin expression can extend the lifespan of *H. oligactis*.

9:30 AM Is FoxO Expressed in Interstitial Stem Cells in Hydra Vulgaris?

154

Presenter: Stephanie Gingrich

Mentor: Dr. Diane Bridge

In vertebrates, *Drosophila*, and *C. elegans*, FoxO transcription factors have been implicated in the regulation of aging, as well as in cellular stress responses, cell metabolism, and cell cycle control. Existing data suggest that aging does not occur in the simple invertebrate *Hydra vulgaris*. The multipotent interstitial stem cells of *Hydra* give rise to neurons and gametes as well as to stinging cells and secretory cells. Whole mount in situ hybridization suggests that *Hydra* FoxO may be expressed at high levels in the interstitial stem cells. To determine whether FoxO is expressed in interstitial stem cells, in differentiating cells derived from these stem cells, or in both, we have experimentally reduced numbers of interstitial stem cells and then performed two-color in situ hybridization using probes for FoxO and for a gene expressed in early stages of differentiation in interstitial lineage cells.

9:30 AM Creation of a GFP-T Antigen Fusion Protein Bearing the Rb- and p53-Binding Mutations to Address Fat Accumulation in Murine Stem Cells

155

Presenters: Kyle Lord, Viola Devine

Mentor: Dr. Jane Cavender

SV40 T-antigen (T-ag) is an oncoprotein that immortalizes cells in culture. T-antigen binds and sequesters retinoblastoma (pRb) and p53 host cell proteins, promoting growth and tumor formation. It has been shown that binding to pRb is necessary to block preadipocytes from differentiating into lipid accumulating fat cells; however, it is not clear if the binding and inactivation of p53 is necessary for this inhibition. Preliminary data showed that cells transfected with a plasmid that encoded a T-ag protein that could not bind to pRb, and contained a deletion of amino acids 437-450 in the p53-binding region, accumulated fatty acids under non-induced conditions. Since it could not be ascertained whether the cells were expressing the T antigen deletion mutant, the following study was designed. Site directed mutagenesis will be used to introduce the K1 mutation, (G105A) which abrogates Rb binding, into the GreenT plasmid, which encodes a T-ag:green fluorescent fusion protein. After sequencing to confirm the mutation, this plasmid will be used to remove the nucleotides that encode amino acids 437- 450 or 434-444, creating the Rb-, p53-binding double mutation in a fluorescently tagged T-ag. Murine 3T3-L1 pre-adipocyte cells will be transfected with the newly created plasmid and cells will be assessed for protein accumulation by visualization under UV light. Cells will be observed under differentiated and undifferentiated conditions for lipid accumulation. This research will determine whether the p53 binding region is solely responsible for the inhibition of differentiation, or works through an unknown activity in the C-terminal region.

9:30 AM The Effects of SV 40 Large Tumor Antigen Expression on 3T3-L1 Pre-Adipocyte Cell Differentiation

156

Presenters: Kevin Bloh Jr., Jordon Godfrey

Mentor: Dr. Jane Cavender

SV40 large tumor antigen (T-ag) is a 708 amino acid oncoprotein commonly used in cell line immortalization and for the study of tumorigenesis. Additionally, T-ag has been shown to block the differentiation of murine 3T3-L1 preadipocytes into mature fat cells. Previous studies show that the T-ag binding of the retinoblastoma gene product (pRb) is essential for the blockage of differentiation. pRb is essential for the activation of the C/EBP transcription factors. Interestingly, full length T-ag mutants that are incapable of binding pRb are still able to block differentiation; thus, indicating a second, undefined activity. This study was designed to map this unknown function and determine additional host proteins in the adipogenesis pathway that are targeted by T-ag. To accomplish this we have created 3T3-L1 cell lines expressing full length T1-708, N-terminally truncated T251-708, and several Rb-, p53-binding deficient T-ag double mutants. Currently, T-ag expression is being confirmed through PCR, immunofluorescence, and western blot analysis. Differentiation assays will then be performed and the cells will be assessed for fatty acid accumulation by Oil Red-O staining. Our goal is to use T-ag mutants with known functions ascribed to them, to narrow the possible activities of the protein involved in dis-regulating adipogenesis.

9:30 AM Mapping of the SV40 T antigen Binding Domain to TBP in Vivo

157

Presenters: Brian Frantz, Matthew Rimbey

Mentor: Dr. Jane Cavender

SV 40 T antigen (T-ag), a viral oncoprotein, is sufficient for transformation of mammalian cells in culture and can form tumors in animal models. T-ag has been shown to interact with the TATA-binding protein (TBP) to transactivate genes containing RNA Pol I, II, and III-dependent promoters. The T:TBP binding site has been mapped to amino acids T5-172 and T133-249 in *in vitro* GST-T-ag fusion protein studies. Our lab, has recently mapped the Pab 416 antibody epitope to residues 94 and 98 of T-ag and this study has been designed to determine if these residues are critical for the TBP:T-ag binding. To assess the binding *in vivo*, COS-1 (simian), 293T (human), and WT-19 (murine) cells, which all endogenously express wild type T-ag, were used for co-immunoprecipitation assays. To date we have found that full length T-ag is unable to immunoprecipitate TBP. To address this discrepancy, we have hypothesized that there may be conformational alterations in the fragments, or inhibitory post-secondary modification. To investigate the former, cell lines expressing N-terminal T-ag fragments T1-121, T1-250 and T1-138 are being analyzed for their ability to co-precipitate TBP. If binding occurs then this suggests a role for the 17K-T, independent of the full length protein.

9:30 AM An Arrayed Human Genomic Library Constructed In the PAC Shuttle Vector pJCPAC-Mam2 For Genome-Wide Association Studies and Gene Therapy # 158

Presenters: Megan Herriman, Laura Wingert, Jessica Manchak, Samantha Neidig Mentor: Dr. Jonathon Coren

The various iterations of the HapMap Project and many genome-wide association studies (GWAS) have identified hundreds of potential genes involved in monogenic and multifactorial traits. We constructed an arrayed 115,000-member human genomic library in the PAC shuttle vector pJCPAC-Mam2 that can be propagated in both bacterial and human cells. The library appears to represent a two-fold coverage of the human genome. Transient transfection of a p53-containing PAC clone into p53-null Saos-2 human osteosarcoma cells demonstrated that both p53 mRNA and protein were produced. Additionally, expression of the p53 protein triggered apoptosis in a subset of the Saos-2 cells. We then constructed a p53-GFP PAC clone, repeated the transfections and obtained similar results. This library should serve as a valuable resource to validate potential disease genes identified by GWAS in human cell lines and in animal models. Also, individual library members could potentially be used for gene therapy trials for a variety of recessive disorders.

9:30 AM Riparian Buffer Impacts and Stream Temperature Changes in a First Order Pennsylvania Stream # 159

Presenter: Chris Niles Mentor: Dr. Thomas Murray

The Riparian Buffer and Stream Temperature (RBAST) Project was established to compare the change in stream temperature along forested reaches with the change along open reaches at twelve sites across North America as part of the Ecological Research as Education Network. Temperature logging sensors were installed at paired open and forested sites, and the first phase of the project ran from June through October, 2011. We report the results from one of those sites, an unnamed tributary to Conewago Creek near Elizabethtown, PA. Throughout the study period, mean daily stream temperature was higher in the open reach compared to the forested reach. Contrary to expectations however, the range in mean daily stream temperature was higher in the forested reach, suggesting that variables beyond the canopy cover impact stream temperature. Local climatic conditions (air temperature, relative humidity and PAR) were also collected during the study but have not yet correlated with the water temperatures observed. The project is continuing through October, 2012 and it is anticipated that the long term, continent wide data set will provide more insight into the role of riparian buffers on change in stream temperature.

9:30 AM Relative Quantities of Bacterial DNA within the Probiotic VSL#3 # 160

Presenter: Elizabeth Michel Mentors: Dr. Debra Wohl, Dr. Diane Bridge

Probiotics are living bacterial cells that can alter the microbial composition of the gut, which results in health benefits for the host. VSL#3, a probiotic, contains eight different bacterial species of *Lactobacillus*, *Bifidobacterium*, and *Streptococcus*. The purpose of this project was to determine the relative concentrations of each bacterial species within the VSL#3 sachet. DNA from each of the species was extracted and used as a positive control to confirm functionality of the primer set and presence within the probiotic. In order to determine relative quantities of the eight different bacteria, each PCR reaction cycled 35 times with 1 microliter of VSL#3 DNA. The PCR products were run on agarose gels to determine the approximate size and brightness of the bands. The brightness of the bands was used to estimate the relative amounts of DNA within the VSL#3. Based on the band brightness, *L. acidophilus* and *S. thermophilus* were present in the highest concentrations. Although these bacteria may predominate within the probiotic, the other six species may be necessary to experience the full effectiveness of VSL#3.

9:30 AM Itching for Answers: Antibiotics Use During Delivery and Atopic Dermatitis # 161

Presenter: Liesl Sieber Mentor: Dr. Debra Wohl

Atopic dermatitis, also known as eczema, is a chronic inflammation of the skin. Currently, there are three explanations for eczema prevalence including genetic inheritance, the hygiene hypothesis, and the microflora hypothesis. This study examines the microflora hypothesis, which proposes that disrupted microbial colonization of the child results in one or more atopies (i.e., eczema, asthma, allergies). The purpose of the study was to determine if children exposed to intrapartum antibiotics were more likely to develop eczema than those who did not. The study is a retrospective cohort study in which data was collected regarding antibiotic exposure and early childhood health from the labor and delivery records of women who had vaginal deliveries as well as pediatric files. A total of 1944 women were invited and 436 of them participated in the study. Some women had multiple children who meet the study criteria, thus resulting in 448 mother-child pairs. There was no significant relationship between children that received intrapartum antibiotics and the development of eczema, allergies, or asthma. The determined relative risks for children who received intrapartum antibiotics and developed eczema, asthma, or allergies were 1.23, (p=0.21), 1.07 (p=0.70), and 1.09 (p=0.69), respectively. Because Group B Strep (GBS) can negatively impact newborns, mothers who test positive for GBS are routinely given intrapartum antibiotics. The relationship between GBS and eczema was also analyzed to determine relative risk and the results suggest no relationship. Further analyses aim to investigate comparisons between atopic dermatitis and birth order, familial history, environmental factors, ethnicity, and gender.

9:30 AM Determing Ampicillin Resistance of Enteric Bacteria in Forested, Agricultural, and Residential Habitats

162

Presenters: Brittany Daiutolo, Zachary Wendler

Mentor: Dr. Debra Wohl

Antibiotic resistance is a problem that has been plaguing the scientific community for years. Bacteria can develop a resistance to certain antibiotics when exposed to them, making them less susceptible to these antibiotics. One mechanism of antibiotic resistance in bacteria is the use of a beta-lactamase enzyme, which enables bacteria to break down the chemical structure of antibiotics, such as ampicillin, thus inhibiting their use. To determine antibiotic resistance to ampicillin in gram-negative enteric bacteria, three habitats will be sampled, including agricultural land, forested land, and residential land. We hypothesized that due to antibiotic use on crops and livestock, agricultural regions will phenotypically and genotypically display the largest amount of resistance. Soil samples will be obtained from each of these three sites, and gram-negative enteric bacteria will be cultured from them. Cultures will be used to determine ampicillin resistance both phenotypically, screening enteric bacterial growth in the presence of ampicillin, and genotypically. To determine genotype, we will extract bacterial DNA and use PCR and gel electrophoresis to determine the presence of the beta-lactamase resistance genes: CMY, SHV, and TEM. Based on these results, we will garner a greater understanding of how certain habitats impact antibiotic resistance to ampicillin of gram-negative enteric bacteria.

9:30 AM Analyzing the Ability of Antibiotic-Sensitive Bacteria to Acquire Ampicillin Resistance through Exposure to Cadmium # 163

Presenters: Melanie Sturm, Kira Blome

Mentors: Dr. Debra Wohl, Dr. David Bowne

Bacteria have the characteristic of rapid replication coupled with a relatively high mutation rate that allows populations to evolve quickly to hostile environments, such as those with high concentrations of heavy metals or awash in antibiotics. Selection for resistance to heavy metals may also enable bacteria to lose sensitivity to antibiotics. We tested the hypothesis that exposing gram-negative, antibiotic-sensitive bacteria to cadmium will select for resistance to ampicillin in the absence of exposure to ampicillin. Our preliminary results suggested that an antibiotic-sensitive bacterium when exposed to cadmium over time can develop ampicillin resistance. To follow-up on this, we inoculated antibiotic-sensitive bacteria in five CdCl₂ treatments (0, 0.004mM, 0.008mM, 0.016mM, 0.032mM) with five replicates of each based on the determined minimum inhibitory concentration (MIC). Every three days for 21 days bacteria were transferred to fresh nutrient broth and quantified by measuring density using a spectrophotometer. Cell density was also directly calculated for each treatment on days 0, 8, 15, and 21 by performing serial dilutions. On these days bacteria were tested for resistance to ampicillin. It was predicted that the levels of CdCl₂ that provided the strongest selective pressure would induce the greatest proportion of antibiotic resistance. A positive result would imply that resistances are co-selected and environmental pollutants can potentially degrade the effectiveness of medical treatments.

9:30 AM Decrease in CD8+ T cells Following Treatment of Mice with Exogenous Corticosterone # 164

Presenter: Elizabeth Bahr

Mentor: Dr. Jodi Yorty

Corticosterone (CORT) belongs to a family of steroid hormones known as the glucocorticoids. CORT is produced in vivo in response to physical and psychological stress and has immunosuppressive qualities. This study quantified the effects of exogenous CORT on CD8+ T cells in mice. CORT was administered in the drinking water of C57BL/6 mice for time intervals ranging from 12-120 hours. Following treatment spleens were harvested and processed, splenocytes were counted, and CD8+ T cells were quantified by flow cytometry. Spleens from mice treated with CORT were significantly smaller than untreated mice. A marked decline in CD8+ T cells, specifically those classified as CD44 high (activated), was observed. The loss of T cells was greater the longer the mice were treated with CORT. It is likely that CORT treatment induced apoptosis of the CD8+ T cells. Thus, the frequency of total and CD8+ T cells undergoing apoptosis was assessed by flow cytometry using annexin V and propidium iodide staining. Current and future studies will focus on the effect of CORT on an antigen-specific CD8+ T cell immune response.

Chemistry and Biochemistry Posters Masters Atrium

9:30 AM Towards the Development of an Economical and Effective Means to Measure Salivary Cortisol as a Clinical Indicator of Stress # 165

Presenter: Syeda Ahmad

Mentor: Dr. Thomas Hagan

This research arises as a collaborative effort between the Elizabethtown College department of Chemistry and Biochemistry and the Occupational Therapy department, centering around the steroid hormone, cortisol. Of particular interest, is the pediatric condition known as Sensory Processing Disorder (SPD), which involves symptomatic altered sense perception in patients and subsequently, chronic stress. The monitoring of cortisol levels provides a preliminary marker of SPD. Current cortisol sensing techniques, however, are expensive and complex. A simpler approach, involves utilizing the basic molecular structure of cortisol for quantification. An acidic assay may induce fluorescent properties of cortisol, allowing for the quantification of the steroid via fluorescence spectroscopy. This inexpensive and relatively simple assay is modified and utilized in this study to obtain reproducible, reliable results at eventually, physiologically relevant levels. Furthermore, the project delves into understanding the specific chemistry involved in the assay, characterizing fluorescent cortisol and developing a basis for alternate cortisol sensing methods.

