

Scholarship and Creative Arts Day 2011



ONE
IDEA
AT A
TIME

April 18th & 19th 2011
Elizabethtown College

FEATURING

Keynote Address
James McBride



James McBride

Elizabethtown College 2011 Scholarship and Creative Arts Day Keynote Speaker

Tuesday, April 19th, 3:00 p.m.

Leffler Chapel and Performance Center



Award-Winning Writer
Jazz Musician

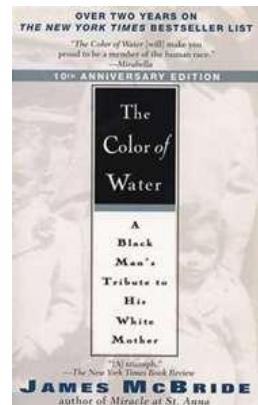
Keynote Event – 3:00 p.m.

James McBride is the author of “The Color of Water,” which was on the New York Times Best Sellers list for more than two years and won the prestigious Anisfield-Wolf Book Award. The memoir, considered an American classic, is this year’s Scholarship and Creative Arts Day Book Club selection.

His first novel, “Miracle at St. Anna,” became a major motion picture. His latest novel, which was released in paperback in 2009, is “Song Yet Sung.” His work also has appeared in The Washington Post, The New York Times, National Geographic and Rolling Stone.

In addition, McBride is a musician and award-winning composer. During today’s keynote event, he will perform with his six-piece band.

McBride is a distinguished writer in residence at New York University. He graduated from Oberlin Conservatory of Music and earned a master’s degree in journalism from Columbia University. ■



Elizabethtown College Scholarship and Creative Arts Day - April 19, 2011

Concurrent Sessions I: 8:00 - 9:15

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 | | Education | | | | | | | Education | |
| 8:15 AM | Social Work | 9 | English | | Modern Lang. | Soc./Anth | History | Math | Political Sci. | Soc./Anth. |
| 8:30 AM | 6-8 | Education | 11-13 | | 21-25 | 26-29 | Panel | 36-38 | 41-44 | OT |
| 8:45 AM | | 10 | | | | 31 | | | | Psychology |
| 9:00 AM | | | | | | | | | | 46-64 |

Concurrent Sessions II: 9:30-10:45

Concurrent Sessions II: 9:30-10:45

| Presentations | | | | | Presentations | | | | Posters | |
|---------------|-------------|-----------|-----------------|-----------------|---------------|-----------|---------|----------|----------------|------------|
| H-107 | H-110 | H-211 | Gibble (Esben.) | BLR (Steinman) | H-212 | H-213 | H-214 | H-215 | Masters Atrium | |
| 9:30 AM | Social Work | Education | Education | 10th Annual | | | | | Biology | |
| 9:45 AM | 71 | 76 | 81 | Symposium | Modern Lang. | Soc./Anth | History | Business | Political Sci. | Chemistry |
| 10:00 AM | FAPA | Education | | on Robotics and | 91-94 | 96-100 | 101-104 | 106-109 | Panel | Bio./Chem. |
| 10:15 AM | 72-73 | 77 | | Machine Intell. | | | | | 111-113 | 116-142 |
| 10:30 AM | | | | 86-90 | | | | | | |

Concurrent Sessions III: 11:00 - 12:30

Concurrent Sessions III: 11:00 - 12:30

| Presentations | | | | | Presentations | | | | Posters | Performances |
|---------------|---------|-----------|-----------------|-----------------|----------------|-----------|---------|----------|-------------|------------------|
| H-107 | H-110 | H-211 | Gibble (Esben.) | BLR (Steinman) | H-212 | H-213 | H-214 | H-215 | Zug Gallery | Zug Recital Hall |
| 11:00 PM | | Education | | 10th Annual | | | | | | French Program |
| 11:15 PM | Biology | 156 | | Symposium | | | | | FAPA | FAPA, ML |
| 11:30 PM | 150-153 | Education | Education | on Robotics and | Communications | Soc./Anth | English | Business | Panel | Modern Lang. |
| 11:45 PM | 157 | | 161-162 | Machine Intell. | 171-180 | 181 | 186-188 | 191-195 | 196-198 | 216 |
| 12:00 PM | | | | 166-169 | | | | | | French Program |
| 12:15 PM | | | | Physics 170 | | | | | | History |

Lunch 12:30 - 1:15

Lunch 12:30 - 1:15

Concurrent Sessions IV: 1:15 - 2:45

Concurrent Sessions IV: 1:15 - 2:45

| Presentations | | | | | Presentations | | | | Posters | Performances |
|---------------|---------|-----------|-----------------|----------------|----------------|-----------|---------|----------|----------------|------------------|
| 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 | | Education | | | | | | | | Theater |
| 1:30 PM | | 231 | | OT | | | | | | 300 |
| 1:45 AM | FAPA | Education | Education | 241-242 | Communications | Soc./Anth | 261-263 | Japanese | Political Sci. | Comp. Sci. |
| 2:00 AM | 226-227 | 232 | 236-237 | | 246-255 | 256-260 | 266 | 276-278 | Physics/Engr. | Religious |
| 2:15 AM | | | | | | | | | | Studies |
| 2:30 AM | | | | | | | | | | 301-302 |

Keynote Speaker: James McBride

Leffler Chapel 3:00 - 5:00

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Leffler Chapel 3:00 - 5:00

Closing Reception - High Library 5:30

Closing Reception - High Library 5:30

Art Exhibit: Annual Student Show in the Lyet Gallery at Leffler Chapel #2

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

Letter from Administrators



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

This year, our celebration is featuring the ideas and talents of almost 400 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, along with co-chairs Associate Professor of Education Rachel Finley-Bowman and Associate Professor of History David Kenley, and the dozens of faculty mentors who have made our celebration possible. Through their work, these members of our community have created this marvelous forum for great ideas.

President Theodore E. Long
Provost and Senior Vice President Susan Traverso
Dean of Faculty E. Fletcher McClellan

□ **Opening Ceremony – Monday, April 18th, 5:15 p.m.**

Masters Center, Gibble Auditorium

Welcome by Elizabethtown College President Theodore E. Long

□ **Closing Reception – Tuesday, April 19th, 5:30 p.m.**

High Library

Features the presentation of the Anna Carper Excellence in Library Research Award at 5:45 p.m.

Event open only to campus community

Occupational Therapy Graduate Research Symposium

Monday, April 18, 2011

Masters Center

Informal Reception, 5:00 p.m.

Area Adjacent to Masters Mineral Gallery

Keynote Address, 5:30 p.m.

Gibble Auditorium (Esbenshade)

Poster Sessions

Masters Atrium

Student Presentations, 6:00 p.m. to 9:00 p.m.