9:30 AM Adaptable Sensing Approach Based on Rigidochromic and Solvatochromic Luminophores Embedded in Thin Hydrogel Films # 166

Presenters: Elaina Truax, Sarah Strohecker, Morgan Mckenney

Mentor: Dr. Kristi Kneas

Luminescence-based sensors have wide applicability in the pharmaceutical and food industries and for clinical and environmental applications. Results demonstrating the potential of a new class of sensitive and selective, luminescence-based sensors in the measurement of relative humidity, ethanol, lactate, and hydrogen gas are presented. The inductive sensing method exploits an environment-sensitive luminophore embedded in an analyte-responsive hydrogel. The solvatochromic fluorophore dapoxyl sulfonic acid responds to changes in polarity, and the rigidochromic transition metal complexes [Re(CO)₃Cl(sulf-dpp)] and [Os(bpy)₂(sulf-dpp)]²⁺ (bpy = bipyridine, sulf-dpp = sulfonated, 4,7-diphenyl-1,10-phenanthroline) respond to changes in the rigidity of their environment. As the hydrogel swells in response to changing analyte concentration, the concomitant changes in polarity and rigidity produce measurable changes in the emission wavelength, intensity, and/or anisotropy of the embedded luminophore. Significant advantages of the sensing approach include its low cost, versatility and ease of extension to a range of analytes in vapor phase or aqueous solution.

9:30 AM Synthesis and Characterization of Transitional Metal Complexes for Use in Luminescence-Based Sensors # 167

Presenters: Elizabeth Costello, Sarah Strohecker, Justin Warner

Mentor: Dr. Kristi Kneas

A new approach to luminescence-based sensing in vapor and aqueous phase has been developed in which an environment-sensitive luminophore is embedded in an analyte-responsive hydrogel. A solvatochromic fluorophore, dapoxyl sulfonic acid, showed promise in early sensing systems for measurement of humidity and alcohol, but it is limited by (1) poor photostability, (2) leaching when used in aqueous solution, and (3) emission at short wavelengths. Transition metal complexes (TMCs) exhibit improved properties for use in luminescence-based sensors, including long excited state lifetimes, excellent photostability, and rigidochromism. Sensitivity to rigidity of their local environment arises from the net dipoles and large hydrodynamic radii of the TMCs, and allows for calibration of sensors by measurement of emission intensity, wavelength, or anisotropy. Results are presented for several TMCs, including [Re(CO)₃Cl(dpp-sulf)], [Ru(bpy)₂(dpp-sulf)]Cl₂, and [Os(bpy)₂(dpp-sulf)]Cl₂ (bpy = bipyridine, dpp-sulf = sulfonated, 4,7-diphenyl-1,10-phenanthroline), which have been characterized in solutions of varying viscosity and in relative humidity sensors.

9:30 AM Synthesis of Dapoxyl Derivatives for Applications in Luminescence-Based Sensing # 168

Presenter: John Tellis

Mentors: Dr. James MacKay,
Dr. Kristi Kneas

Fluorescence sensing methods are invaluable tools for chemical, biological, and industrial analyses. Accordingly, fluorescent probes have been utilized in the study of automobile aerodynamic properties, cellular fluid dynamics, and antioxidant levels in foods, among others. These methods are generally more sensitive and selective than other chemical sensing methods and can be produced at low cost. The Dapoxyl family of fluorescent dyes are ideally suited for applications in luminescence-based sensing, and have been utilized successfully in the development of relative humidity sensors. The electronic properties of Dapoxyl dyes result in environment-sensitivity surpassing other commercially available luminophores. Specifically, a dramatic shift in emission wavelength is observed upon variation of solvent polarity. However, the inability to covalently link the sensor molecule to other species hinders the progress of sensing method development. Accordingly, a derivative of the Dapoxyl dye is envisioned that can be synthesized from readily available starting materials and is easily functionalized to afford covalent attachment to a hydrogel. The proposed convergent synthesis will make use of a copper catalyzed reaction which yields the chemical core of the derivative. The proposed synthesis is highly versatile, in that functionalization occurs in the final transformation. Reported here are the proof of principle of the sensing strategy, progress toward synthesis of the luminophore, and broader implications in the development of luminescence-based sensing methods.

9:30 AM Studies of Intramolecular Cyclization of Isocyanates Activated by Nitrogen Nucleophilic Catalysts # 169

Presenter: Lydia Whipple

Mentor: Dr. James MacKay

Nitrogen heterocycles are seen in many types of medications; including antibiotics such as penicillin. Two specific heterocyclic rings observed in these structures are pyrrolidines, a 5 membered ring, and β -lactams, a four membered cyclic amide. The Staudinger synthesis and other intermolecular cycloadditions are the most common methods of making β -lactams. Intermolecular methods using isocyanates and alkenes have been reported, whereby an electrophilic isocyanate is attacked by a moderately nucleophilic alkene. However, unstable heterocycles are produced using this method and it is limited by the structure of the alkene. This research highlights studies toward an enantioselective intramolecular cyclization between a nucleophilic isocyanate and an electrophilic α/β -unsaturated phenyl ketone. Ester and nitro electron withdrawing groups on the alkene have been previously studied, however, the ester did not yield cyclized products and the nitro alkene was too reactive and cyclized prematurely. The synthetic scheme and results of the key cyclization reaction using DMAP (N,N-dimethylaminopyridine) and other achiral nitrogen based nucleophiles will be presented as well as the ultimate goal of promoting the reaction with chiral catalysts.

Session II: 9:30 – 10:45 a.m.**Tuesday****9:30 AM Development of an Allenolate Variant of the Rauhut Currier Reaction # 170**

Presenter: Stephen Motika

Mentor: Dr. James MacKay

Pharmaceuticals and biomolecules frequently contain cyclic moieties with multiple functional groups giving rise to unique chemical and biological properties. Investigations by other research groups have demonstrated that phosphine catalyzed reactions may afford highly functionalized carbocycles. Among this group of reactions resides the Rauhut Currier reaction, in which carbocycles are formed in the presence of catalytic amounts of phosphine from acyclic compounds containing two electron poor alkenes. Novel applications of this chemistry have been found in the total synthesis of compounds such as the insecticide Spinosyn A and molluscicide (+)-Ricciocarpin A. Our research focuses on the development of an allenolate variant of this reaction where one of the alkenes is replaced with an alkyne. Optimization studies have been performed to determine the most effective solvent and catalyst when performing this reaction. Additionally, the use of different pronucleophiles has shown to have an effect on reaction yields.

9:30 AM Structures and Properties of Magnesium Complexes Utilizing Schiff Base Ligands # 171

Presenter: Zachery Schmidt

Mentor: Dr. Jeffrey Rood

Alkaline-earth coordination chemistry remains relatively unexplored compared to other metals on the periodic table. For this reason, this research investigates the structures and properties of magnesium complexes utilizing Schiff base ligands. The goals of the project include synthesizing new complexes and characterizing them in the solid state and in solution. The application of these compounds as catalysts for polymerization reactions will be studied as a potential route to the isolation of useful polymers.

9:30 AM Preparation of Organomagnesium Complexes as Potential Catalysts for Ring Opening Polymerization # 172

Presenter: Timothy Goldkamp

Mentor: Dr. Jeffrey Rood

The synthesis of heteroleptic organomagnesium compounds containing one salicylaldiminato ligand and one HMDS ligand has been explored via synthesis using standard Schlenk techniques. The products were characterized using ¹H NMR and X-ray crystallography. It was determined that sterics of the substituents on the salicylaldiminato ligand affects the product's structure, as well as aggregation state. Initial studies into the use of these complexes as initiators of propylene oxide and lactide ring-opening polymerization have been undertaken.

9:30 AM Synthesis of Schiff Base Magnesium Complexes for Ring Opening Polymerization Reactions # 173

Presenter: Ayusa Sinha

Mentor: Dr. Jeffrey Rood

Magnesium complexes are of interest for their application in ring opening polymerizations of cyclic ethers to make many useful polymers. Previously in our group, bidentate salicylaldiminato ligands have been used to synthesize heteroleptic and homoleptic magnesium complexes for such purposes. These compounds have been characterized by ¹H NMR and X-ray crystallography. The studies presented here extend the project to include tridentate Schiff base ligands in an effort to isolate stable, well-defined magnesium complexes.

9:30 AM Metal Organic Frameworks Constructed With Phosphinic Acid Ligands # 174

Presenter: Steven Boyer

Mentor: Dr. Jeffrey Rood

The area of metal organic frameworks (MOFs) is of great interest for their many possible applications. To date, most research has focused on carboxylates as ligands. An alternative class of ligands for the construction of MOFs is phosphinic acids. This project focuses on the structures of cadmium phosphinates in the solid state. To date, one- and two-dimensional materials, including a porous phase, have been characterized using single crystal X-ray diffraction and synchrotron studies. It is also believed that changes in temperature and solvent will lead to isolation of different structural phases. Current studies are focused on examining the role of temperature and solvent on the solid-state structures.

Mathematics Poster Masters Atrium**9:30 AM Solutions to Challenging Math Problems V # 175**

Presenters: Ellen Lowy, Franklin Arnold, Alan Dyson, Michael Cheung

Mentor: Dr. Timothy McDevitt

This poster contains student solutions to problems posed in the Pi Mu Epsilon Journal or the College Mathematics Journal. All solutions have been submitted for publication.

FAPA Original Composition for Honors Thesis Zug Recital Hall

10:00 AM Moirae: An Original Composition for Symphonic Band # 193

Presenter: Tanna Leigh Gibble Mentor: Dr. James Haines

Moirae is a three-movement piece composed for symphonic band. The title comes from the name for the three fates—Clotho, Lachesis, and Atropos. Each fate has a specific job regarding the end of the life cycle. Clotho, the spinner, is responsible for spinning the thread of life. The measurer, Lachesis, measures Clotho’s thread to the proper length. The last fate, Atropos, the cutter, cuts the thread to end life. The piece follows the classical three-movement structure in which the movements’ tempos are fast, slow, and then fast again. “Clotho”, the first movement is predominantly tonal. It begins in c minor, modulates to the relative major, and finishes as it began, following an ABA’ form. The second movement, “Lachesis”, is a theme and variations. A solo English horn states the opening theme, a melody in the Phrygian mode, which is then taken through a number of different styles, including twelve-bar blues. The final movement, “Atropos”, follows the traditional form of a John Phillip Sousa march, but features a combination of tonality and atonality. Using a mixture of classical and twentieth century forms and sounds, each of the three movements embodies the fate it is named for.

FAPA Presentations Zug Recital Hall

10:15 AM Classics in Cartoons: Preservation of a Genre and Exposure for New Generations, Focusing on Warner Brothers Cartoons # 194

Presenter: Pauline Jarvie Mentor: Dr. E. Douglas Bomberger

When asked to think of “children's music,” one thinks of simple tunes and nursery rhymes, certainly not Wagner, Lizst, or Tchaikovsky. Such music is stereotypically reserved for formal performances. However, children are exposed to a significant amount of classical music outside of the concert hall. They hear it in their cartoons. From the very beginning of the sound era of film, classical music has been a crucial element of cartoons: furthering the plots, setting the tone, and supporting the actions of the characters. This usage demonstrates how American culture values classical music, particularly in relation to the nation's youth. The use of classical music in cartoons has been crucial in the preservation of the genre, exposing generations of children to music they otherwise might not have encountered.

Modern Languages Presentations H-107

11:00 AM Learning Together: The Linguistic, Cultural, and Disciplinary Border Crossings of an Occupational Therapy / Foreign Language Education Collaboration # 200

Presenters: Allyson Wells, Brittani Nelson

Mentors: Dr. Charla Lorenzen,
Dr. Tamera Humbert

Elizabethtown College students of Spanish and Occupational Therapy, under the guidance of their professors, have engaged in the translation, coding, and thematic analysis of interviews with Spanish-speaking immigrants to the U.S. on occupational issues. The initial findings regarding the challenges and rewards of cross-cultural, interdisciplinary research involving non-native speakers will be presented at this session.

History Presentations H-107

11:30 AM Romantic Period Notions of Women in the Brothers Grimm Fairy Tales # 202

Presenter: Allison Burkhardt

Mentor: Dr. Brian Newsome

The beginning decades of the nineteenth century saw a fundamental shift in the way that people viewed all aspects of society. The Romantic Period brought an emergence of new literary styles, an expansion of science, and a new emphasis on emotion over reason. It marked the beginning of a shift in Europe from traditional conventions to more liberal notions, particularly in the movements for women’s rights. Throughout the years historians have looked back on this period as Europe’s response to revolutionary change and the faults society was finding with the Enlightenment way of thinking that many intellectuals had adopted in the previous century. While one could look at numerous literary texts from this time period in order to gain a better understanding of the mentality of people during the Romantic Period, the works by Jacob and Wilhelm Grimm not only have stood out as strong representatives of the traditional folklore existing in Europe during this time, but also have managed to remain present in societies around the world today. By looking at the fairytales written by the Grimm brothers, and their portrayal of female characters within them, as well as how these stories have been interpreted by historians, one can gain a better understanding of the changes in traditional gender roles during the Romantic Period.

11:45 AM Fairy Tales and Their Importance in the German States # 203

Presenter: Brianna Maurer

Mentor: Dr. Brian Newsome

Fairy tales have played an integral role in shaping societies for centuries. The values and characteristics of a society can often be found in the tales told by the people. The German states were no exception. "Germany" originated and evolved its own branch of folklore, and the lore heavily impacted German nationalism right up until World War II. Germany has been home to many well-known folklorists, such as Achim von Arnim, Clemens Brentano, and the very famous Jacob and Wilhelm Grimm. The early folklorists did not seek to emphasize nationalism, but they provided a foundation for a national agenda for later folklorists, particularly the Grimms. Fairy tales helped unify the nation culturally, paving the way for political unity.

History/English Presentations H-107

12:15 PM The Cowboys of the Sea # 204

Presenter: Claire Sedney

Mentor: Dr. Matthew Willen

I will present a collection of photos and documents from the Elizabethtown College library archives, belonging to Lowell Landis, a member of the church of the Brethren and participant in the first Heifer Project. These materials date to 1945 when he traveled across the Atlantic with the Heifer Project, bringing relief (and cows) to war torn Europe. During my presentation I will read from diary entries, letters, postcards, as well as newspaper articles written by and about the Cowboys of the Sea while I present complementary photographs from Landis’s collection. The Cowboys of the Sea, or “Seagoing Cowboys” as they liked to call themselves, were the men who volunteered to tend the cattle for the Heifer Project during transport to Europe and Asia for relief. Many of these men, young and old, had never seen the ocean let alone sailed upon it. Leaving the United States and seeing firsthand the devastation caused by war was something none were really prepared for. These men had to deal with many hardships: seasickness, restive animals, incompetent vets, dishonest guides, etc. Many of the men even witnessed some of the atrocities left behind from several Nazi “experiments.” I will share their experiences, allowing my audience to travel with these small-town Pennsylvania farmers as they left behind everything they know to become Cowboys of the Sea.

Education Portfolio Presentations H-110

11:00 AM A Framework for Teaching: Professional Portfolios for Educators # 210

Presenters: Amanda Tyson, Rachel Large, Andrea James, Stephanie Smith,
Alexandra Magnolo, Erin Healy

Mentors: Wendy Bellew,
Amy Thomason

Pre-service teachers seeking certification in Elementary, Special, and Secondary Education in the state of Pennsylvania will present their electronic professional portfolios showcasing best practices in the four domains of teaching responsibility: Planning and Preparation, the Classroom Environment, Instruction, and Professional Responsibilities. The portfolio signifies the capstone project of a student teacher’s career at Elizabethtown College, accentuating achievements in coursework, field experience, pedagogy, and professional development.