Gibble Auditorium (Esbenshade)

Poster Sessions

Masters Atrium

1



Accommodations for Sensory Processing in the Vocational Environment for Adults with Schizophrenia/Schizoaffective Disorder

Mentor: Deborah Waltermire, M.H.S., OTR/L
Timothy Katzaman, B.S., MOTS
Kelly O'Brien, B.S., MOTS
Megan Salazar, B.S., MOTS

Cognitive Strategies of Women Post Breast Cancer Chemotherapy Treatment: A Case Study Approach

Mentor: Ann Marie Potter, M.A., OTR/L
Laura Festa, B.S., MOTS
Julia Hostetter, B.S., MOTS

Exploring Perspectives on Handwriting through a Survey of Primary Grade Teachers

Mentor: Angela Salvadia, Ed.D., OTR/L
Traci Bruno, B.S., MOTS
Carly Goetting, B.S., MOTS
Meredith Judge, B.S., MOTS

Exploring the Possibility of Disordered Sensory Processing in Children with Attachment Issues

Mentor: Christine Achenbach, M.Ed., OTR/L
Katherine Goodman, B.S., MOTS
Kayla Snyder, B.S., MOTS

The Family L.I.F.E. Tool: A Case Study Approach to Analyze the Impact of Disability on Family Occupations

Mentor: Judy Beck Ericksen, Ph.D., OTR/L
Stephanie Musyt, OTS
Rachel Sullivan, OTS

Occupational Therapy Techniques for Educating Parents on Sensory Processing Issues

Mentor: Judy Beck Ericksen, Ph.D., OTR/L
Courtney Baumer, OTS
Nicole Davis, OTS

The Reliability and Validity of MotionNode Accelerometers to Measure Functional Forearm Rotation: A Pilot Study

Mentor: Daniel Panchik, D. Sc., OTR/L
Michael Jankowski, B.S., OTR/L
Jeanna Palmieri, B.S., OTR/L

Spirituality and Occupational Therapy: A Systematic Literature Review

Mentor: Tamera Keiter Humbert, D.Ed., OTR/L
Lauren Rossi, B.S., MOTS
Amanda Sedlak, B.S., MOTS

Occupational Therapy Graduate Research Symposium

Presentations

Gibble Auditorium

1

Development of the Electronic-Hand Assessment Tool II (E-HAT II): A Case Study

Mentor: Daniel Panchik, D. Sc., OTR/L

Megan Gorman, B.S., MOTS

Megan Ramage, B.S., MOTS

Exploring Accessibility at Elizabethtown College

Mentor: Deborah Waltermire, M.H.S., OTR/L

Colleen LaForge, OTS

Kate Rasmussen, OTS

Exploring Women's Expectations of Recovery from Intimate Partner Violence: Using the Kawa Model

Mentor: Tamera Keiter Humbert, D.Ed., OTR/L

Katharine Huylebroeck, B.S., MOTS

Courtney Lang, B.S., MOTS

Occupational Challenges and Adaptations for Integration of Hispanic Immigrants in Central Pennsylvania

Mentor: Tamera Keiter Humbert, D.Ed., OTR/L

Alexandra Gold, OTS

Occupational Therapists Abroad: Exploring Decision Making with Culturally-Relevant Critical Incidents through Reflective Interviews

Mentor: Tamera Keiter Humbert, D.Ed., OTR/L

Sara Brown, B.S., MOTS

Jocelyn Kibby, B.S., MOTS

Jeffrey Montemurro, B.S., MOTS

Research Panel

Gibble Auditorium

1

How Do Habits, Routines, and Roles Influence Body Weight in a Sample of Working Mothers?

Mentor: Linda Madden Leimbach, M.S., OTR/L, C/NDT

Alison Baklarz, B.S., MOTS

Terra Murphy, B.S., MOTS

Jillian Snyder, B.S., MOTS

Impact of Weight Loss Program Participation on Performance Patterns and Body Weight

Mentor: Linda Madden Leimbach, M.S., OTR/L, C/NDT

Emily Fritchman, B.S., MOTS

Katherine MacGregor, B.S., MOTS

Samantha Price, B.S., MOTS

24th Annual Juried Student Exhibition

Reception and Awards Ceremony
5:30 p.m.

Lyet Gallery of Leffler Chapel and Performance Center

Student Artists

Laura Bach

Felicia Bonvicino

Scott Bozworth

Margaret Cassels

Monique D'Almeida

Michelle Hare

Rachel Hensberger

Madrid Jaramillo-Cattell

Megan Kenneweg

Ameeda Lor

Elissa McNicholas

Anna Meerbach

Rebecca Morgan

Molly Northway

Hayley Rosser

Cassie Savitz

Lisa Smith

Kian Spady

Traci Tempone

Rachael Thorn

Caitlin Vajdic

Bryan Williams



Recent Student Work

Steinman Lobby

Scholarship and Creative Arts Day Recital

Monday, April 18th, 2011
Leffler Chapel and Performance Center
7:30 p.m.

Program*A Lyrical Quartet*

Choreographed and danced by
Ryan Stadel, Chelsea Lorenz, Lauren Hoffman, David Kirchner

“Soave sia il vento” from *Così fan tutte*.....W.A. Mozart (1756-1791)

Alena Lerch, Anna Matlack, Nathan Shughart, Vocalists
Dr. Justin Badgerow, piano

Three Pieces for Clarinet Igor Stravinsky (1882-1971)
Movement III
Tanna Leigh Gibble, clarinet

Sonata, op. 19 Paul Creston (1906-1985)
Movement I: “with vigor”
Zachary M Link, Alto Saxophone
Dr. Justin Badgerow, piano

Liebesfreud Fritz Kreisler (1875–1962)
Rachel Lane, violin
Erinn Soltys, piano

Sonata for Flute & Piano Robert Muczynski (1929–2010)
Movement I: Allegro Deciso
Stephanie Crawford, flute
Dr. Justin Badgerow, piano

“Ach, ich fühl’s” from *Die Zauberflöte*W.A. Mozart (1756-1791)
Alena Lerch, soprano
Alexander Ochs, piano



*SCHOLARSHIP and CREATIVE ARTS DAY RECITAL**Program*

“The Balcony Scene” from Baz Luhrmann’s *Romeo + Juliet*

Ryan Stadel and Lauren Hoffman, dancers
Kristin Pontz, choreographer

Lamento Henri Duparc (1848–1933)

Travis Lucas, baritone
Dr. Justin Badgerow, piano

“Persona 3: Devil’s Play” from *Faust* Carleton Macy (b. 1946)