Social Work Presentations H-211

11:00 AM Exploration of the Longitudinal Impacts of a Childhood Obesity Program # 220

KidShape

Presenter: Rebecca Wisner

Mentor: Dr. Susan Mapp

KidShape is a weight management program for children ages 6-14 and their families. The program is a lifestyle intervention incorporating nutrition education, a mental health component and a physical exercise component. To evaluate the long-term impact of the program, face-to-face semi-structured qualitative interviews with the participant’s parents/guardians were conducted approximately three months after the end of the program. Useful aspects of the program were explored with the adults, as well as areas where the program could improve.

11:30 AM Determining Risk Factors for Substantiation of Physical Abuse in Lancaster County # 221

Presenter: Kristin Hendricks

Mentor: Dr. Susan Mapp

The purpose of this study was to determine which factors in an initial risk assessment are predictive of a finding of physical abuse. Initial risk assessments from Lancaster County Children and Youth Agency’s database for families being investigated for physical abuse were analyzed. The risk assessment is an internal document which is completed for each family who is open for investigation by Lancaster County Children and Youth Agency. The data was analyzed using a logistic regression. The results of the analysis and their implications will be discussed.

12:00 PM Rape as a Tool of War in the Democratic Republic of the Congo # 222

Presenter: Chelsea Cornwell

Mentor: Dr. Susan Mapp

The purposes of this paper are to provide an overview of the available literature on rape as a tool of war and discuss how social workers are helping the victims in the Democratic Republic of the Congo (DRC). It examines the physical, emotional, familial, and community level consequences of such deliberate war tactics on women and society in the DRC.

Physics and Engineering Sustainable Engineering Symposium (continued) Gibble

11:00 AM Project E-Rod: A Personal Transportation Unit # 230

Presenters: Patrick Albor, Collin Glass, James Hynarowski

Mentor: Dr. Tomas Estrada

Beginning in 2009 seniors from Elizabethtown College took on the task of finding an alternative to today’s high rate of fossil fuel consumption through proven sustainable means. A concern for many Americans is the rising cost of oil while reserves dwindle. They sought to develop an electric vehicle that is more cost effective, practical, and efficient, while effectively competing alongside comparable gasoline powered alternatives commonly utilized for short distance travel. The first team of engineering students developed a preliminary design and constructed a prototype chassis, but found that the short time they had was not sufficient to deliver a complete vehicle. At that point, the project was left idle. Recognizing the potential in this project from 2009-10, we adopted their original model and modified it to create a vehicle that is more versatile, efficient, cost effective, and sustainable within modern competitive markets. Our aim is to produce an alternative to manual transportation (walking/biking) while expanding technology for micro (short distance/load) uses. At the same time we will be reducing the need for less efficient macro transportation (large distance/load) which is utilized inefficiently. Traveling a distant shorter than five miles in a gasoline vehicle is not efficient, however alternative manual transportation modes may not be practical due to physical limitations, time or weather. Additionally, public transportation is not available for most of these short trips. Our focus this year has been to rework the existing chassis and deliver a functioning prototype.

11:15 AM Harnessing the Sun: Solar Power at Elizabethtown College # 231

Presenter: Garrett Koep

Mentor: Dr. Tomas Estrada

The Solar Cabin has given rise to a large amount of projects, all stemming from the sustainable and renewable aspect of the cabin. To understand the full effect of The Solar Cabin, data must be collected to monitor power produced in certain time spans and CO2 emissions avoided. My final project goal is to collect data about the power produced and display it on a view-friendly read out. This goal will be achieved by transmitting data via radio waves from one antenna in the cabin to another in Esbenshade. This will raise awareness of the cabin as well as show students, faculty, and visitors that Elizabethtown College is doing its part to lead a green minded existence. The project involves a mix of engineering skills including those from electrical, engineering, and computer engineering.

11:30 AM Robotics and Machine Intelligence Club Presentations # 232

Presenters: Mark Yorgey, James Kelly, Chris Janssen, Elly McCarthy

Mentors: Dr. Joseph Wunderlich, Dr. Tomas Estrada

The officers of the Robotics and Machine Intelligence club present some of their recent projects. Plans for the club's future activities and projects will also be presented.

Session III: 11:00 a.m. – 12:30 p.m.**Tuesday****12:00 PM Sustainable Power System Design and Business Model for The Gambia # 233**

Presenters: Emily Vogel, Elly McCarthy, Nick Young, Josh Rowlands, Erika Hawkins, Tebow Drouet Mentor: Dr. Kurt DeGoede

Our team of four mechanical/sustainable design engineering majors and two industrial engineers is working to make power available for charging, lighting, and pumping water for Gambians who do not have access to the standard grid power. In parallel to developing a physical solution to this problem, we will also draft a sustainable business model that will run on its own without charitable donations. The project will continue next year, and the continuation of the project will involve two political science majors. We will also be collaborating with physics students and faculty at the University of The Gambia (UTG). This spring we are developing a comprehensive description of the problem and examining potential solutions at the conceptual level.

Communications Presentations BLR**11:00 AM Online Databases and Me; Creating Training Materials for Center City Film And Video # 240**

Presenter: Sean Duetsch Mentor: Dr. Kirsten Johnson

Center City Film and Video (CCFV) is a video production company based out of Philadelphia, Pa., which works with a variety of clients to produce high quality video projects. One of CCFV's closest clients is PBS Kids Sprout, which is a children's network that provides 24-hour continuous programming to its audience. One of the reoccurring challenges that CCFV faces is organizing and updating an online database for Sprout that contains all the licensed materials that are aired on Sprout's Network. A manual explaining how to input licensing information into an online database is the most effective way for a production company to organize and update a database system. Research has been done on the most effective ways to engage users when accurately updating information into online databases. The research supports that creating a step-by-step guide will help to efficiently internalize the functionality of this online database for CCFV.

Producing a Video that Can Effectively Educate Biology Students # 241

Presenter: KateLynn Gotthardt Mentor: Dr. Kirsten Johnson

Ecological Research as Education Network (EREN), is in need of training videos for their website. EREN's mission as stated on their website is "To create a model for collaborative ecological research that generates high-quality, publishable data involving undergraduate students and faculty at primarily undergraduate institutions (PUIs)." Currently, Dr. David Bowne, Assistant Professor of Biology at Elizabethtown College, is working on the Turtle Pop Project in conjunction with EREN. Research has been conducted regarding the most effective way to educate Biology students in the handling of turtles. The research supports the theory that effectively produced educational videos will educate Biology students.

Utilizing Color Grading in Video # 242

Presenter: Glenn Knight Mentor: Dr. Kirsten Johnson

Meteor Tower Films is an independent video production company that works with local and national organizations, brands, and musical artists. The videos they produce include commercials, promotional videos, documentaries, and music videos. The organization has a need to visually engage audience members in its videos. By aiding in post-production and utilizing color grading, this will enhance the appeal of a documentary style video. Research has been conducted on audience's response to contrast and color saturation leading to the conclusion that the most effective way to engage an audience visually in a video is through post-production techniques and color grading.

Developing an Online Magazine to Educate and Inform Gluten-Free College Students # 243

Presenter: Kelly Clayton Mentor: Dr. Kirsten Johnson

The National Foundation for Celiac Awareness (NFCA) is an independent non-profit organization seeking to inform and educate those affected with celiac disease and gluten-sensitivity. Through providing online resources including but not limited to: recipes, seminars, articles, charts, journals, medical research and other web-based materials, the NFCA completes their mission by educating the gluten-free community. A reoccurring challenge that the NFCA faces is providing online resources that will inform and educate college students who are diagnosed with celiac disease or gluten-sensitivity. Through creation of an online magazine specifically for gluten-free college students the NFCA will be able to communicate effectively with gluten-free college students. In addition to informing and educating college students on gluten-free living, the online magazine will encourage students to talk with their on campus Dining Services in order to obtain improved gluten-free services. The research supports the theory that a properly conceived and produced online magazine can effectively present information about celiac disease to gluten-free college students. The online magazine is needed in order to properly meet the needs of the National Foundation for Celiac Awareness.

The Creation of an Introductory Video to Raise Awareness

244

Presenter: Kelsey Hayes

Mentor: Dr. Kirsten Johnson

The Hershey Rotary club is a nonprofit organization located in Hershey, Pa. that consists of over 130 of the area’s most respected business, professional and civic leaders. Rotary provides humanitarian service, encourages high ethical standards, and helps build goodwill and peace in the world. The Hershey Rotary club is always recruiting new members, but many people do not know what the club is all about. A challenge the club faces is introducing those interested in membership to the expectations of a member of the club. By increasing awareness of the Hershey Rotary club and what is expected of members through a short introductory video, the problem will diminish. Research has been conducted regarding the most effective way to raise awareness and introduce new members to the expectations of membership in a nonprofit organization. Research supports the theory that a properly conceived introductory video can introduce new members to the expectations of membership for the Hershey Rotary club.

The Eyes are the Window to the Soul: The Creative Process in Developing Store Displays and the Effectiveness of Visual Merchandising on Consumer Buying Habits

245

Presenter: Chelsea Decker

Mentor: Dr. Kirsten Johnson

Anthropologie is an international luxury women’s apparel retailer that has recently opened a store in Newark, De. Each store has their own in-house visual merchandising team who are responsible for conceptualizing and creating large-scale displays for the store. As part of a new store, the Newark visual merchandising team is constantly seeking fresh ideas for display, as well as means to assess the quality of their visual display internship program. By creating displays in-store and integrating social media through a blog and a Pinterest account, the team will be able to develop creative ideas with a fresh perspective, as well as receive ongoing feedback regarding the effectiveness of their internship program. Research has been conducted regarding the impact of visual merchandising on consumer buying habits, as well as marketing strategies, utilizing social media and retail branding. Research supports the idea that a properly conceived and produced visual merchandising plan integrating in-store displays and social media are the most effective ways to influence consumers to make a purchase.

Increasing Website Visitation Through a Properly Managed Social Media Campaign

246

Presenter: Shawn Corcoran

Mentor: Dr. Kirsten Johnson

Neiman Labs is an internal unit of Neiman, a for-profit marketing, advertising, and public relations agency located in Philadelphia, PA. Neiman Labs specifically focuses on in depth social media and mobile platforms research. Managing the site presence and generating visitation of the internal initiative PhillySteakout.com has been a challenge for Neiman Labs. Properly managing the Twitter account and Foursquare Brand Platform of PhillySteakout.com will support public engagement and generate site visitation. Research has been conducted in order to facilitate the best practice of Twitter and Foursquare Brand Platform management. The research supports the theory that a properly managed social media campaign will increase public engagement and the visitation of PhillySteakout.com.

Sociology and Anthropology Presentations H-212

11:00 AM Amish Genetics: How a Traditional Community Advances Scientific Knowledge

250

Presenter: Madison Brown

Mentor: Dr. Donald Kraybill

My presentation will focus on genetic diseases within the Amish community and will investigate the following question: What have we learned about human genetics through the help of the Amish? I will explore genetic diseases prevalent within the Amish community and analyze their impact on our understanding of human genetics in general. Using a variety of primary and secondary sources along with insights from modernity theory on specialization, I provide evidence to support my argument that the Amish community is conducive to genetic research that enables scientific advances in health for both Amish and Non-Amish people. My finding suggests that the Amish extended family structure and record keeping provides characteristics that are advantageous in genetic studies because their self-contained population has little gene flow. I discovered that the Amish have exceptional genealogical records that trace back to their few founders, aiding geneticist in studies on inheritance and allele frequencies.

11:15 AM The Immersing Evolution of Brethren Baptism

251

Presenter: Kristen Russ

Mentor: Dr. Donald Kraybill

My presentation will focus on the topic of Brethren baptism. My research investigates the following research question: How has Brethren baptism evolved since the establishment of the Church of the Brethren? Using a variety of primary and secondary sources such as Annual Meeting , Minister’s Manual, and Brethren Encyclopedia, and insights from modernity theory on rationalization, abstraction, and choice, I provide evidence to support my thesis that: changes have occurred within the Brethren’s rite of baptism from the first baptism in 1708 to the present church baptismal service. My investigation suggests that Brethren have assimilated with modernity becoming more like other Protestant Christian churches. I have discovered that even the one of the most confident and structured religions can change with the times and modernization.

11:30 AM Something Old, Something New: A Comparative Study of Amish and Modern Weddings**# 252**

Presenter: Kristin Vines

Mentor: Dr. Donald Kraybill

My presentation will focus on the topic of Amish weddings. The research examines the following research question: How have Amish weddings escaped the materialistic, individually driven tone that permeates modern weddings? Using a variety of primary and secondary sources, such as modern and Amish wedding rites, accounts of Amish weddings, and popular media regarding weddings, and insights from modernity theory on the concepts of individuation and choice, I provide evidence to support my thesis that the community aspect of Amish life eliminates the appeal of individually customizing a wedding ceremony. My study suggests that modern weddings have come to represent the very aspects of modern society that the Amish reject: materialism and individuality. In conclusion, I discovered that although weddings may seem like a frivolous subject of study, much insight can be derived about a society by examining wedding planning and the meanings behind various aspects of the ceremony.

11:45 AM Are the Amish One Room School Houses Really the Best Option for Their Children?**# 253**

Presenter: Jennifer Cook

Mentor: Dr. Donald Kraybill

My presentation will focus on the topic of Amish education. My research investigates the following question: How are Amish schools, and the Amish curriculum, different from that of public schools in America? Using a variety of primary and secondary sources and insights from the modernity theory on Amish education, I give evidence to support my thesis that public education provides a better educational foundation for children in America than Amish schools. My findings seem to suggest that public education offers greater benefits to school age children than the Amish one room schoolhouse. Public schools have more instruction time, more resources, more qualified teachers, as well as other reasons that show public education is the better option. In summary, I learned that Amish education might suffice for the community they live in; however, to get by in the real world of America, public education is the best choice.

12:00 PM Modern Technology in the Old German Baptist Brethren and Amish Communities**# 254**

Presenter: Kelly Seymour

Mentor: Dr. Donald Kraybill

This paper explores the use of modern technology in the Old German Baptist Brethren and Amish communities and uncovers how both old order communities respond to new technology and compares their reactions. Televisions, cameras, telephones, and computers are four technologies explored in order to investigate the reasons behind why some technologies are vehemently rejected while others are readily accepted. While both old order communities exclude some forms of technology in order to maintain separation from the world and a tight-knit community, the Old German Baptist Brethren make a distinction between modern conveniences and modern technology while the Amish do not make such a distinction and exclude more forms of modern technology. Modern technology is then related to two aspects of modernity: discontinuity and individuation. Computers, television, and telephones increase discontinuity because families are no longer spending time with each other, but rather on the computer, watching television, or talking on the phone. Modern technology also enhances individuation, especially through the camera. Taking pictures encourages the individual by posing and trying to stand out. The use of modern technology in these two groups is important to explore because in many ways restricting technology preserves the old order culture and is arguably the largest separating factor between these groups and the outside world. Understanding how technology is controlled can help explain why these groups have continued to grow in size and prosper in a completely modern and high speed world.

12:15 PM Their Deepest Hope in Suffering: A Comparison between Negro Spirituals and the Church Music of the Amish**# 255**

Presenter: Erinn Soltys

Mentor: Dr. Donald Kraybill

Upon first glance, it seems that there is no significant connection between Amish music and Negro spirituals. Upon closer inspection, however, there are intriguing similarities. I have consulted books, articles and internet sources on both groups, as well as Amish primary sources, to determine what these types of singing have in common. When I looked past the obvious differences, I found subtle musical similarities. Similarly, as I evaluated some fundamental differences between these religious songs, I found underlying common circumstances: the intense suffering of a Christian people. Using historical and theological research, I argue that an attitude of complete dependence on God for hope and salvation in the midst of suffering is the common bond that coincidentally holds these two types of music together.

Religious Studies Presentations H-213

11:00 AM Hinduism, Christianity and Tolkien: A Cross-cultural Exploration # 260

Presenter: Jacob Teske Mentor: Dr. Jeffery Long

Among the literary works of the contemporary age, the collective Legendarium of Professor John Ronald Reuel Tolkien have become synonymous with High Fantasy, breathtaking storytelling and adventure on an epic scale. In the conception, creation, and ultimately birth of his masterpiece, Tolkien drew heavily on both his religious tradition—Roman Catholicism—and from his extensive knowledge of Norse, Celtic, Old English, and Germanic mythology. The intricate maze of Tolkien’s influences has been thoroughly explored by literary scholars, as well as theologians, during the decades since his death. However, one aspect that is seldom investigated is the influence of Asian myth and religion on Tolkien, particularly that of the Hindu tradition. It is unlikely that Hinduism played much of a direct role in the genesis of Middle Earth, but the similarities between the religious sensibility underlying Tolkien’s works and Hinduism present a unique occasion for comparative theological exploration. I explore some of the underlying similarities between Christianity and Hinduism, as well as their outlying differences, through the collective works of J.R.R. Tolkien. Comparisons will be made using the characters, themes, and methods of storytelling, which appear in various forms in both Eastern and Western traditions. It is my hope that through Tolkien’s Legendarium, I show that the themes and archetypes present in Christianity and Hinduism are not only syncretic, but transcendent of both faiths, exposing a deeper, more profound message sought by all religions.

11:15 AM Which is the Tail and which is the Dog? Ritual and Philosophy in Hinduism and Taoism # 261

Presenter: Krystal Dove Mentor: Dr. Jeffery Long

A prominent topic in the study of religion is the relationship between the philosophical ideas and the ritual actions present within a religious tradition. There has long been debate among the sects of Hinduism that take stances solidly within one category or the other: those which believe that ritual is what is most important, and those which believe that ritual is insignificant next to the greater reality revealed in philosophical teaching. An exploration of Taoism will parallel the discussion of Hinduism, investigating whether there might be a similar relationship between ritual and philosophy found within these two different, but in many ways similar, Asian religions.

11:30 AM Transforming a Religion: From Gautama Buddha to Zen Masters # 262

Presenter: Randy Burkholder Mentor: Dr. Jeffery Long

This paper seeks to discover the threads binding Buddhism in Japan with Buddhism as it existed in India until the middle of the Common Era. It is a common understanding that the transformation that took place in exporting Buddhism from India to Japan altered the religion to the extent that it is no longer recognizable. However, in tracing the lineage from India through China to Japan one finds that the alterations develop more naturally from the interpretation of dharma than is commonly thought. Buddhism in some respects underwent a natural evolution that developed it from a religion of scholars to a widely practicable religion of the people. In order to expose these connections this paper will analyze the major transformations of Buddhist philosophy, the historical events and figures surrounding those transformations and scriptural relevance that they hold within the religion. The outcome will highlight the lifelines existing within Japanese Buddhism that connect the Japanese sects with their Indian brethren.

11:45 AM Practice Doesn’t Always Make Perfect, or Does It? A Case Study of a Youth Group and Emerging Best Practices in Contemporary Society # 263

Presenter: Lindsey Summers Mentors: The Rev. Tracy Sadd, Dr. Jeffery Long

One of the biggest trends in the American church scene is a new emphasis on youth ministry that is deeply rooted in specific theology and practices. Youth ministry has expanded and declined over time much like churches which house them. However, due to the rapid decline in old line denomination attendance there has been a renewed sense of urgency to bring the young generations to church. There are numerous books and articles on the best practices of churches which have successfully re-established the baby boomer population or the young adult population in their congregation. These types of media display the tools and tricks of the trade which have worked best depending on the specific population’s needs and wants. Nonetheless, youth ministry cannot be established based upon the practices which work best for the baby boomers or young adults, and youth ministers need to name and adhere to best practices of their own. This presentation will name some possible best practices for youth ministry in the 21st century, and these best practices will be related to a case study of a church that is trying to revamp its youth program.

12:00 PM Why Lutherans Still Need to Know Luther # 264

Presenter: Reva May Mentors: The Rev. Tracy Sadd, Dr. Jeffery Long

Research studies have shown that the Christian students of this generation are less knowledgeable about the particular theology and history of their religious denominations than previous generations. The presenter will discuss how an internship in ministry studies at a Lutheran Church transformed her thinking with regard to the importance of specific theological and historical knowledge to participate in leadership in a Lutheran context. The presentation will highlight important biographical, historical, and theological information about Martin Luther, as well as demonstrating how and why knowledge that might seem esoteric to some is, in fact, necessary and relevant for the 21st century church and its leadership.

12:15 PM The Chiron Connection: Archetypal Cosmology and Cinema

265

Presenter: Michael Newman

Mentors: Dr. Amy Simes,
Dr. Jeffery Long

Archetypal Cosmology is a relatively new field of study that focuses on the relationship between the movements of the planets in our solar system and the social, historical and cultural patterns that we experience on Earth. This relationship was first proposed by scholars, such as Richard Tarnas and Kieron LeGrice who based this theory in the academic fields of philosophy, history, religious studies, mythology, astronomy, and the emerging fields of archetypal astrology and archetypal psychology. A majority of the research thus far in Archetypal Cosmology has been based on the outer planets: Uranus, Neptune, and Pluto. In my thesis I focus on Chiron, a meteoroid/comet discovered in 1977. Using cinema as a revealing reflection of our time’s zeitgeist, I demonstrate a correlation between the discovery of Chiron in 1977 and a large shift in cinematic theme from outer to inner conflict with an emphasis on Chironic themes of suffering and healing. By demonstrating an observable correlation between the accompanying collective consciousness shift impacted by this cinematic change and the cosmic ‘consciousness’ interpreted by the planets movements and relationships, I propose that Archetypal Cosmology points towards a new religious trend that is also theorized in areas such as the human potential movement and the field of quantum physics. This trend is the idea that all life is connected and that everything in creation has a relationship with and interacts with everything else.

English Presentations H-214

11:00 AM Organized Chaos: Stream of Consciousness in James Joyce’s Ulysses and Samuel Beckett’s Molloy

270

Presenter: Tanna Leigh Gobble

Mentor: Dr. Mark Harman

At first glance, stream of consciousness in a piece of fiction looks like little more than a jumbled mess. In fact, for an inexperienced reader, the seemingly unending flow of sensory details, thoughts, and feelings, may be intimidating. However, as in many works of art, there is more than meets the eye. Underneath the apparent chaos of stream-of-consciousness writing there is a well-organized and thoroughly planned pattern. Both Joyce’s Ulysses and Beckett’s Molloy utilize this modern technique with great success. The stream of consciousness in Ulysses features puns, allusions, and witty language that creates the internal thought processes of the characters. The titular character in Molloy addresses an external audience with the rambling thoughts he puts to paper. This is a deviation from typical stream of consciousness, in which there is no audience to address, simply a character’s wandering or ambling thoughts. In his 1968 study, Stream of Consciousness in the Modern Novel, Robert Humphrey defines this modern technique, explains how it functions, and the various forms it can assume. While not adhering completely to Humphrey’s scheme, Molloy does contain some elements of this innovative literary device.

11:30 AM Inward versus Outward: German Expressionism Opposes Modernist Trends

271

Presenter: Andrew Herm

Mentor: Dr. Mark Harman

American poet William Carlos Williams’s line “no ideas but in things” was one of the most striking precepts in early 20th-Century Modernist poetry. This led to many poems focused on depicting “things” in themselves. Another branch of the Modernist movement was Expressionism, which was most prominent in Germany, and often times Expressionists sought to distort things, relegating them to the background in favor of raw emotion. The German poets focused on these emotions that often stemmed from experiences in the world around them: fear, isolation, the shock induced by the carnage of the first world war, and the desire to break away from prevailing literary trends such as Naturalism, which sought to achieve accurate representation of reality, and neo-Romanticism. These common themes among Expressionist poems offer a different, more internal experience: the focus was more on man than on the world around him. Poets such as Gottfried Benn and Georg Trakl exemplify Expressionist values throughout their poetic careers. In this presentation I will contrast this inward versus the outward approach favored by American poets such as Williams in the hope of shedding light on the disparities between the subject matter of two literary movements that are often placed in the same overarching category of Modernism.

12:00 PM Translating Kafka

272

Presenter: Tamara Eichelberger

Mentor: Dr. Mark Harman

For many of us, translations are our only lifelines for understanding foreign masterpieces. There is no such thing as a “correct” translation, however. Translators have the arduous task not only of providing a close reading of the original, but also of creating one that reflects the author’s vision. Both the time period and the author’s life and work need to be taken into account. While first translations tend to be relatively free, re-translations can be more accurate and can also afford to convey the author’s stylistic idiosyncrasies. The works of Franz Kafka have been translated several times from German to English. Some of his works, such as his original manuscript version of The Castle, were heavily edited by others and are arguably biased in favor of one particular interpretation. New translations of Kafka have arguably changed his works for the better—at least for 21st century readers. An exploration of different English versions of his short story “The Judgment” will illustrate both the challenges of translating a modernist author such as Kafka and the often subtle changes his works undergo in the process.

12:15 PM The Absence of Autonomy in the American Classroom and its Impact on the Devaluation of Childhood # 273

Presenter: Ross Benincasa

Mentor: Dr. Matthew Skillen

The ideal public education in America has drifted farther away, as students enter the classroom confines not ready to learn, but to be instructed. No Child Left Behind has become as easy target to cast stones toward, however the real problem is the lack of students' autonomy in the present American classroom, and its direct, negative impact on their creative thinking and problem solving. The push toward a methodical, numbers-first learning environment has limited free expression and thought among America's children, and can be viewed as a factor affecting the larger issue of our deepening devaluation of childhood. Through my research, I have found many flaws in the conservative philosophies of education and their promotion of an absence of autonomous learning, as well as encouraging finds demonstrating a surge in creativity among students given a larger breadth of independence and responsibility. I've also established links demonstrating students' advancement when coupling this autonomous learning experience with an interdisciplinary classroom environment. If enacted appropriately with widespread commitment and ample time, a focus on these two ideas can strengthen not only the individual student, but public education and childhood as a whole.

Political Science Panel Discussion H-215

11:00 AM Model United Nations: Experiencing the World of International Diplomacy # 280

Presenters: Anni Ngo, Paul Whitman, Lauren Hamilton, Ambre Biehl, Michelle McKissick, Nina Wheeler, Abdullah Ata

Mentor: Dr. Oya Ozkanca

The United Nations (UN) is an international organization designated to promote peace and security throughout the world. This year marks the first year of Elizabethtown College's participation at the Harvard National Model United Nations (HNMUN) exercise, one of the oldest and the most prestigious Model UN conferences in the world. Elizabethtown College's PS 371 Model United Nations delegation was designated to represent Somalia at the 2012 HNMUN. The purpose of the model is to simulate international diplomacy and to mimic the functions of the UN. The Model UN is divided into separate committees to tackle various global issues, including the counter-terrorism strategies, the rights of minorities, the problem of malnutrition, Genetically Modified Organisms, and nuclear proliferation. In the Model UN, students are assigned to committees to negotiate resolutions on each committee topic. While Somalia's political instability and the lack of a functioning central government made it more challenging to accurately represent the country's interests, it proved to be a very good learning experience and demonstrated the difficulties of the UN decision-making processes. After an introduction of background information on the UN, each panelist will describe their experience in the Model UN class, in their respective committees, and at the HNMUN exercise as a whole, and will reflect on the overall lessons learned on topics related to international diplomacy.

Communications Posters Masters Atrium

11:00 AM How Social Media Affects Face-to-Face Social Interaction # 290

Presenters: Thomas O'Connell, Justin Sabie

Mentor: Dr. Tamara Gillis

This project investigates the influences of social media on face-to-face communication practices of college students. While social media are a convenient way to quickly communicate with friends and family, face-to-face communication is still very important in developing and maintaining relationships.

11:00 AM What Types of Radio Shows Do Students Want to Hear and When? # 291

Presenters: Brett Antosh, Zakiya Fulton-Anderson

Mentor: Dr. Tamara Gillis

This project will identify the types of radio shows students at Elizabethtown College want to here on WVEC 88.3 FM. This project will also look at when students feel these shows should air.

11:00 AM Elizabethtown College Students and How They Obtain College-Related News # 292

Presenter: Jessica Sassani

Mentor: Dr. Tamara Gillis

The purpose of this research project is to learn where Elizabethtown College students obtain information about college news. The findings from this study will help organizations on campus, and the college, determine the most productive way to distribute information to Etown students.

11:00 AM Busting Out of the Elizabethtown College Bubble # 293

Presenters: Rachel Barr, Whitney Rufo

Mentor: Dr. Tamara Gillis

This project examines the content of college media produced by students for students. It focuses on the uses and satisfaction concepts. The study will attempt to identify whether the content of the student media satisfies the needs of college students at Elizabethtown College.

Session III: 11:00 a.m. – 12:30 p.m.**Tuesday****11:00 AM Effects of Computer-Mediated Communication on Interpersonal Communication**

294

Presenter: Carly Drebit

Mentor: Dr. Tamara Gillis

This project will examine how computer-mediated communication affects individual communication practices. The study focuses on college students and their reliance on communicating through computers. This behavior will affect their communication practices in the real world.

11:00 AM The Effects of Popular Music on Behavior

295

Presenters: Melissa Mandia, Beth Koren

Mentor: Dr. Tamara Gillis

This project will investigate the effects of popular music on the behavior of college students. The results will show a connection between the content of the music and its direct correlation on behavior.

11:00 AM Your Social Media Presence and Employment

296

Presenters: Alexa Masano, Austin Florey

Mentor: Dr. Tamara Gillis

What college students do online can help or hurt their chances of getting a job. This project investigates the social media practices of college-aged adults while in the job search process. The results of this study will benefit students who are using online tools to make job connections.

11:00 AM How American Media Impacts the International Student's View of American Culture

297

Presenter: Ameeda Lor

Mentor: Dr. Tamara Gillis

This project investigates the impact of American television on international students' view on American culture. Through the mass media consumers learn about other cultures. Some of these representations are exaggerations and can create unrealistic impressions of another culture.

11:00 AM Stereotypical Comedy

298

Presenters: Shatzer David, Kyle Schutz

Mentor: Dr. Tamara Gillis

This project investigates the presence of stereotypes in prime time network television comedy shows. Particular attention is paid to the portrayal of racial and gender stereotypes. Through this project the consumers will gain more insight on the power of television to make or break stereotypes.

11:00 AM Journalists and their Portrayal in the Media

299

Presenter: Kylar Krebs

Mentor: Dr. Tamara Gillis

This project investigates the portrayal of journalists in both past and modern cinema. Analyzing research conducted by fellow scholars and filmmakers, this study attempts to determine whether journalists are portrayed positively or negatively over the past decades.