Daniel Tschop, Saxophone
Dr. Justin Badgerow, piano

Eight Pieces from Shakespeare

Douglas Wilson, Rachel Saul, Spencer O’Dowd, Abbie Ricker, DJ Littell,
Laura Robbins, Stephen Boyhont, and Michael Wawrynek, performers
Dr. Michael Swanson, director

“In uomini, in soldati” from *Così fan tutte* W.A. Mozart (1756-1791)

Julia Steinsberger, soprano
Dr. Justin Badgerow, piano

Grand Quartet in E Minor, op. 103 Friedrich Kuhlau (1786-1832)
Allegro assai con molto fuoco

Stephanie Crawford, Sierra Tretter, Hollyn Olsavick, and Sara Johnson, flutes

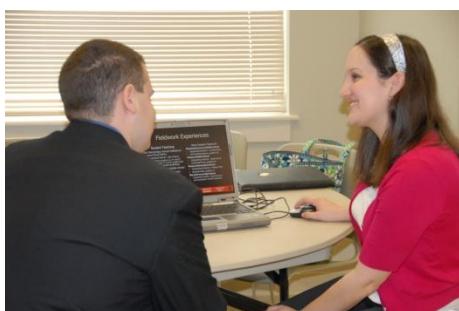


| Social Work | Presentations | H-107 |
|-------------------------|---|--|
| 8:00 AM | Women and Healthcare: Our Bodies, Our Experience | # 6 |
| Presenter: | Katie Bamberger | Mentor: Dr. Susan Mapp |
| | The social construction of disability includes many negative stereotypes which consequently affect our perception of persons who are disabled and those living with chronic illness. Mirroring the social construction of gender, these stereotypes go unexamined and unacknowledged, in turn creating a duality of social constructions within the lives of women. Breaking down these stereotypes and exploring the issue of medical inequality surrounding women and girls, in addition to the endemic racism and classism within the realm of health care is important to provide better care to all women. While these ideologies regarding gender and disability are inherent within society, the medical system perpetuates the oppression and marginalization. Women of color experience the oppression of sexism, classism, and racism in ways that are interconnected within the health care field. One of the historic examples of how women of color experience oppression within the medical field is reproductive justice. Federal laws such as the Hyde Amendment and Welfare Reform Act have contributed to the regulation of the female body, sexuality, and fertility, which have served to maintain systemic discrimination, poverty, and lack of health care to women of color, as well as perpetuate a general lack of access and power within society to these individuals. This paper and presentation will deconstruct the inherent marginalization of all women within the health care system. Solutions for change will be offered to better the situation. | |
| 8:15 AM | The Impact of Gold on Microfinance in India | # 7 |
| Presenter: | Heather Robertson | Mentor: Dr. Susan Mapp |
| | Based on experiences during my internship in Mangalore, India, I am examining the significance and role of gold in Indian society, including various historical, religious, social and personal reasons for gold's importance. This importance has impacted microfinance structure, forced savings accounts, and cash for gold loans. Additionally, there are potential social implications including sex selected abortions and dowry deaths. | |
| 8:45 AM | The Impact of Sex Offender Groups on Recidivism | # 8 |
| Presenter: | Amy Haun | Mentor: Dr. Susan Mapp |
| | My study, The Impact of Sex Offender Groups on Recidivism, focuses on the reoccurrence of criminal offenses among sexual offenders based on participation in Dauphin County Prison's weekly sex offender group. The sample consists of approximately 500 men, all of whom were released at least one year ago. I am using secondary analysis to determine the re-offense rate and comparing recidivism between individuals who attended group and those who did not attend. This study will be the first to examine the Dauphin County Prison's sex offender group's effectiveness and, depending on results, may alter its structure and topics examined to improve effectiveness. | |
| Education | Portfolios | H-110 |
| 8:00 AM | A Framework for Teaching: Professional Portfolios for Educators | # 9 |
| Presenters: | Eric Rhoads, Leigh Nevitt, Melissa Cangialosi, Crystal Agnew, Sierra Finn, Rebecca Altand, Jen Melnick, Samantha Morgan | Mentors: Dr. Carroll Tyminski, 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. | |
| 8:30 AM | A Framework for Teaching: Professional Portfolios for Educators | # 10 |
| Presenters: | Kristyn Algieri, Chelsie Caltagarone, Alexandra Walmer, LeighAnn Matthews, Sarah Behounek | Mentors: Dr. Carroll Tyminski, Dr. Kathleen Blouch |
| See Session Abstract #9 | | |
| English | Presentations | H-211 |
| 8:00 AM | The Father, The Daughter and the Holy Aspects of Sharon Olds' Poetry | # 11 |
| Presenter: | Patricia Cangelosi | Mentor: Dr. Carmine Sarracino |
| | For almost as long as Sharon Olds, contemporary American poet, has been writing, critics have noted her blatant honesty about topics such as sex and the human body. Her work is often graphic and has even been described as pornographic. This thesis points readers in a different direction. It is an in-depth literary analysis of Olds' poetry with a lens on the function and roles of God in Olds' poetry. In her work, God not only appears often, but He takes on three distinct forms. He reflects the poetic personae, created by the author, of Olds' father, Olds' mother, and Olds herself. It would be presumptuous to assume that Olds' parents were exactly as they are presented in her poems, so the thesis strives to tip-toe the line between presenting poetic personae and delving into potentially untrue biographical detail (no biography has been published about Olds to date). When God takes on a persona similar to Olds' father, He is wild, aggressive and powerful. When He reflects Olds' mother's poetic persona, He is well-meaning but meek and powerless. Finally, when the version of God that suggests Olds' persona comes through, He is a mix of the above two: a benevolent deity with the capacity and willingness to effect positive change. Note: The thesis refers to God as He, not because He is necessarily male, but because it would be cumbersome to read "He or She" constantly, and it would not be appropriate to use "It." | |

Session I: 8:00 – 9:15

| 8:30 AM | Exploring Deagana | # 12 |
|--|--|---|
| Presenter: | Danielle Cantor | Mentors:Dr. Dana Mead, Dr. David Downing |
| Middle-grade fantasy is a rich, ever-growing genre in the literary world. Aimed at children ages 8-12, middle-grade fantasy boasts such classics as <i>The Chronicles of Narnia</i> , <i>A Wrinkle in Time</i> , and <i>Tuck Everlasting</i> , as well as new popular fiction like <i>Harry Potter</i> , <i>A Series of Unfortunate Events</i> , and <i>The Magic Tree House</i> . While each title in the genre offers something unique and delightful, standard elements and conventions of fantasy keep the reader wanting more. When coupled with the focus on such a specific and vital age group, perfecting a novel can be a difficult process. This presentation examines the journey of writing a middle-grade fantasy novel, from the research to the idea to revision after revision (after revision) to completion. It includes readings from the completed novel, which focuses on a 12-year-old boy, Matt, and his accidental journey into the world of Deagana, a world where everyone is born with a psychic ability. At the heart of this world is a dark secret, a secret entwined with a long-forgotten memory of Matt's past. Can Matt discover the secret, recover what he's lost, and make it back home? | | |
| 9:00 AM | The Angel on the Plantation: Race and Feminization in <i>Adventures of Huckleberry Finn</i> | # 13 |
| Presenter: | Megan Casey | Mentor: Dr. John Rohrkemper |
| Among the most treasured ideals of the Victorian era (c. 1837–1901) in Great Britain was that of “the angel in the house.” Named after Coventry Patmore’s (1823–1896) popular and influential poem of 1854, this sentiment enforced the idea of woman as the submissive, self-sacrificing pinnacle of moral virtue at the center of the domestic sphere. This cult of domesticity soon became a transatlantic notion, bearing no small impact upon American culture, even during the latter part of nineteenth century, when the skepticism of the Realist movement (1865–1910) supposedly ruled the day. Fearing what has lately been termed the “feminization of American culture,” many Realist authors resisted this sentimental ideal by authoring markedly “masculine” fiction, one of the most prolific types of which was the boy’s book. Exemplary of this genre was <i>Adventures of Huckleberry Finn</i> (1885) by Mark Twain (1835–1910). In spite of, or perhaps because of, its immense popularity, Huck Finn has proven a bottomless Pandora’s Box of controversies since the day it was published, the most recent of these being the issue of the novel’s racism and that of gender. Critics who address gender in the story tend to focus upon the book’s image of woman as moral reformer, but all sidestep one character who also reflects this image: Jim, the runaway slave and Huck’s ever-faithful sidekick. This study analyzes the role of Jim as a feminized character and, through this analysis, also provides an answer to the question of the novel’s racist or anti-racist agenda. | | |
| Modern Languages | Presentations | BLR (Steinman) |
| 8:00 AM | Spanish Speakers Learning Spanish in the U.S. Classroom | # 21 |
| Presenter: | Jennifer Bialas | Mentor: Dr. Charla Lorenzen |
| This presentation will address the topic of the rapidly growing population of native and heritage speakers of Spanish within the U.S. educational system. These are individuals whose native language is Spanish, or who speak Spanish at home with their families, but have received little or no formal training in the language and are now taking Spanish courses at school. These heritage speakers are present in each level of schooling, from K-8 to high school and college. This presentation will look at what is happening at each of these levels in regard to developing the heritage students’ language skills while at the same time balancing the needs of non-native students who are learning Spanish as a foreign language, often alongside each other in the same class. It will also address the unique academic challenges that heritage students typically face as well as the beneficial outcomes they may experience by participating in a Spanish-language course or program. | | |
| 8:15 AM | The Truth Behind the Militarization of Mexico | # 22 |
| Presenter: | Katarina Eller | Mentor: Dr. Charla Lorenzen |
| This paper explores the corruption rampant among the police, military forces, and governments involved in the Mexican drug war, and Mexico’s wider ties with the USA in regards to security policy. Through her security ties with the USA, and her government’s fear of opposition groups, Mexico is fighting a second war under the cover of the first, a war to crush economic and political opposition to the Mexican government. Thus, Mexico’s drug war has become a battle against everyone perceived as a threat to economic and political authority, causing innocent people to suffer, especially in areas of military occupation and heavy fighting. | | |
| 8:30 AM | The Rise and Fall of the Russian Mennonite “Small Nobility” as Reflected in the Life of Gerhard Heinrich Thiessen | # 23 |
| Presenter: | Katarina Eller | Mentor: Dr. Mark Harman |
| The history of the Russian Mennonites can be viewed as a cycle of persecution, poverty, hard work, and eventual wealth, followed again by persecution and intolerance. This was the Mennonite experience in the Netherlands and Prussia, and when they eventually fled to Russia, that cycle began once again. After a number of years, a handful of Russian Mennonites became very rich, their wealth made possible through the special rights and privileges afforded them by the Russian regime. However, these privileges were also their downfall, since as a result the Mennonites regarded the Russian culture and people as beneath them, believing that their supposedly superior Mennonite culture led to economic success, and that Russian culture left the masses lingering in grinding poverty. This attitude is demonstrated in, and supported by, the diary of Gerhard Heinrich Thiessen, my great-great grandfather, a wealthy landowning German-speaking Mennonite in early twentieth-century Russia. | | |