Sociology and Anthropology**Posters****Masters Atrium****11:00 AM Do You Like Yourself?: The Effect of Socioeconomic Status and Gender of Self-Esteem Scores # 300**

Presenter: Lindsey Cooper

Mentor: Dr. Michele Lee Kozimor-King

Recently, the United States has experienced a devastating economic and financial crisis in which many citizens have been left jobless and hopeless. Although this period of economic instability has been declared over, many United States citizens are still feeling the ramifications of it, both financially and emotionally. Having had to swallow their pride and accept jobs they would have never previously considered, these citizens have experienced much emotional insecurity, ultimately affecting their self-esteem. This study examined the effect of socioeconomic status and gender on self-esteem scores. The data were obtained from the 2004 wave of the General Social Survey conducted by the National Opinion Research Center at the University of Chicago. The total sample size was 1,441. To operationalize self-esteem, an index was created from questions asking for the level of agreement the respondent had with specific statements. An index was also utilized when measuring socioeconomic status. Results from the bivariate correlations are consistent with the hypothesis that an individual's socioeconomic status will affect their self-esteem score ($r=.183, p=.000$). The results also showed no relationship of statistical significance between an individual's self-esteem and sex ($r=.010$). Other findings indicate that there is a substantive and significant relationship between an individual's income level and high self-esteem ($\chi^2 = 56.574; p = .000$). It may be concluded that an individual's socioeconomic status does have an effect on self-esteem scores while gender does not. This research will be helpful to psychologists, suicide prevention organizations, and any others who are interested in self-esteem by giving them insight as to how socioeconomic status and gender effect self-esteem scores.

Session III: 11:00 a.m. – 12:30 p.m.**Tuesday****11:00 AM How I Learned to Date: A Content Analysis of the Portrayal of Romantic Relationships on Television # 301**

Presenter: Victoria McCollum

Mentor: Dr. Michele Lee Kozimor-King

The media has long since taken over the role of socializing children and young adults into modern culture. Television remains one of the most influential sources of social information, providing a guideline for important aspects of life such as romance and dating. Previous research has shown that the dating process has become highly sexualized and still maintains stereotypical gender roles as well as certain myths about romantic relationships. These all have serious implications for how men and women behave during mate selection and while dating. This content analysis will examine the popular television show "How I Met Your Mother" in order to determine how often sex is referenced and for what purpose, the reasons for dating, the qualities found most attractive in a potential mate, the portrayal of gender roles in relationships, the most common reasons for relationship conflict and most common resolution strategies employed, and finally the most common dating myths and relationship expectations portrayed. Gender differences are assessed for each topic. Results from the analysis will be presented. Great care should be taken when using any media portrayal as a guideline for romantic relationships, as these depictions are often inaccurate. This research is particularly relevant to those within the dating world, as well as to others who are studying the media's portrayal of romantic relationships.

11:00 AM Smile! You're on Disney Channel!: A Content Analysis of Adult to Adult Relationships on "Good Luck Charlie" # 302

Presenter: Samantha Peters

Mentor: Dr. Michele Lee Kozimor-King

In many of today's popular television shows, the topics of marriage and family arise. Depending on the channel on which a certain show is run, these topics are dealt with differently. The ways a television show portrays a relationship can effect how the audience then views real-life versions of that relationship (mother-daughter, father-son, sibling to sibling, etc.) This study has examined how the popular children's channel, The Disney Channel, portrays the relationship between a husband and wife, specifically in the show "Good Luck Charlie." This relationship and media outlet were chosen because of the extremes the two have to one another, being that adult relationships are not a focal point in many children's shows. The hypothesis for this study was that a show geared towards children would portray the aforementioned relationship in a positive, friendly style most of the time.

11:00 AM To Post or Not To Post: A Content Analysis of "Facebook Parenting: For the Troubled Teen" # 303

Presenters: Lucas Starsinic, Erik Weber, Zachary Wendler

Mentor: Dr. Michele Lee Kozimor-King

In the past ten years, parents and children have begun devoting extensive time engaging in social media, specifically YouTube and Facebook. YouTube, created in February 2005 by Steve Chen, Chad Hurley, and Jawed Karim, is a web based forum that allows people to share and watch videos. YouTube has quickly become one of the most popular social media sites with over 800 million unique users every month and three billion videos being viewed daily. Facebook was created by Mark Zuckerberg in February of 2004 with the goal to make interpersonal communications more open and connected. As of December 2011, there were 845 million active viewers a month. The increased use of these social media outlets by both parents and children have created new difficulties in parenting, such as monitoring what children are putting on these sites and how parents react to their children's posts. This study will examine responses to public parenting through a content analysis of comments and response videos posted on YouTube reacting to a viral video titled, "Facebook Parenting: For the Troubled Teen." In this video, a father creates a video response to one of his daughter's Facebook posts. The video has created considerable debate about the use and sharing of parenting techniques in the age of social media. The results from this content analysis will be presented. The findings will be important for today's parents trying to navigate the social media world, sociologists and social workers studying family issues, and family counselors.

11:00 AM New Roles, Old Challenges: A Content Analysis of Gender and Division of Household Labor on NBC's "Up All Night" # 304

Presenter: Samantha Strollo

Mentor: Dr. Michele Lee Kozimor-King

According to the Media Comparisons Study of 2010, people aged eighteen and older watch an average of 319 minutes of television per day. This figure is far greater than the 156.6 spent on the Internet, the 91.2 engaging with the radio, and the 26.4 with the newspaper. The importance of television in today's society is extremely widespread. Television shows are typically directed toward a particular audience, portraying issues of life that people can easily relate to. One current issue being addressed through television is the division of household labor. Disputes between husbands and wives over the division of household labor are a leading cause of marital strife. This study will examine the division of household labor portrayed on NBC's new show, "Up All Night". "Up All Night" first aired on September 14, 2011. This show displays a unique look at the pressures of modern parenthood. The data will be obtained through a content analysis of all episodes of season one available as of March 2, 2012. The results of this study will be presented. The findings of this study will be useful for new parents, couples considering parenthood, and family scholars trying to understand the role of media on household division of labor.

11:00 AM Until Infidelity Do Us Part?: The Effects of Religiosity and Spirituality on Marital Infidelity # 305

Presenter: Maggie Keefer

Mentor: Dr. Michele Lee Kozimor-King

Marital infidelity is a social issue which plagues celebrities and everyday individuals alike. Previous research has indicated that being religious results in a lower likelihood of involvement in marital infidelity. This study examines the effects of spirituality, in addition to religiosity, on marital infidelity. The data for this study were obtained from the General Social Survey conducted by the National Opinion Research Center at the University of Chicago for the years 2006 and 2008. The sample size for this study is 2957. In order to operationalize religiosity an index was created. Results from bivariate correlations between spirituality and marital infidelity show that there is no relationship between spirituality and marital infidelity ($r = .000$; $p < .01$). This result is surprising because previous research has suggested a relationship. However, the relationship between the religiosity index and marital infidelity is indirect and weak ($r = -.088$; $p < .01$). This indicates that those who are more religious are less likely to have sex with someone other than their spouse. This is consistent with previous research examining marital infidelity and religiosity. Of those individuals who have had sex with someone other than their spouse, those who are not religious are 12.6 percent more likely to commit infidelity than those who are very religious ($\chi^2 = 28.670$; $p = .000$). This research will contribute to the topic of spirituality and marital infidelity. Individuals who are involved in church functions may find this information useful in order to assist couples within the church who are struggling with infidelity.

11:00 AM Who's Spending Your Money?: The Effect of Political Affiliation, Religion, and Income on Attitudes Toward Government Spending on Defense # 306

Presenter: Lauren Hamilton

Mentor: Dr. Michele Lee Kozimor-King

Each year, the U.S. Government allocates money to various departments including the Department of Defense. In the 2011 State of the Union Address, President Obama proposed a five year freeze in most discretionary spending and tens of billions of dollars in defense cuts. The 2012 Department of Defense budget requested \$670.9 billion dollars. This research examines the effects of political affiliation, religion, and income on attitudes toward government spending on defense. The data for this research was obtained from the 2006 wave of the General Social Survey conducted at the University of Chicago by the National Opinion Research Center. The sample size of the research was 921 respondents. The findings show that a majority of the sample respondents (37.8%) want the same amount of money to be spent by the government on defense. The results show that there is a weak direct correlation between government spending on defense and party identification as a Republican ($r = .263$; $p < .01$). Republicans are more likely to support government spending on defense than other political parties. It can be concluded from this research that political affiliation does affect individual attitudes toward government spending on defense. Additionally, the research shows that there is no relationship between identification as a Catholic and support of government spending on defense. Defense spending has become a 2012 Presidential Campaign issue, and it has been addressed by both parties. This research will aide political leaders and their affiliate parties for future elections and in recruiting likely constituents.

11:00 AM The "Big Four": Using Forensic Anthropology to Determine Sex, Age, Ethnicity, and Height of a Skeletonized Individual # 307

Presenter: Taylor Wambaugh

Mentor: Dr. Elizabeth Newell

Forensic anthropology is the combined application of physical anthropology, biology and physical science within the legal process. In addition to providing assistance in the recovery of human skeletal remains at crime scenes, forensic anthropologists focus on the identification and analysis of these remains. Typically forensic anthropologists work on cases with legal ramifications or for humanitarian efforts in which visual identification of the victim(s) is not possible. The skeleton is extremely durable and resistant to rapid decomposition. Therefore, it provides a number of characteristics that forensic anthropologists use to determine the "Big Four" of an individual; sex, age, ethnicity and stature. In this case study, anthropological techniques were used to determine these four characteristics for a skeletonized individual.

Theater	Poster	Masters Atrium
11:00 AM I Love the View from Up Here		# 308
Presenter: Keller Robinson		Mentor: Mr. Richard Wolf-Spencer

"I Love the View From Up Here" takes a look at the work and research it takes to complete a lighting design - specifically on Elizabethtown College Theatre's production of From Up Here by Liz Flahive.

FAPA Poster Masters Atrium

11:00 AM Specialization in Music Education: The Effects of Budget Cuts to the Duties of a Music Educator in Lancaster County # 315

Presenter: Danielle Fishman

Mentor: Dr. Kevin Shorner-Johnson

In the past 5 years, budget flexibility for education in Pennsylvania has become more restricted, leading to furloughs, layoffs, and position reassignments specifically within Music Education. In secondary music education, educators most often teach within an area of specialization (band, orchestra, choir). With budget restrictions and teacher reassignment, many educators have recently been forced to teach out of their areas of specialization. This study will examine the extent to which budgetary pressures have caused secondary music teachers to move outside of their area of specialization, specifically in Lancaster County, Pennsylvania. The study will also examine how these changes have affected the perceived quality of secondary music education. Through the use of policy analysis and surveys, I will determine the effect of the current economy on the quality of secondary music education. A list of all active music educators in Lancaster County will be compiled and surveyed. The survey will include items on specialization area, position reassignment, attrition and furloughs within the music department, and the perceived impact of any changes on educator comfort and impact. After the initial survey, two randomly-sampled educators from each specialization will be interviewed to access more descriptive data about perceived changes. Results will be analyzed and coded. It is anticipated that the results of this research study may shed light upon the impact of resource reduction on secondary music education. The design of this study may provide a model that can be replicated at a larger scale within the state of Pennsylvania.

FAPA Presentations Zug Recital Hall

11:00 AM The Influence of Tempo, Dynamics, and Modality on Listener Perception of Emotion within Short Digital Music Selections # 320

Presenters: Sarah Biedka, Erin Burg

Mentor: Dr. Gene Behrens

This study investigated whether the manipulation of various combined music components would result in melodies that were better perceived as anxious, sad, or angry. Music components included all possible combinations of three dynamic levels (soft, moderate, loud), three tempo levels (slow, moderate, fast), and two modes (major, minor). One 30-second melody was digitally composed and adjusted for all possible combinations of the music components to create 18 music selections. The 37 undergraduate participants were randomly assigned to one of the six randomized variations of the electronic test form. Participants listened to the music selections and rated the emotional content as anxious, sad, and angry using a 4-point scale (1=does not express to 4=does express). Results from a 3x18 within-subject ANOVA evaluated at $\alpha = .05$ indicated significance for the interaction effect of emotion and music components, $F(17.62, 634.27) = 15.73, p = .000, \text{Partial } \eta^2 = .30$. To identify where the significant differences existed, follow-up dependent t-tests were conducted and evaluated at a Familywise alpha level of .05. In that the highest mean ratings indicated which combinations were perceived as best expressing an emotion, only those differences are discussed. A pattern of significant differences (p ranging .000 to .009) for the highest means suggested: (a) fast tempo was a key component for identifying anxious, (b) slow tempos and minor modality were key components for identifying sad, and (c) loud and minor components were important for identifying angry. These results indicated that isolated music components may be important when distinguishing emotional content in music.

11:30 AM Music Therapy and the Neurobiology of Alzheimer's Disease # 321

Presenter: Elizabeth Shea

Mentors: Dr. Gene Behrens,
Dr. Aaron Cecala

The purpose of this study is to examine the neurobiological components of Alzheimer's Disease and how music therapists apply this knowledge to develop effective treatments. Although current neurobiological research documents the physiological changes that occur in the brain as Alzheimer's progresses, there is limited application within music therapy literature. This study examines a) the current neurological research and theories of the disease and b) music therapists' understanding and application of research when working with this population. Following an extensive review of the neurobiological and music therapy literature related to Alzheimer's Disease, a survey was constructed and administered to determine how music therapists work with this population and their current level of knowledge of the neurobiology of Alzheimer's Disease. The results will provide focuses for future research and publications. This presentation will include a summary of the literature on the neurobiological aspects of Alzheimer's Disease and the use of music therapy with this population, the results of the survey, and recommendations for the development of a neurobiological, research-based protocol for treating clients diagnosed with Alzheimer's Disease.

Mathematics Presentations H-107

1:15 PM Mathematics Behind the Game "SET" # 330

Presenter: Elizabeth Starkey Mentor: Dr. Leyla Batakci

Set is a card game in which the players try to find a group of three cards which all share or do not share specific attributes. In this talk, the game of Set will be demonstrated and clear rules of the game will be explained. After the game is established, the mathematical research that has been conducted will be discussed. The properties of the magic square and how it can be applied to the game of Set will be discussed in detail.

1:30 PM Optimal Strategy for Playing Around the World # 331

Presenter: Frank Arnold Mentor: Dr. Timothy McDevitt

"Around the World" is a common playground basketball game, where the goal is to make shots from specific spots on the court, with a penalty for missing both available shots in each turn. This research found the optimal strategies for two players with unequal shooting ability with an arbitrary number or con guration of shots.

2:00 PM A Graph Theoretic Approach to Bloxorz # 332

Presenter: Matthew Butera Mentor: Dr. Timothy McDevitt

Bloxorz is a online math game that can be solved by building a large graph and determining if certain states are connected. The goal is to find optimal solutions for arbitrary configurations of the game.

Education Portfolio Presentations H-110

1:15 PM A Framework for Teaching: Professional Portfolios for Educators # 339

Presenters: Susana Brown, Jennifer Warner, William Meany, Jenna Mattox, Charles Repucci, Dylan Wadell **Mentors:** Dr. Kathleen Blouch, Amy Thomason

Pre-service teachers seeking certification in Elementary, Special, and Secondary Education in the state of Pennsylvania will present their electronic professional portfolios showcasing best practices in the four domains of teaching responsibility: Planning and Preparation, the Classroom Environment, Instruction, and Professional Responsibilities. The portfolio signifies the capstone project of a student teacher's career at Elizabethtown College, accentuating achievements in coursework, field experience, pedagogy, and professional development.