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| 8:45 AM | Una Carta de Amor a Latino America (A Love Letter to Latin America) | # 24 |
| Presenter: | Samantha Sibley | Mentor: Dr. Montserrat Linares-Farras |
| Revolution, anarchy, heroism. These words are often used to describe Ernesto Che Guevara, often without any further knowledge of the Argentinian Marxist, his ideals, or the true story of his rise in Latin American politics and subsequent fall. Since Andy Warhol's portrayal of the controversial leader, El Che has become an icon that inexplicably appears during conflict and a symbol for revolution that is recognized through the world. This paper will delve into the life of Che Guevara, what lead him to fight against the establishment, his role in international proletarianism, and ultimately, his ascension into a popular culture icon. | | |
| 9:00 AM | Maruja Mallo: Artist of the Spanish Avant-Garde | # 25 |
| Presenter: | Rebecca Morgan | Mentor: Dr. Montserrat Linares-Farras |
| Maruja Mallo is an artist whose fame is not relative to her great talent. Born in the first years of the twentieth century in Spain, she studied alongside many of the more recognized artistic talents of her time, including close friends Salvador Dali and Federico Garcia Lorca. Through these and other influential peers, Mallo discovered a side of Madrid that opened many doors and greatly affected her early professional works. Although her first exhibition was very successful, growing political unrest in the country erupted into Civil War and Mallo was forced to flee her homeland, spending almost the rest of her life in exile in Latin America. This had a marked impact on her subsequent paintings. Through this presentation I will bring awareness to the life and works of this little known yet greatly respected artist. I will describe her incredibly vibrant personality and provide evidence for my assertion that an artist's life, personality and values are reflected in the works they produce. | | |
| Sociology/Anthropology | | Presentations |
| | | H-212 |
| 8:00 AM | Rumspringa: The Misconception | # 26 |
| Presenter: | Ryan Long | Mentor: Dr. Donald Kraybill |
| <i>Rumspringa</i> is the time period between being a child and being an adult in the Amish community. Some believe that this time serves as a break from the community to allow Amish youth to experience the world. However, there is much more to <i>Rumspringa</i> . First, youth are not given complete freedom. The Amish community has a great deal of concern for their youth during this time. Secondly, there are aspects of Amish life that continue to pull youth to remain in the Amish community. <i>Rumspringa</i> is not a time of unrestrained freedom, but a carefully created atmosphere that promotes Amish retention. | | |
| 8:15 AM | Amish Machinists: Selectively Using Technology | # 27 |
| Presenter: | Michael Plasket | Mentor: Dr. Donald Kraybill |
| The Amish have to follow the Ordnung when accepting new technology. However, the Amish are adept with modern technology and find ways to make the most of it while obeying the church. This presentation demonstrates that the Amish are more aware of technology than non-Amish observers might be led to believe because they selectively use technology. This examination is divided into five key sections: The reasons why Amish forbid some technology, the acceptance of other forms, the most advanced machines in Amish households and businesses, how the Amish can live without advanced technology, and current debates about certain technologies. The research for this presentation is based on observations by several foremost scholars on Amish life and four testimonials from Amish people. This proposed presentation will inform the audience of many ways in which the Amish are cognizant of modern technology and its benefits. | | |
| 8:30 AM | Energy Usage in the Amish and English Communities | # 28 |
| Presenter: | Kelly Seymour | Mentor: Dr. Donald Kraybill |
| “Energy Usage in the English and Amish Communities” explores and uncovers the differences in energy usage and ecological footprint size of a Pennsylvanian American family and an Amish family from Lancaster. Energy used both in the home and for transportation is compared in order to discover techniques and methods available to adapt between cultures in an attempt to become a more environmentally conscious society as a whole. By calculating the ecological footprint size, total energy use, efficiency of methods of energy, and total money spent per year on energy, an Amish family is compared to an American family. The results of these calculations show how each family should change their energy usage and methods, and who has a lower impact on the Earth. | | |
| 8:45 AM | Autism Among the Amish | # 29 |
| Presenter: | Stephanie Smith | Mentor: Dr. Donald Kraybill |
| This paper compares the rates of Autism in the Amish community and the English world. Evidence gathered by Dan Olmsted shows a clear discrepancy between the rates of diagnosis in the two societies. His theories are placed against evidence found in volumes of Life's Special Sunbeams. The history, diagnosis procedures, and treatments of Autism are also summarized to give a background on the disorder. The lives of two children with Autism, one English and one Amish, are compared through interviews with their parents. Finally, possibilities of why the Amish rates are so low are discussed. | | |



Session I: 8:00 – 9:15

| History | Presentations | H-213 |
|---|---|---|
| 8:00 AM Presenters: | The Adamses - Power, Politics and Family Life in the Early American Republic Karen Soto, Adam Liddle, Katie Sallade, Tyler Eshelman | # 31 Mentors: Dr. David Brown, Dr. Brian Newsome |
| <p>Much can be learned about the United States' formative decades by researching a single family - the Adamses. From the American Revolution to the Mexican War its charter generations played key and consequential roles in shaping the country's domestic and international politics. Accordingly, the following papers have delved into the various letters, diaries, and daybooks of several Adamses to both recover and reconstruct facets of their professional and private lives. The result is a collective consideration of the family, its times, and its historical importance. In "John Quincy Adams and the Path of American Foreign Policy," Karen Soto explores the progress of U.S. statecraft under the nation's eighth secretary of state; Adam Liddle's "The Adamses and the Curse of the One Term Complex" examines the reasons why, of the republic's first seven presidents, Johns Adams and Quincy were the only single term executives; In "Coupledom: Family Dynamics Amongst the Adamses," Katie Sallade investigates the evolving nature of domestic life within succeeding Adams generations; and Tyler Eshelman's "John Adams and the Navy: Seeking Peace Through Strength" assesses his subject's response to the Wars of the French Revolution.</p> | | |
| Mathematics | Presentations | H-214 |
| 8:00 AM Presenter: | Dealing With the Wolf Tone Robert Graham | # 36 Mentor: Dr. James Hughes |
| <p>Musicians often find themselves having to deal with a troublesome note that has been given the name "wolf tone" because of the howling sound it produces. This note occurs when it matches the resonating frequency of the instrument's body, making it an artificial harmonic, which produces the howling sound. It occurs most obviously in bowed instruments because tones tend to be held out longer periods of time. Musicians have found multiple ways to correct for this phenomenon. When such methods are used, we may be unable to hear the wolf tone anymore, but it may still be present. One of the goals of this presentation will be to show how effective these methods are beyond what is audible to our ears. For the recordings, I will use my cello and the Garageband software. To test each method's effectiveness, I will use the program Mathematica to measure and analyze the frequencies in recordings of these methods.</p> | | |
| 8:30 AM Presenter: | Actuarial Experience as a Capital BlueCross Intern Matthew Warner | # 37 Mentor: Dr. Bogdan Doytchinov |
| <p>A presentation on an actuarial/medical economics internship at Capital BlueCross in Harrisburg will illustrate the working environment of the health insurance field. Various projects, such as emergency room claims, drug pricing analysis, utilization reports and many others, will reveal the work that is completed as an actuarial student. The PowerPoint presentation will demonstrate the importance of knowing several computer programs and software, such as the Microsoft Office Suite and knowledge of SQL.</p> | | |
| 8:45 AM Presenter: | Math of Perspective Melissa Cangialosi | # 38 Mentor: Dr. Bobette Thorsen |
| <p>For centuries, artists struggled with realistically portraying three dimensions on a flat two dimensional surface. In other words they struggled with perspective drawing. In this presentation I will focus on a particular type of perspective drawing called two point perspective. Specifically, given a painting drawn with two point perspective, I will show how to determine the optimal viewing location. This optimal location is the exact spot where the viewers eyes should be in order for all the shapes in the picture to appear in the correct proportions. I will also demonstrate how to draw a perfect cube from the viewpoint of a person standing in this optimal position. Geometry will provide the necessary tools to accomplish these tasks.</p> | | |
| Political Science | Presentations | H-215 |
| 8:00 AM Presenter: | The Bush Doctrine: Impact on Foreign Policy and Applications to Obama Meghan Wilson | # 41 Mentor: Dr. E. Fletcher McClellan |
| <p>In response to September 11th, the Bush Administration published a document known as the Bush Doctrine in order to create a new strategy for defending America from threats. The document was a dramatic contrast to the previous policies of containment and deterrence which had predominated American foreign policy since the Cold War. The Bush Doctrine called for pre-emption and unilateralism, both highly controversial in international relations. Pre-emption is the idea that nation-state A has the right to use force against nation-state B if nation-state B poses an eminent threat to nation-state A and its interests. An eminent threat is a threat which is certain to occur in the future. Unilateralism is acting alone in international relations either without one's allies or without the approval of the international community. With these two concepts, the Bush Doctrine was an aggressive policy stance which changed U.S. foreign policy. In my research, I will investigate how the Bush Doctrine affected American foreign policy and the impact the document had on international relations for the U.S. I will also examine the lasting impact of the Bush Doctrine and whether or not it is applicable today. I believe that though the Bush Doctrine was in large part a reaction to September 11th and was applied to the war in Iraq, was unpopular, and resulted in a negative U.S. image in the world, the doctrine is still viable today as President Obama has not repealed it or totally replaced it with a doctrine of his own.</p> | | |

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| 8:15 AM | Corporate Constituents? A Measure of Outside Spending in Past Federal Elections and those Following <i>Citizens United v. Federal Election Commission</i> (2010) | # 42 |
| Presenter: | Meredith DeMark | Mentors: Dr. E. Fletcher McClellan, Dr. W. Wesley McDonald |
| <p>This paper examines the effect of the Supreme Court decision, <i>Citizens United v. Federal Election Commission</i> (2010), on outside spending in the 2010 Federal election. The ruling substantially reconfigured the legal environment of outside spending, and more specifically corporate/union contributions to candidates and parties. I examined multiple questions in order to access whether or not outside spending had an adverse impact on the election process. First, did the Supreme Court's decision in <i>Citizens United</i> create an influx of outside spending through independent expenditures, electioneering communications, and communication costs? Second, did this money make a difference in any of the congressional contests and if so, to what extent? Third, did liberals or conservatives gain more from outside spending? Overall, the results suggest that <i>Citizens United</i> likely created an influx in 2010 of new outside spending expenditures compared to congressional Federal elections in 2006, but this increase did not make a significant difference in any of the congressional contests I examined. As a result, neither set of expenditures could be said to have tipped the electoral balance. The 2010 Federal election was predicted to have sweeping Republican gains due to the focus on the national economic condition and economic policies of the Obama Administration. Therefore, there is no evidence that the <i>Citizens United</i> decision had an adverse impact on the 2010 election process.</p> | | |
| 8:30 AM | Does the Government Have a Legitimate Interest in Preventing Same-Sex Marriage? Analyzing the Constitutionality of the Defense of Marriage Act | # 43 |
| <p>Presenter: Abbie Heller</p> <p>In 1996, Congress passed the Defense of Marriage Act (DOMA), defining marriage as a union between a man and woman and authorizing states to refuse to recognize same-sex marriages conducted in other states. Today DOMA stands as good law. My analysis examines the constitutionality of DOMA. In conducting my analysis, I raise two main questions. First, is there even a constitutional issue present in DOMA? And, second, if there is, does the state have a legitimate interest in preventing same-sex marriage? Our constitutional rights are not absolute. In some instances courts have ruled that the government may legally discriminate. If a law violates our constitutional rights, the Supreme Court has established different tests to determine if this violation is constitutional. Using the tests and precedent established by the Court I conclude that there is a constitutional issue presented in the Defense of Marriage Act, and even using the lowest level scrutiny, the rational basis test, the government does not have a legitimate interest in preventing same-sex marriage. Thus, the Defense of Marriage Act is unconstitutional because it denies due process under the Fifth Amendment and equal protection under the Fourteenth Amendment to homosexual Americans who wish to marry a spouse of the same gender.</p> | | |
| 8:45 AM | The French Veil Ban: The Effect of Secularism on Religious Freedom | # 44 |
| Presenter: | Alicia Conway | Mentor: Dr. Oya Ozkanca |
| <p>There have been a growing number of secularist policies in France to gain further civic freedom in the name of laïcité, the French adaptation of secularism. This includes laws hindering the expansion of non-traditional movements, mainly the 2004 law prohibiting ostentatious religious symbols in the public sphere. As a result, this has largely affected the French-Islamic communities because it prohibited girls from wearing a veil in public. This law was designed to increase secularism and promote freedoms. However, secularism in France, rather than broadening religious tolerance, hinders religious freedoms and promotes a French civic religion and allegiance.</p> | | |
| Education | | Posters |
| 8:00 AM | Come Into the Wild | # 46 |
| Presenters: | Chelsea Bensel, Angela Cairns, Tara Hart, Kortni Smith | Mentor: Dr. Kathleen Blouch |
| <p>This presentation highlights ways to incorporate a science related curriculum, "Growing up Wild," into a fun-filled science morning for young learners. These activities were based on Pennsylvania wildlife and environmental conditions and included hands-on learning, kinesthetic movements, and musical performances based on Early Childhood developmental stages. This event was held in the Fall and was designed for children ages 3-6.</p> | | |
| 8:00 AM | The Global Conversation: Citizenship, Education, and Peace | # 47 |
| Presenters: | Alexandra Conte, Cristen Minor, Dorothy Ryan, Rebecca Stoczko, Matthew Matyas, Heather Brule | Mentor: Dr. Rachel Finley-Bowman |
| <p>Using case studies, this poster session examines how notions of security, citizenship, and national identity, are impacted by problems associated with resource consumption, distribution, and scarcity. Theories and solutions in the field of peace education are also presented.</p> | | |
| Masters Atrium | | |