1:45 PM A Framework for Teaching: Professional Portfolios for Educators # 340

Presenters: Kyra Scantlebury, Katie Evans, Laura Farnish, Gabriel Robinson, Kristen Wallis, David Hiddeman, Mitchell Hughes **Mentors:** Dr. Kathleen Blouch, Dr. Carroll Tyminski

See abstract #339

2:15 PM A Framework for Teaching: Professional Portfolios for Educators # 341

Presenters: Amanda Vaine, Amanda Sprague, Shannon Brown, Julia Schaefer, Lauren Duffy, Mark Vogel, Kathryn Ruby, Ashley Stoops **Mentors:** Dr. Kathleen Blouch, Dr. Carroll Tyminski

See abstract #339

Social Work Presentations H-211

1:15 PM Assessment of Human Trafficking Knowledge among Law Enforcement Officers in Central Pennsylvania # 351

Presenter: Jessica Juhnke Mentor: Dr. Susan Mapp

A recent increase in the public knowledge about human trafficking around the world has led to an increased amount of research in the area. However most of these studies focus on the victim and the perpetrator, and few focus on service providers who interact with these victims and perpetrators. This study seeks to identify human trafficking knowledge levels among law enforcement agencies in Central Pennsylvania. As first responders, law enforcement officials are often the ones who have the most interaction with trafficking victims and offenders. The survey given to law enforcement agencies focuses on many areas of human trafficking, including identification of trafficking victims, services available to trafficking victims, and how to handle a trafficking incident. These results have been compiled in order to identify potential training needs within agencies in Central Pennsylvania.

Session IV: 1:15 – 2:45 p.m.**Tuesday****1:45 PM Analysis of the Knowledge of Human Trafficking Among Social Service Providers in Central Pennsylvania # 352**

Presenter: Chelsea Mitchell

Mentor: Dr. Susan Mapp

A study was conducted regarding the knowledge of human trafficking in Central Pennsylvania. Three YWCA's that provide Domestic Violence/Sexual Assault services in Central Pennsylvania (Harrisburg, Carlise, and Lancaster) were surveyed to determine their knowledge of trafficking, services available to those victims, and what they would do if they came into contact with a victim. The results of this survey were analyzed to determine patterns and trends within each agency and how they related to each other.

Communications Presentations BLR**1:15 PM Social Media and Small Business Promotion # 370**

Presenter: Kristy Castellini

Mentor: Dr. Tamara Gillis

Dina's Dance Place is a small business that provides classes for dancers who range from ages two through adult. Dina's Dance Place's mission is to raise awareness among potential clients throughout the Southern region of New Jersey. A well-developed corporate identity that includes a website and business cards can effectively increase awareness for a small business. Since this business is lacking promotional tools, a website will increase awareness and educate prospective clients for the studio. Research has been conducted regarding an effective way for a small business to increase awareness and to educate prospective clients.

Constructing an Effective Promotional Campaign for a Small Business # 371

Presenter: Michelle Hare

Mentor: Dr. Tamara Gillis

Riverbottom Pottery is a pottery studio located in Harrisburg, Pa. The studio offers a consignment gallery, studio space rental for local artists, clay distribution and pottery classes for all ages. Being a small and still fairly new business, Riverbottom Pottery faces a reoccurring challenge to attract new customers in order to increase sales. By promoting Riverbottom Pottery's services, specifically their pottery classes, the studio will be able to attract new students for continued sales. Research has been conducted to develop an effective way for a small business to increase sales through client participation. The research supports the idea that an appropriately constructed promotional campaign will effectively promote and increase sales for a small business. The promotional campaign is the main element of the marketing strategy, which will employ promotional tools such as a special event, brochure and email marketing to encourage potential customers to make a sale.

Developing a PR Campaign to Generate Awareness # 372

Presenter: Kaitlyn Miller

Mentor: Dr. Tamara Gillis

Junior Achievement of Central PA (JACP) is a nonprofit, educational organization whose purpose is to promote financial literacy among youth in grades K-12. With help from schools, teachers, business people, college students, parents, and retirees they are able to send volunteers into schools using creative and instructional tools to illustrate to America's youth the importance of being "money-wise." JACP seeks to promote themselves as the leading organization on financial literacy throughout the month of April. An effective PR campaign that includes strong publicity to target audiences will be the most successful way of promoting awareness, recruiting volunteers, and increasing donor relations. Research will show that when a non-profit organization uses different evaluation strategies, social media, and ad designs, they will be the most successful in increasing awareness of their mission.

Implementing Communication Strategies to Assist in the Volunteer Recruiting Process for Nonprofit Organizations # 373

Presenter: Jordyn Howe

Mentor: Dr. Tamara Gillis

The Central Pennsylvania Coalition United to Fight Cancer, CATALYST, is a nonprofit, community-based organization located in Harrisburg, Pa. The organization focuses on improving the cancer survival rates of ethnic and minority individuals in Central Pennsylvania and statewide. CATALYST will be participating in the 2012 Highmark Blue Shield Walk for a Healthy Community. The organization's goal is to recruit 100 volunteers and raise \$5,500. The organization struggles to recruit volunteers and effectively communicate with them throughout the volunteer process. An effective communication strategy to recruit volunteers to a nonprofit organization is through a mix of public relations strategies, including monthly newsletters and weekly email blasts. Research supports that this implementation of public relations strategies will benefit the nonprofit organization volunteer recruitment process. Therefore, the solution to the CATALYST's challenge is through the implementation of monthly newsletters, in addition to weekly email blasts.

Creating an Informative Video to Increase Awareness and Donor Participation

374

Presenter: Janie Szybist

Mentor: Dr. Tamara Gillis

The North Museum of Natural History and Science is a nonprofit museum located in Lancaster, Pennsylvania. Through educational programming, the North Museum seeks to enrich their community and create an interest in science among children and adults. Because the North Museum is a local organization, they have a difficult time creating awareness of their beneficial programs, specifically to potential donors. By creating a 4-5 minute informative video, the museum will raise awareness and donor participation rates. Research has shown that creating a video is an effective way to increase awareness of an organization. The North Museum will show the video to potential donors to demonstrate what the North Museum does for the community. The video will help solve the North Museum’s challenge of raising awareness and donor participation.

Anniversary Celebrations: Historical Milestones Represented Through the Media

375

Presenter: Kelly Sauerzopf

Mentor: Dr. Tamara Gillis

Landis Communities is a non-profit organization that provides various programs and services to those ages fifty-five and older. An auxiliary of Landis Communities, Landis Homes is beginning its fiftieth anniversary campaign by deconstructing its previously published thirty-year history book, and converting it into a web-based media piece. Research has been conducted regarding effective ways for non-profit organizations to celebrate historical milestones. This research supports the idea that an efficient way to commemorate organizational milestones is through web-based digital media presentations. The interactive digital timeline based from Landis Homes’ thirty-year history book is the primary component of the media relation’s strategy used as a catalyst to the organization’s upcoming fiftieth anniversary celebration.

Sociology and Anthropology Presentations H-212

1:15 PM Hoping for Brighter Days Ahead: Amish Treatment of Mental Illnesses # 380

380

Presenter: Rustin Dudley

Mentor: Dr. Donald Kraybill

Millions of people worldwide are affected with mental illnesses every day. Though some people may be more susceptible to mental health problems because of their genetic makeup, these illnesses do not discriminate against age, race, gender or religion — anyone could suffer from one at any given time. The Amish emphasis on community interdependence and separation from the world means that many problems — including issues with mental health — are dealt with inside of the community, and outside help only comes as a last resort. However, for some people this insider ‘treatment’ is not enough. Problems arise because many Amish are opposed to involvement in English counseling programs, and though many are willing to take psychotropic medication, the underlying issues are not being dealt with. By using several Amish primary sources such as the magazine Family Life and an interview with the director of a Amish ‘rest home’ as well as several books and journal articles about Amish and English treatment of mental illnesses, I will prove that, due to their culture, the Amish require special programs for treatment of mental illnesses.

1:45 PM The Afterlife: Amish and Modern American Views # 381

381

Presenter: Matthew Walters

Mentor: Dr. Donald Kraybill

The worlds of both the Amish and the English concern themselves with thoughts of the afterlife, but the Amish views on the issue radically affect their behavior and lifestyle. Using sources such as books, articles, and polling data, I have concluded that the Amish view about the afterlife plays an immense role in their life of separation from the world. Drawing their beliefs from the Bible, the Amish place strict emphasis on both the rigor in lifestyle that one requires to enter heaven, and the ever-presence of its opposite, hell. Unlike most other views on the afterlife in America—which can promote certain customs and rituals—the Amish views impact their way of life as a whole. Even as the modern American world moves away from the thought of an afterlife, the Amish resolve to stay put, unwilling to risk the great sin of backslidden faith.

2:00 PM Feeding the Amish: Changes in Two Generations of Food Preparation and Consumption # 382

382

Presenter: Emily Gockley

Mentor: Dr. Donald Kraybill

The lifestyles of Amish people have been changing in Lancaster County as the shift from farming occupations to Cottage Industries as well as gaining new technologies occur. Using resources such as cookbooks, articles, books, letters, and interviews with Amish men and women on the types of food eaten currently and previously, by their grandparents, trends of traditional foods with modern variations and little change at cultural events emerged. These trends describe the appearance of time-saving, prepared food and more restaurant dining, much like mainstream culture. Yet, the Amish go against national trends and sustain their identity by serving traditional Swiss-German dishes more commonly than non-ethnic food, especially at community gatherings.

Session IV: 1:15 – 2:45 p.m.**Tuesday****2:15 PM It's All in the Genes: Prevalence and Treatment of Genetic Disease in the Amish # 383**

Presenter: Amanda McCaffrey

Mentor: Dr. Donald Kraybill

In a marriage of biology and culture, endogamy and genetic disease in the Amish can be looked at simultaneously to determine causes and patterns in a small cultural group. Due to the founder effect and incredible birth rates, the Amish have thousands of people with very few last names. In addition, the Amish are frequently related to their marriage partners as they tend to marry people in their area and definitely within their religious group. Genetic disease is present in the Amish and they are forced to negotiate with technology and modern medicine as they go through genetic screening to determine disease and treatment. The Amish serve as a very accessible and useful case study to look at diseases that are shared by non-Amish in the United States due to their easily traceable genealogies. The influence of both traditional aspects of Amish culture and biological factors determine the relationship the Amish have with genetic disease, both in detection and treatment.

2:30 PM The English Threat to Pennsylvania German # 384

Presenter: Tamara Eichelberger

Mentor: Dr. Donald Kraybill

English has influenced both the Amish use of Pennsylvania German and the lexicon of the language. Using sources such as books, journal articles, and primary sources such as Amish periodicals, I have found that the Amish have distinct spheres of use for both English and Pennsylvania German, and their attitudes towards the languages differ. The syntax and phonetics of Pennsylvania German has remained stable, but the lexicon has shown great English influence. German and Native American languages have been influenced by English in similar ways as well. The English influence on Pennsylvania German poses a threat to the language. Occupational changes pose the greatest threat to the language by exposing the Amish to more English. Pennsylvania German may not be in immediate danger, but its survival is threatened by English.

Biology Presentations H-213**1:15 PM Let There Be Light! : Light posts and Emergency Call Box Locations on Elizabethtown College Campus # 390**

Presenter: Charlie Rubis

Mentor: Dr. David Bowne

Lighting on the Elizabethtown College campus is very important for the safety of the students and faculty alike. Also important are the emergency call boxes located throughout the campus. The question that can be raised is how well lit and safe is our campus? Some areas of the campus may be too lit and others not lit enough. The research I have done will show what areas on campus need more light and what areas have too much light. Too much light in one area would be a waste of electricity and light pollution. For my research I used a handheld GPS to plot the locations of all light posts and emergency boxes on the Elizabethtown College campus. Along with the locations of the lights and boxes, the diameter of light given off was measured to see how far the light was shining in the given area. All of the data were incorporated into a geographic information system (GIS). My analysis will show the lighting patterns on campus and will show if the emergency boxes are in good lit locations and if new boxes should be added to darker locations which are important for student safety. This GIS could also be helpful to Facilities Management in their managing of light on campus.

1:30 PM Where Should the Field House Go? Site Selection on the Elizabethtown College Campus # 391

Presenter: Tiffany McLelland

Mentor: Dr. David Bowne

Elizabethtown College is proposing to construct a field house on campus that will house all the athletic and fitness facilities in one physical structure. This new structure will house NCAA courts for both basketball and volleyball along with the body shop, a spin room, a yoga room, racquetball and squash courts, and an indoor track. Because of the nature of this new building, it will be highly trafficked by the student body of the college. Therefore, the placement of this building on the college's campus is extremely important. This project will address the question of where the best location of the field house is on the campus, taking into consideration: walking distance for the students, adequate space for the facility in question, and relative locations to other buildings on Elizabethtown College's campus. I will create a geographic information system using ArcGIS to conduct the analysis, which will consist of one map composed of multiple layers of information from various separate sources. The intended audience of this project will be the campus administrators and the college's student body. The results of this project should provide Elizabethtown College's administrators the necessary geographic information to make an educated decision about the location of the proposed field house.

Session IV: 1:15 – 2:45 p.m.**Tuesday****1:45 PM Where are the Trees? Mapping Tree Locations on Elizabethtown College's Campus # 392**

Presenter: Autumn Phillips

Mentor: Dr. David Bowne

The beauty of Elizabethtown College's suburban campus is due in part to its trees. The campus contains 755 planted trees which include 69 different tree species. The campus community does not currently have an up to date map of the location and identity of these trees. In this project, I used a geographic information system (GIS) to map the location of all the planted trees on the campus of Elizabethtown College, PA as of December 2012. Another student and I identified and used a GPS to determine the location of all of the trees on campus. I would like this GIS of tree location on Elizabethtown's Campus to be used by faculty and staff in planning and organizing maintenance and grounds work that needs to be done around the campus, as well as determining where additional trees could be planted. The project could also be useful to future students who will be completing research on the trees on Elizabethtown College's campus.

2:00 PM More Farms or More Families? An Assessment of Land Use Change in Lancaster County 1990-2008 # 393

Presenter: Erin Johnson

Mentor: Dr. David Bowne

Lancaster County is traditionally a highly agricultural area. However in the past two decades, the county has experienced growth in residential communities. This raises the question as to the amount of agricultural land that has transitioned into residential areas. I created a geographic information system (GIS) to analyze the conversion of agricultural fields to residential land in Lancaster County, Pennsylvania between the years 1990 and 2008. Data on land use and land cover were obtained from the Lancaster County GIS Department. This GIS has been designed to compliment a current research project which shows that different land use types produce varying levels of soil respiration as a result of different environmental and soil characteristics. Specifically, that research found that corn agriculture produces more CO₂ than do residential lawns. Therefore, conversion from agricultural to residential land could result in a net increase in greenhouse gas emissions. This has implications when considering the effects of CO₂ on global climate change.

2:15 PM Spatial Distribution of Elephant Facilities in the United States and Canada # 394

Presenter: Elise Newton

Mentor: Dr. David Bowne

The purpose of this project is to show the spatial distribution of the captive elephant population in North America by designing and implementing a geographic information system (GIS). With the African and Asian elephant species being endangered in both Africa and Asia, populations are able to be sustained in foreign regions, including but not limited to North America, through captivity. Current conservation efforts to maintain the North American elephant population focus on breeding – both through natural and artificial reproduction. Currently, no mapping system exists that enables users to keep track of the location of elephants at accredited zoos, sanctuaries, and private sectors as they are born or relocated (importing has ceased). With the use of this GIS, users will be able to easily identify the location of individual elephants throughout the United States and Canada, be able to identify the reproductive status of male and female elephants, and keep track of the elephants born into captivity versus being imported from the wild. Knowing distances between locations would prove useful when deciding how easily an elephant could be transported for mating purposes. These data would prove useful both for the general public (“elephant enthusiasts”), and elephant professionals concerned with conservation efforts in North America.