Session I: 8:00 – 9:15

| Sociology/Anthropology | Posters | Masters Atrium |
|---|---|--------------------------------------|
| 8:00 AM I Want to Know What Love Is: A Content Analysis of the Portrayal of Love on the Radio | I Want to Know What Love Is: A Content Analysis of the Portrayal of Love on the Radio | # 48 |
| Presenter: Monica Loranger | | Mentor: Dr. Michele Lee Kozimor-King |
| <p>The media has played an important role in molding the public's perspective and developing myths regarding love. The influence that media, specifically radio, has is rapidly growing socially and culturally in our society. More than 90 percent of all consumers in the United States ages 12 and older tune into the radio. This statistic puts radio usage higher than the internet, newspapers, magazines, and television. This study will examine and compare the portrayal of love, unrequited love, and infidelity through a content analysis of the Billboard top 100 listings in the years 1985 and 2005. Over the span of two decades I expect to see a change in the definition, meaning, and openness regarding love in song lyrics. Preliminary results support this hypothesis. For example, in 1985, 12 out of 100 song titles from the Billboard Top 100 contain the word love in the song title; the connotation of the word is romantic and intimate with a single partner. For the Billboard Top 100 in 2005, 4 out of 100 song titles have the word love in them. The songs from 2005's list are more risqué and do not have a romantic portrayal, sex with multiple partners and infidelity is more prominent. Changes in love and relationship trends will be examined and results from the content analysis will be presented. Results found in this research would be useful for parents, teachers, guidance counselors, marriage counselors, sociologists, and many scholars interested in media influence on socialization.</p> | | |
| 8:00 AM Not Just Women and Beer: A Content Analysis of Media Portrayal of Family Structure in Superbowl XLV Commercials | Not Just Women and Beer: A Content Analysis of Media Portrayal of Family Structure in Superbowl XLV Commercials | # 49 |
| Presenter: Samantha Wideman | | Mentor: Dr. Michele Lee Kozimor-King |
| <p>The Superbowl is the biggest television event every year. In 2011, it hit a new record of 111 million viewers nationwide. Not only is this the biggest event for television viewers, but it is also a big event for advertisers. In previous years, market segments during the Superbowl consisted of mostly men which reflected in the advertisements shown. Advertisements were created to catch attention and resonate with the majority audience. The difference today is that the audience demographics have changed resulting in more variety of advertisements. Advertisements in Superbowl XLV had various strategies for reaching new target markets of women, and young adults. Results from a content analysis of all commercials shown during Superbowl XLV will be presented. Marriage and family composition and trends as portrayed in these commercials will be examined. This information will be helpful for advertisers looking at media outlets in the future, businesses trying to sell their products and figuring out current market composition. This will also be helpful for those who are interested in media portrayal of images of marriage and family.</p> | | |
| 8:00 AM It's a Love Story, Baby Just Say Yes: A Content Analysis of Taylor Swift | It's a Love Story, Baby Just Say Yes: A Content Analysis of Taylor Swift | # 50 |
| Presenter: Sierra Calaman | | Mentor: Dr. Michele Lee Kozimor-King |
| <p>In our culture, media is an integral part of our identity. It is estimated that people spend more than half their day consuming media whether it be through the portals of television, magazines, books, the internet, or music. Of these portals, music serves as a powerful socializing agent and influence to children and teenagers under eighteen. One artist in particular who has a strong impact on this age group of listeners is Taylor Swift. In 2010, Taylor Swift was listed as the most successful Country artist in music history, and her album <i>Fearless</i> is the most awarded Country album in music history. The data for this research is the lyrics of Taylor Swift's albums, which will be examined to investigate the definition of love and relationships in the songs. I predict that the definition of love and relationships will not be beneficial, healthy, or realistic to a young age group. Results from this content analysis will be presented, and the findings will be beneficial to parents and listeners of Taylor Swift's music.</p> | | |
| 8:00 AM The Presence or Absence of Intimate Relationships in Modern Day Reality TV | The Presence or Absence of Intimate Relationships in Modern Day Reality TV | # 51 |
| Presenter: Anthony Heaps | | Mentor: Dr. Michele Lee Kozimor-King |
| <p>The average American spends over 5 hours of their day watching television. What people are watching on television can have an influence on behaviors and actions of individuals. In 2009-2010 reality TV was the second most highly viewed genre of TV programs. Reality TV shows are supposedly illustrating 'real' people and families. Certain reality TV shows provide negative or inaccurate perceptions of intimate relationships and/or marriage. This study will examine the presence or absence of these relationships in popular reality television shows through a content analysis of cable's second most watched television show of 2009-2010, MTV's "Jersey Shore", ABC's most recent "Bachelor" series and MTV's most recent "Real World". Individuals in today's society are waiting longer to get married and divorce rates of married couples are high. Reality TV shows could be contributing to these statistics by their portrayal of intimate relationships. Results from the content analysis will be presented. This research could be useful for parents, teachers, guidance counselors, marriage counselors, and anyone interested in media influence on socialization.</p> | | |
| 8:00 AM ... and they lived happily ever after: A Content Analysis of Marriage, Love, and Liking in Disney Animated Films | ... and they lived happily ever after: A Content Analysis of Marriage, Love, and Liking in Disney Animated Films | # 52 |
| Presenter: Amanda Lazzarotti | | Mentor: Dr. Michele Lee Kozimor-King |
| <p>At an early age, children are influenced by the media. In American culture, children learn by imitating, viewing, and performing behaviors based on the media images they are exposed to. The media acts as a socialization agent through its impact on behavior, expectations, and attitudes. Walt Disney's animated films have influenced mass media while also contributing to popular culture and family entertainment. <i>Snow White and the Seven Dwarfs</i> was the first full length animated feature film which was released in 1937. Since then, Walt Disney Pictures has produced one hundred and three animated films. Disney animated films instill ideas about marriage and love that may be misleading to young viewers. This study will examine marriage, love, and liking as portrayed in motion pictures. The data for this research will be obtained using a content analysis of <i>Pocahontas</i>, <i>Cinderella</i>, <i>The Hunchback of Notre Dame</i>, <i>Mulan</i>, <i>The Little Mermaid</i>, <i>Aladdin</i>, and <i>Beauty and the Beast</i>. I predict that the analysis will show Walt Disney animated films do not accurately portray current statistics of marriage and romantic relationships. Results from the content analysis will be presented. The findings will be useful for parents, guidance counselors, marriage counselors, social workers, and married couples.</p> | | |