2:30 PM Oh Deer! Analysis of Pennsylvania Deer Harvest in Relation to Land Use # 395

Presenter: Chelsea Payne

Mentor: Dr. David Bowne

Pennsylvania is known for its pristine mountains, beautiful rivers and wide variety of wildlife. This abundance of wildlife attracts thousands of hunters each year looking to harvest a portion of the wildlife. One of the main big game animals hunted in Pennsylvania is the white tailed deer. The antlered and antlerless deer analysis project compares the Pennsylvania Game Commission Harvest data from the years 2004- 2011 to determine a possible trend in land use and deer harvest. I am investigating the distribution of deer harvests in Pennsylvania wildlife management units (WMU) from 2004-2011 by creating a geographic information system. The data obtained from different databases will be combined to form an interactive map in which users can look at the differences between years for each wildlife management unit and compare them to land use data of the same year. The projects data map include county outlines, rivers, major cities, wildlife management unit outlines, layer for each of the deer harvest years and land use layers. The data layers will be obtained from Pennsylvania Spatial Data Access and from USGS Dataset. These data layers will help individuals assess the areas and understand the deer populations harvested. This map could be useful for hunters and wildlife managers to properly evaluate the wildlife management units over time.

English	Presentations	H-214
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1:15 PM	Discipline, Torture, and Panopticism, Oh My!: Michel Foucault's Theories in George Orwell's 1984 and Animal Farm	# 400
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Presenter: Tanna Leigh Gobble

Mentor: Dr. Kimberly Adams

Many readers are familiar with George Orwell's dystopian novels 1984 and Animal Farm. These dystopian novels are known more for their commentary on the communist society of Soviet Russia. I will show instead how they can be analyzed using Michel Foucault's theories. In Discipline and Punish, his 1975 collection of essays, Foucault analyzes the French judicial system, both past and present. The concepts he discusses—discipline, torture, panopticism, and the relationship between power and knowledge—can be found within Orwell's texts, and can be used to achieve a deeper understanding. Foucault's theories are evident in modern society. His concept of discipline pervades the public school system and militant forces. Although torture has been deemed inhumane in most cultures, Foucault pointed out that brute force as a form of torture has been replaced by a focus on controlling the mind and body. Lastly, the system of panopticism is still used in prisons, and the concept of having one person watch over a group has been applied to modern surveillance techniques. Foucault's concepts of discipline and torture, the relationship between power and knowledge, and panopticism, help to achieve a greater understanding of Orwell's novels. Orwell demonstrates the relevance of these concepts in multiple ways throughout his novels, creating two similar, yet different societies established on Foucault's studies of the French judicial system.

1:45 PM	Reaching for More: Learning from the Darkness to Embrace the Light	# 401
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Presenter: Rebecca Long

Mentor: Dr. David Downing

This presentation would be a culmination of my Honors project for the English Department. I wrote my own memoir after reading many books on the subjects of grief and spirituality. I will start the presentation by giving the synopsis of my memoir. My mother was sick from breast cancer and subsequently died from it when I was thirteen years old. I battled my grief over a period of years and finally came to bond with a family who cared for me, my second family. My "second" mom was soon diagnosed with the same cancer that my biological mom died from. I map my progress of how I dealt with this news in a more spiritual-oriented way than when my biological mom died. I will most likely read two passages during my presentation that best represent my growth as a person through these two experiences. The first will be when my mother passed away. The second will be more of a reflective passage, showing how that formative experience of my mother's passing and "second" mother's illness have greatly shaped my views on spirituality and life in general. I will then answer any questions the audience may have on my memoir or life experiences.

2:15 PM	"All right, then, I'll go to hell": The Influence of Society and Nature on Conscience in Huckleberry Finn	# 402
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Presenter: Shanna Kirgan

Mentor: Dr. John Rohrkemper

The Adventures of Huckleberry Finn takes readers back to 1840's Missouri, a time and place where the issues of racism and slavery in America took center stage. Twain's novel traces the societal escape of Huck Finn, a boy with an abusive father, an absent mother, and no interest in being "civilized." Though it is clear that he is on the brink of society, Huck still displays some racist qualities in speech and ideas. However, once Huck finds himself out along the currents of the Mississippi with Jim, those qualities begin to disappear from his character. It is only when within the confinements of society that Huck takes on the racist views of those who surround him, while out in nature, Huck displays an anti-racist attitude when he is alone with Jim. Over the course of their time spent together, the runaways form a bond that would otherwise be unacceptable within the walls of cities and towns. But along his journey to social and emotional freedom, Huck repeatedly finds himself face-to-face with a dilemma: he can turn Jim in, or he can continue to help him escape. Racist society often dictates what Huck's conscience feels, while his own personality controls his heart, landing him in a constant tug-o-war battle between the two. By the end of the novel, however, Huck fully commits himself to helping Jim, even if it means facing eternal damnation in hell.

2:30 PM	Learn Something New Every Day: Coming of Age in Their Eyes Were Watching God and The Nick Adams Stories	# 403
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Presenter: Lauren Stine

Mentor: Dr. John Rohrkemper

Despite the fact the term 'coming-of-age' is most often reserved to refer to adolescents, people experience definitive shifts in their life at specific moments, not only in the early developmental years. Developmental psychologists have been expanding their theories of maturity and growth to now encompass the development which occurs over the entire lifecycle. Adolescence is crucial to physical and emotional development, but events and experiences also greatly alter a person's perspective of the world later in life. This same idea of lifelong development holds true with literary characters as well. Zora Neale Hurston and Ernest Hemingway created characters who grow and adapt their world views several times over their life. Janie Crawford of Hurston's *Their Eyes Were Watching God* and Ernest Hemingway's character Nick Adams constantly are expanding their emotional knowledge of the world. Through experiences of love and heartbreak, life-altering experiences, and the process of coming to terms with the past, Nick and Janie come of age several times during their lives, specifically at monumental moments in adolescence, early adulthood, and midlife. Even though these two characters are very different in regards to race, class privilege, and life experiences, Janie and Nick both follow a similar trajectory of development throughout their lives.

Modern Languages Presentations H-215

1:15 PM What is Turkish-German Literature? # 410

Presenter: Ceyda Sablak Mentor: Dr. Mark Harman

German speaking countries have been interacting with Turkey ever since the 17th century. When the Ottoman Empire first started expanding into Austrian territory, Vienna was besieged on two occasions: in 1529 and 1683. The latter siege left behind several Muslim Turks who constituted some of the first foreign residents in German -speaking parts of Europe. Today, Turks make up the biggest ethnic group in Germany, approximately 4 million people. This Turkish-German population has deeply affected the culture of the nation as a whole. In literature alone, there have been over 200 Turkish-German authors, and counting. Among the best-known are Muhammet Mertek, Cem Ozdemir, Renan Demirkan, Akif Pirinçci, Emine Sevgi Özdamar, Yuksel Pazarkaya, and Yasemin Karaksoglu. Each of these authors has a different background and literary approach, so it would be difficult to portray them as a single group. In my presentation I will focus primarily on Muhammet Mertek and Yasemin Karaksoglu and discuss how their Turkish heritage has affected their works.

1:45 PM Reclaiming Memory: The Making of a Holocaust Survivor Story # 411

Presenter: Jessica Funtanilla Mentor: Dr. Mark Harman

What makes a survivor story? Where does our fascination with Holocaust memoirs and testimonies come from? How can we be sure that such stories reflect what happened? Can authors accurately recall these traumatic events so many years after they occur? This presentation examines the unique and mesmerizing account of Austrian Holocaust survivor Ruth Klueger, who told her story once in her native German, then a second time in a self-translated English version. Klueger’s works demonstrate the challenge of reaching two very different audiences, a task which requires her to alter her style without diminishing her narrative voice and energy. A best-seller in German-speaking countries, Klueger’s first work, *weiter leben*, is both a memoir and a critique of German discourse on the Holocaust; her self-translation, *Still Alive*, is a retelling and continuation of *weiter leben* for an American audience. Klueger’s autobiography confronts the challenges posed by autobiographical writing, and serves as a unique model in the realm of auto-translation. While her two memoirs describe the same events, the books need to be understood as separate accounts, rather than identical stories.

2:15 PM Gottesmord: Visions of a World without Religion # 412

Presenter: Tyler Kunkle Mentor: Dr. Mark Harman

Both Friederich Nietzsche and Aldous Huxley speak of a future without religion; however, their visions of this future vary greatly. In *Thus Spake Zarathustra* (1883-1885), Nietzsche advocates moving beyond good and evil and acting in one’s own interest, leaving behind the conventional boundaries of acceptable behavior. In *Brave New World* (1932), Huxley envisions a society where rampant drug use fills the hole once occupied by God, with authoritarian government supposedly keeping society in check. On a deeper level, however, both writers grapple with a similar theme: man cannot rise to his full potential until he analyzes the problematic direction in which society is headed and seeks to rectify its course. In this presentation, I will discuss this idea as well as analyze the implications these works have at present.

Computer Science Posters Masters Atrium

1:15 PM ECrypt: A Tool for Encryption and Decryption # 420

Presenter: Kathryn Howser Mentor: Dr. Thomas Leap

ECrypt is a software package that was created, using C++, for use by the honors first-year seminar course, Cryptologic Mathematics, taught by Tim McDevitt. ECrypt is used to demonstrate encryption, decryption and cryptanalysis using classical ciphers. For my senior project, I rewrote and redesigned ECrypt using Java programming technology to give it a cleaner and more reliable user interface and to correct some flaws in the original program.

1:15 PM Campus Digital Signage # 421

Presenter: Andrew Sauls Mentors: Dr. Thomas Leap, Mr. Brian Helm

As a student intern at Information Technology Services, I have been researching the feasibility of a digital signage solution on campus. Digital signage refers to the combination of different forms of media onto a single display to create a truly dynamic piece of content. This distribution method can be used to display stock tickers, RSS feeds, Web-based content, video, images, and even interactive content. The proposed system will run off of a centralized server that will feed the content to the individual displays over the campus network. Through my research, I will decide which software solution would provide the college with the highest number of benefits and features for the lowest cost. The system will integrate with existing campus-wide information systems like Active Directory and our event scheduling system to operate at maximum efficiency and make the system easy to learn and use. I will utilize the proposed digital signage system to enhance the video wall in the first-floor Esbenshade lobby. This will demonstrate the dynamic content capability, along with the system’s synchronization into the campus’ event scheduling system, along with RSS feeds and other web content. I will also demonstrate how the system works from behind the scenes, and prepare a mock emergency-alert to show how the system can be utilized as a campus wide notification system in the event of an emergency.

Session IV: 1:15 – 2:45 p.m.**Tuesday****1:15 PM Classroom Lab Virtualization****# 422**

Presenter: Steve Wilczek

Mentors: Dr. Fani Zlatarova,
Mr. Sam Rothermel

The project consists of finding a virtual desktop solution that allows a student or staff member to access the resources from a classroom lab, on or off campus. This will be the equivalent to sitting down at a classroom computer, if not enhanced. Once chosen, the vendor will be notified to set up meetings for implementation in the summer months, which also consists of software licensing. Desktop virtualization comes down to choosing between Citrix XenDesktop and VMware View because they are the leading companies out there. The conducted research has proven that the existing Mac labs cannot be virtualized at this point because Apple has strict standards with its licensing. They may change this in the future, but as of right now we will only virtualize Windows PCs and have the means for Mac users to log into a virtual Windows environment. This will hinder Mac users because they will have to get used to the Windows software versions, but then again, they can choose not to access the software in this manner. However, the Steinman Mac lab will still be available. One very important feature of virtualization is the ability to use a mobile client. With tablets such as the iPad and smartphones becoming more and more prevalent, someone can access the created virtual desktop solution from their mobile device. These different forms of media and how they interact with the Elizabethtown College servers will eventually reduce costs of maintaining labs and purchasing new technology every couple years.

1:15 PM Tracking Green Initiatives**# 423**

Presenter: Kyle Deeds

Mentor: Dr. Fani Zlatarova

The main focus of this project is developing a database that is capable of storing information that pertains to a company's energy usage. This information is extremely useful for a company to track how effective their green initiatives are at decreasing energy consumption. The outcome of this project will be implemented for use by a real company. The database will be designed with sound database logic as well as be able to be used by non-technical people. MS Access will be the DBMS for this project as it is cost effective and is simple to use. One crucial part of the project will be making forms and Web interface that allow for easy data entry by users. The database should also be able to generate reports that can track the company's energy uses.

1:15 PM Online Fantasy Football Using a Database**# 424**

Presenter: William Bentley

Mentor: Dr. Fani Zlatarova

A fantasy football database will be created. Fantasy football is an online game in which users draft players from real NFL teams to create their own team of players. Points are awarded based on the performance of a user's players during each week's games. This project will require research into efficient ways of storing sports statistics as well as similar databases. The database will feature complex tables and relationships that must be carefully planned before any data is entered. A table relationship diagram will visually display the relationships between tables. After the planning process is over, the database will be made useful by using HTML and PHP languages to create a website to host the game. Users of the website will be able to make an account then invite their friends to join a league to compete against one another. The completion of this project will demonstrate how any website can add a fantasy football feature.

Physics and Engineering Posters Masters Atrium**1:15 PM Engineering Devices for Music Therapy I****# 425**

Presenters: Shane Weller, Kyle Gable, Kyle Wilt, Shwe Hein

Mentors: Dr. Sara Atwood,
Dr. Kurt DeGoede

It is well known that music is a good way to facilitate healing and development. When used in conjunction with physical therapy, music therapy allows patients to heal and develop faster. Music therapy encourages proper motor control through musical tones that accompany repetitive movements. Music therapy is often used for patients with Down's syndrome, Autism, or Parkinson's disease; motor control issues are key concerns of each condition. With the proper musical tones, the motor control triggers can be activated by tones for each specific health condition. The objective of our project is to better enable developmentally or physically disabled patients to play instruments that aid in their healing or therapy process. Our challenge is to create a device that could be marked to active music therapists, to enhance the music therapy process. We will be designing a modular structure to hold instruments in place to be used in various exercises such as those to increase range of motion. This structure will be useful for individual or group music therapy.

1:15 PM K-12 Engineering Outreach by Undergraduates**# 426**

Presenter: Nicholas Young

Mentor: Dr. Sara Atwood

As a culminating lab project in the Strength of Materials course, groups of 4-5 students have identified concepts relating to engineering, designed and constructed a demonstration or activity to explain the concept, and taught it to middle school students. The purpose of this project is to contribute to the field of engineering education research focusing on K-12 outreach to aid in the recruitment of under-represented students in engineering. The specific aims of this project are two-fold: 1) to excite middle school students about science and engineering and break down misconceptions about engineers, and 2) to instill in undergraduate engineering students the need for science outreach while giving them an opportunity to creatively teach course content.

Session IV: 1:15 – 2:45 p.m.**Tuesday****1:15 PM K-12 Engineering Outreach by Undergraduates # 427**

Presenters: Bradley Risser, Joshua Rowlands, Emily Vogel, Courtney Warlick, Shane Weller, Brian Wenger, Kyle Wilt Mentor: Dr. Sara Atwood

See Abstract # 426

1:15 PM K-12 Engineering Outreach by Undergraduates # 428

Presenters: Vaclac Hasik, Rafal Klos, Brian Layng, Tuyen Le, Scott Lewis, Ellen Lowy, Eleanor McCarthy Mentor: Dr. Sara Atwood

See Abstract # 426

1:15 PM K-12 Engineering Outreach by Undergraduates # 429

Presenters: James Annab, Deborah Bartyczak, Patrick Dixon, Andrew Fetterman, Anthony Fraccica, Joshua Frey, Kyle Gable Mentor: Dr. Sara Atwood

See Abstract # 426

1:15 PM Apple Chunkin' Mentor: Dr. Sara Atwood #430-439

In Middle Age warfare, the trebuchet was a common siege machine found on the battlefield. The basic trebuchet design utilizes a counterweight or tension to rotate an arm about an axis, in order to launch a projectile with distance and accuracy. The trebuchet revolutionized warfare for hundreds of years, and was used successfully in combat until well after the introduction of gunpowder. The objective of this project is to design and construct a mechanically powered trebuchet or catapult device to launch apples in a competitive setting. Teams are competing to determine a winning design that launches apples the furthest. The groups incorporate modern engineering design concepts, materials, and tools with traditional medieval techniques to maximize the performance of the launching mechanisms.

Presenters: Juanita Washington, Wayne Gross, Cozette Zimmerman, Daniel Thompson # 430

Presenters: Joshua Frey, David Cain, Matthew Klempa, Jack Hess # 431

Presenters: Meghan Donohue, Matthew Bassett, Tyler Athey, Kyler Killinge # 432

Presenters: Daniel Gresh, Andres Hartman, Josiah Buxton, Justin Signora, Patrick Kelly # 433

Presenters: Andrew Khela, Dustin Cramer, Braden Rudesill, Luke Yanek, James Cohen # 434

Presenters: Brandon Harris, Christopher Pauzer, Matthew Jadro, Cristian Salgado, Ryan Supplee # 435

Presenters: Matthew Frey, Nathaniel Flickinger, Graeff Phillips, Mark Kaye, Kelvin Jerry # 436

Presenters: Alexander Barrow, Devon Bosby, Richard Sturz, Tucker Strausbaugh, Kaylee Werner # 437

Presenters: David Boretti, Eric Borkowicz, Dylan Sisler, Cesar Rojas, Sajid Amir # 438

1:15 PM Engineering Devices for Music Therapy II # 439

Presenters: Nathan Caudill, Melissa Hessenauer, Deborah Bartyczak Mentor: Dr. Sara Atwood

It is well known that music is a good way to facilitate healing and development. When used in conjunction with physical therapy, music therapy allows patients to heal and develop faster. Music therapy encourages proper motor control through musical tones that accompany repetitive movements. The objective of our project is to better enable developmentally or physically disabled patients to play instruments that aid in their healing or therapy process. Our challenge is to create a device that could be marketed to active music therapists to enhance the music therapy process. We will be designing a portable structure to encourage proper hand and leg motor control.

1:15 PM The Computational Analysis of Lamellar Orientation and Size in Ultra-High Molecular Weight Polyethylene # 440

Presenter: Kelly Seymour Mentor: Dr. Sara Atwood

Ultra-High Molecular Weight Polyethylene, or UHMWPE, is a material commonly used as a bearing between metal components in knee or hip replacement joints, and is frequently the cause of joint failure. Ultra-high is a polymer with two phases in microstructure, the weak amorphous material, consisting of randomly oriented polyethylene chains, and the strong lamellar material, with polyethylene chains organized into plate-like structures. The lamellar material is the major focus of this study because it gives the bulk material strength and dominates the overall behavior. The motivation behind this study is that the lamellar material in the microstructure could be altered to increase the overall longevity of the replacement joint. Previous research shows that the failure of ultra-high is usually a result of wear, fatigue, or fracture of the material, which has been experimentally linked to the strength and stiffness of the bulk material. Therefore, if stress and stiffness in the microstructure can be minimized, failure will be less likely. The results show that lamellar length and width do impact the strength and stiffness of the ultra-high, while aspect ratio has no apparent effect. Generally, as lamellar length increases, overall stiffness decreases and maximum Von Mises stress increases. Also, as lamellar width increases, overall stiffness decreases and maximum Von Mises stress decreases. Future research would entail manufacturing ultra-high according to these results for bench testing to determine if orientation and size of lamellae extends the expected lifespan of replacement joints.

Session IV: 1:15 – 2:45 p.m.**Tuesday****1:15 PM Steel Tubing and Welding Fatigue Test Analysis: A BMX Approach****# 441**

Presenter:

Brian Wenger

Mentor: Dr. Sara Atwood

This project focuses on the toptube / headtube junction on a BMX bike. This junction often fails due to large amounts of stress and fatigue resulting from the abusive riding style that is common on BMX bikes. The project involves analysis of stresses and strains in BMX bikes, as well as design and construction of a testing apparatus to simulate realistic loading conditions. The particular fatigue testing procedure that simulates toptube / headtube junctions involves the application of a cyclic force of 500 pounds by a pneumatic ram. The testing procedure tests three different welding configurations with the purpose of analyzing cracks, yielding, and failure of the tested junction pieces. This research could also be applied to other welded joints in other applications, which could improve the safety and durability of other structures and frames.

1:15 PM SABVI Production Line**# 442**

Presenters:

Ryan Hannon, Jake Hoffstein, Shaun Martin, Scott Lewis

Mentor: Dr. Kurt DeGoede

Our team's project was to help the Susquehanna Valley Association of the Blind and Visually Impaired (SABVI) design a production line in which visually impaired people can operate. The production line will be used to make granola for the company "Nuts about Granola" and will help the visually impaired people make a living. Our production line begins with the unloading of materials from the delivery trucks and takes it to packaging and storage. This includes the mixing of products, to cooking the granola, and cooling the finished product before packaging. At all times of running the production line, two members who are visually impaired must be working. We have one person stirring the granola at the half way point of cooking, and another member packaging the finished product.

1:15 PM Design and Fabrication of a Bicycle Shelter**# 443**

Presenters:

Jack Hess, James Annab, Matthew Klempa, Ruiz Jose

Mentor: Dr. Kurt DeGoede

Our team of second-year engineering students is designing and fabricating a shelter for bike storage adjacent to the Hackman Apartments on campus. With no useable overhang for resident students to store their bikes near the Hackman Apartments, students have been storing their bikes in the hallways and stairwells. This standard has created numerous fire hazards throughout the buildings which threatens the students' safety. We consulted with our client, student senate, to determine specifications for the shelter. Within resource limitations we have designed a cost-effective and functional storage shelter. We used a commercially available prefabricated system as a benchmark for our design, then developed materials and design elements that would minimize the cost of the finished product.

1:15 PM Study Carrels**# 444**

Presenters:

Vaclav Hasik, Tuyen Le, Andrew Fetterman, Josh Frey

Mentor: Dr. Kurt DeGoede

The concept of our sophomore engineering design project is to develop an efficient system to help our client needs: elementary age study desks designed to limit visual distractions. Our team must use our imagination and developing engineering skills to understand the engineering principles, client demands, and resource limitations. In this project, we analyzed the building of the desks, the structures, and the constraint for students who are easily distracted. The main goal of designing these desks is for students to maintain their focus while studying. The dimension of these desks will be able to accommodate the working area for these elementary school students. These desks should stand individually or as an integrated system of desks. Final designs will feature primary colors to complement the classroom decor. The materials that we used for the design will be constrained by our budget and client demands. By the end of the semester we will deliver prototype study desks to the client.

1:15 PM E-TRK: Development of Real-Time Motion-Capture Software**# 445**

Presenters:

Kelly Seymour, Russell Speiden, Alyssa Paranto

Mentors: Dr. Kurt DeGoede,
Dr. Daniel Panchik

E-TRK is a real-time motion capture software in development for rehabilitation use in a clinical setting, specifically for patients with limited upper-extremity motor control. This Occupational Therapy and Engineering collaborative project is working to develop an inexpensive and accurate method for motion capture that therapists would endorse for patients to improve motor control during rehabilitation. Currently, the software records data and graphs rotation, flexion, and abduction motions using two motion nodes attached to the wrist and elbow by tracking the relative motion of the two joints. A semi-structured interview was developed and conducted with experts across a variety of medical fields dealing with upper extremity motor control. From this input, we will adapt the E-TRK by determining what features are essential to add for clinical adoption of the E-TRK. From this market research, we are designing logic algorithms for implementation of these new tools for the E-TRK system. Some of the enhancements we are implementing include an easier and more stable motion node attachment system, access to acceleration data and graphs for patients with diseases such as Parkinson's, rhythmic sound cues for increased effectiveness in motion emulation, and lights and noises to make the experience more enjoyable overall for the patient. The next generation of this project includes implementing our logic algorithms and testing feasibility on using nodes on other areas of the body. These developments would make the system more desirable to all therapists and transform the current methods of tracking improvements in rehabilitation.

Session IV: 1:15 – 2:45 p.m.**Tuesday****1:15 PM Granola Packaging # 446**

Presenters: Gianfranco Moi, Derrek Boyer, Kent Hersom

Mentors: Dr. Kurt DeGoede,
Dr. Sara Atwood

The goal of our project is to design and construct a low cost, food grade packaging system for the “Nuts about Granola” company. We will be communicating frequently with Sarah Lanphier, the company’s owner, throughout the course of this project. Currently the “Nuts about Granola” company is expanding. Sarah wants to increase the efficiency of the company’s packaging system in order to keep up with market demand. Presently, packing the granola involves manually scooping the granola from a large bin into either two or twelve ounce bags, then measuring the weight of each bag before sealing. Using this process, a seasoned worker can only package about sixty bags of granola per hour. Unfortunately for small scale businesses such as “Nuts about Granola”, current available packing systems are all fully automated, and cost upwards of ten thousand dollars. Since the new system will only be in operation a few hours a week, it is not economically feasible for the company to invest in one of these systems. Our main goal is to design a low cost mechanical system that will allow a worker to package approximately two hundred bags of granola per hour. The system will package several different varieties of granola, so system reliability must be determined for both weight based and volume based solutions. The system must also be food grade, and therefore made of stainless steel

1:15 PM Control System for Workstation Crane to Minimize Acceleration Forces # 447

Presenters: Bradley Risser, Nicholas Seaman

Mentors: Dr. Tomas Estrada,
Dr. Kurt DeGoede

We are developing a crane system to efficiently move heavy objects within an industrial workstation with as little force applied by the user as possible. Our design will utilize cables instead of the conventional overhead beams and tracks. The objective of the cables is to reduce the force required for starting and stopping motion from that required by large bridges. This will be accomplished by using a control system to manage the tensions of the cables based on the input of the lengths of the cables. This will be valuable to many industrial workshops that utilize these crane systems. Because less force will be required for moving heavy objects, our crane system will be able to increase production speed and precision.

1:15 PM Structural Support Joint Stress Testing # 448

Presenters: Patrick Dixon, Steven Farmer

Mentor: Dr. Tomas Estrada

The past few editions of the Army Corps of Engineers Urban Search & Rescue Field Operations Guide (FOG) sparked debate and research as to the best way to build supports to maximize safety and strength for an urban rescue operation. Urban Search and Rescue is the dangerous task of operating in buildings that are fully or partially collapsed. More than often, these structures are multi-storied and contain heavy debris with a high potential for additional collapse. This project would test different suggested nail patterns used at joints in supports structures found in the Army FOG book. This can be expanded to also test different building materials. A major aspect of this project is the design of the testing apparatus. The challenge is to design and construct an apparatus that can apply the same stresses the supports would have to withstand in the field to find the strongest way to hold the supports together. We will have to consider budget restrictions as well as time restrictions and available materials. The overall goal is to find the strongest way to hold these support systems together, possibly making a hazardous rescue situation a little safer.

1:15 PM Design and Implementation of a Fiber-Optic Communication link # 449

Presenter: Thet Lwin Aung

Mentor: Dr. Ilan Grave

Fiber-optic communication enables transmission of information from one station to another by sending light signals through an optical fiber. Since its first development, fiber-optic systems have changed the communication industry and have played an important role in bringing solutions to the explosion of information traffic and bandwidth requirements due to the Internet, electronic commerce, computer networks, multimedia, voice, data and video demands. The project consists of designing a fiber-optic communication link that supports video and audio transmission over a moderate distance appropriate to a campus environment. The design is performed with a double goal: to design and build the first system of this type in a lab at Elizabethtown College, and at the same time to provide a platform for additional continuing projects in fiber optic communications. This project follows a course taken in the Physics and Engineering Department, about the basics of Fiber Optics Communication and the design of such systems. The demands for this project include the design of two different systems, for short range and middle range, and the implementation and construction of a middle range link. The design includes calculation of power and bandwidth budgets, and the implementation requires the integration of an infrared emitter module, of a fiber optic cable and a receiver, to the point of demonstrating a video and audio transmission. A path for expansion of this platform is also sketched by detailing future projects such as individual subsystem design, multichannel operation and network integration and optimization.

FAPA Presentations Zug Recital Hall

1:15 PM How Tempo, Dynamics, and Modality Influence Listener’s Perception of Emotion Within Short Acoustical Music Selections # 450

Presenter: Sarah Biedka

Mentor: Dr. Gene Behrens

The purpose of the study is to replicate a previous investigation of the combined effect of tempo (slow, moderate, fast), modality (major, minor), and dynamics (soft, moderate, loud) on listener's ability to identify anxiety, anger, and sad in short selections of music (Biedka & Burg, 2011). Changes will include the use of acoustic rather than digital instrumentation, two melodies, and additional participants. Subjects are being solicited from three colleges; each will be randomly assigned to one of six electronic test forms created using Jot Form. An emotionally-neutral minor and major melody will be improvised on piano and then each melody rewritten as its harmonic minor or relative major. The resulting four melodies will be performed on piano at three tempos, and the dynamics will be manipulated using Audacity. Participants will listen to and rate the perceived anxiety, anger, and sad emotional content of the 20-second music selections using a 4-point Likert scale. A 3x18 within-subject ANOVA will be used to test the hypothesis at alpha = .05. If the interaction for music components and emotions is significant, dependent t-tests will be conducted to identify where the patterns of significant difference exist. The results will be used to discover which music components aid listeners in identifying anxiety, sad, and angry in the music. Results will be discussed during the presentation.

2:15 PM Effect of Music Stories on Short-Term Memory in Typically Developing Preschoolers # 451

Presenters: Melissa Gerner, Elizabeth Shea, Pauline Jarvie

Mentor: Dr. Gene Behrens

This study investigated whether sung or spoken presentations of a story would impact short-term memory of typically developing preschoolers. Nineteen participants, 8 males and 11 females (mean age=4.0), were randomly assigned to sung or spoken groups. Phase one involved presenting an original story, which was spoken or sung with accompaniment written by the researchers. Phase two occurred one hour later. Students’ memory was individually tested using nine short questions drawn from the story. Responses for each item were scored on a 3-point scale: 0=totally incorrect, 1=partially correct, and 2=totally correct. A total score out of 18 was calculated for each student by adding the item scores. The difference between total scores for the music ($M=5.00$) and spoken ($M=7.67$) groups was evaluated using an independent t -test at $\alpha=.05$. The results indicated no significant difference between mean total scores for the groups, $t(17)=-1.61, p=.127$. A strong effect size, Cohen’s $d=.74$, indicated that if more participants were involved, the spoken group may have significantly scored higher than the sung group. Two post hoc analyses were conducted and the results indicated: (a) no significant differences between total scores for females ($M = 5.55$) and males ($M = 7.25$), $t(17)=-.972, p=.345$; and (b) significant differences were found based on difficulty of questions, easy ($M=.37$), moderate ($M=.97$), and hard ($M=.54$), $F(2, 36)=10.66, p=.000, Partial\ Eta^2=.37$. Significance was found between scores on easy compared to moderate questions, $p=.001$, and moderate compared to hard questions, $p=.005$. Overall results imply that music may be distracting for typically developing preschoolers.

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