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| 8:00 AM | Heartbreak Hotel or Heartbreak Hospital? A Content Analysis of Failing Relationships Portrayed on <u>Grey's Anatomy</u> | # 53 |
| Presenter: | Jordyn Howe | Mentor: Dr. Michele Lee Kozimor-King |
| <p>Television has brought about some revolutionary developments in the current society's customs, such as changes in life-styles, culture, and social habits. Views and opinions about intimate relationships are largely shaped by the events and actions that are seen on television. Television is depicting an increased amount of failed intimate relationships and fewer successful ones. The data for this research will be obtained from a content analysis of ABC's hit medical drama, <i>Grey's Anatomy</i>. From March 2005 to present day, <i>Grey's Anatomy</i> has aired six series and is currently airing its seventh. The show has received three Prime Time Emmys and has obtained substantial ratings. Results from the content analysis will be presented. Each intimate relationship throughout the series will be examined from season one to season six. This research will examine whether the intimate relationships failed or succeeded and the reason for the failure or success. Results from this research would be useful for couples in intimate relationships, marriage counselors, guidance counselors and many scholars interested in media influence on socialization.</p> | | |
| 8:00 AM | Are You Feeling Cold? The Effects of Religious Preference and Political Party Identification on Attitudes toward Muslims | # 54 |
| Presenter: | Tyler Norton | Mentor: Dr. Michele Lee Kozimor-King |
| <p>Muslims and non-Muslims are involved in conflict in countless areas around the world, including the United States. The wars in Iraq and Afghanistan represent only a fraction of the hostilities. Given the current rising tension between Muslims and non-Muslims living in the United States, this study will examine attitudes toward Muslims. More specifically, this research will look at the effects that religious preference and political party identification have on attitudes toward Muslims. Protestant and Catholic attitudes were examined due to their high membership rates in the United States while Republicans, Democrats, and Independents were chosen for examination of their feelings toward Muslims. The data for this study were obtained from the 2004 General Social Survey conducted by the National Opinion Research Center at the University of Chicago. The total sample size consisted of 603 respondents. Results from bivariate correlations do not support the hypothesis that Protestants will be more accepting of Muslims than Catholics ($r=.114$; $p=.005$). In addition, the results refute the hypothesis that there is a relationship between political views and attitudes toward Muslims ($r=-.007$; $p=.854$). It can be concluded that religious preference has more of an effect on views of other religious groups than political views. The results of this research will help give insight into the attitudes of religious organizations and political parties toward Muslims. Also, it will add to the small amount of literature dealing with attitudes toward Muslims.</p> | | |
| 8:00 AM | Who Actually Cares? The Effect of Political Views and Education on Participation in Altruistic Acts | # 55 |
| Presenter: | Barbara Prince | Mentor: Dr. Michele Lee Kozimor-King |
| <p>There are myriad problems bombarding America today which request the help of its citizens. After the earthquake in Port-au-Prince Haiti, organizations such as The American Red Cross sought out donations in an effort to repair damages and provide relief to those in need. In addition, there are a multitude of agencies requesting donations of time and money for a variety of causes from Relay for Life to supporting the troops. While opportunities for altruistic behavior have increased exponentially, the recession and housing crisis have limited time and finances making it difficult for citizens to assist others. This research examines the effects of political views and education on participation in altruistic acts. The data for this study were obtained from the 2004 General Social Survey conducted by the National Opinion Research Center. The total sample size consisted of 1,266 respondents. To operationalize altruism, an index was created from questions measuring frequency of participation in altruistic acts. Results from bivariate correlations refute the hypothesis that there is a relationship between political views and altruism ($r=.001$; $p=.979$). Results also refute the hypothesis that the more educated an individual is the more altruistic he or she will be ($r=-.193$; $p<.01$). Other findings indicate there is a substantive and statistically significant relationship between political views and donating money to charity ($\beta=.26756$; $p=.003$). It can be concluded that both degree and political views affect participation in altruistic acts. The results of this research will be beneficial to leaders of charity and volunteer organizations in need of altruistic volunteers.</p> | | |
| 8:00 AM | Near-Peer Men? The Effect of Number of Children in the Home and Socioeconomic Status on Male Participation in Household Labor | # 56 |
| Presenter: | Marshal Neal Fettro | Mentor: Dr. Michele Lee Kozimor-King |
| <p>With limited previous research focused on male participation in household labor, this study seeks to provide greater understanding of how children and socioeconomic status affect male participation habits. For this research, the relationships between household division of labor, socioeconomic status, and number of children were examined using data obtained from the General Social Survey (GSS) for the year 2002. The sample size was 262 male respondents. To operationalize behaviors of household work, an index was created from questions measuring household labor commitment. Consistent with previous research, 79 percent of men always or usually completed household repairs. Similar to participation in tasks such as laundry (45.8%) and shopping (48.1%), 46.9 percent of men suggested that they completed domestic tasks equally or together with their spouse. Inconsistent with the hypothesis, bivariate correlations show there is a weak positive relationship between number of children and respondent household labor hours completed ($r=.035$; $p<.001$). In contrast, bivariate analyses found that respondents with median hours of housework (1 to 5 hours) supported the hypothesis that the presence of children decreases male participation in household tasks. Bivariate analysis also showed that higher SES (64.4 percent) increased the likelihood that the family pooled all money, in comparison to a lower SES status (42.4 percent). The results of this study illustrate the importance of research into male participation in household labor regarding number of children in the home. Perceptions of "lazy" men are found to be erroneous, suggesting greater equality and a trend towards "peer marriage."</p> | | |

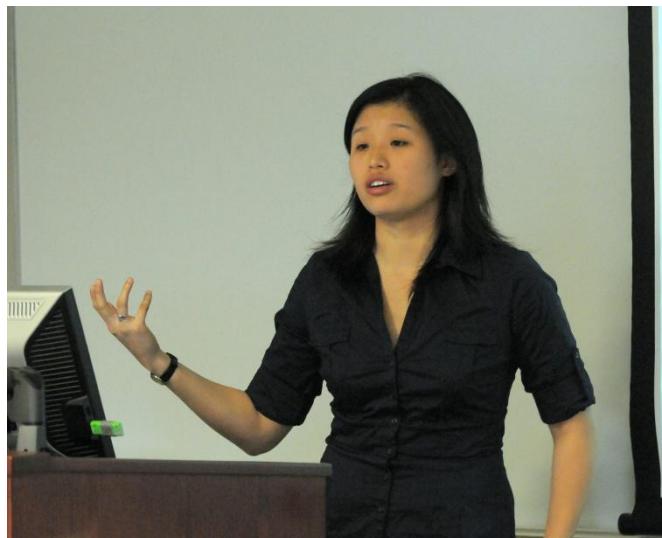
Session I: 8:00 – 9:15

| Occupational Therapy | Posters | Masters Atrium |
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| 8:00 AM Occupational Therapy Techniques for Educating Parents on Sensory Processing Issues | Occupational Therapy Techniques for Educating Parents on Sensory Processing Issues | # 57 |
| Presenters: Nicole Davis, Elizabeth Baumer | | Mentors: Dr. Judy Erickson, Ms. Christine Achenbach |
| The purpose of this pilot study is to determine how occupational therapy practitioners within the state of Pennsylvania provide caregiver education to promote awareness and understanding of sensory processing issues in children. We conducted an online survey which we sent to various pediatric practitioners throughout the state to determine common methods or techniques used to provide this education. This information provided us with a foundation of knowledge regarding how parent education is used during sensory processing treatment and serves as a basis for future research. | | |
| 8:00 AM The Family L.I.F.E. Tool: A Case Study Approach to Analyze the Impact of Disability on Family Occupations. | The Family L.I.F.E. Tool: A Case Study Approach to Analyze the Impact of Disability on Family Occupations. | # 58 |
| Presenters: Stephanie Musyt, Rachel Sullivan | | Mentor: Dr. Judy Erickson |
| A child's life cannot be separated from his/her environment. A child's primary occupations are always linked to their family's chosen occupations. Therefore family occupations play a role in establishing family identity and assisting in the development of the child. When a child has a disability family occupations can be disrupted or altered. The purpose of this study was to examine the occupations of families with children who have disabilities using the Family L.I.F.E. Tool. This tool is used to detect perceived changes in engagement in family occupations over time. Four interviews were conducted yielding case studies to analyze the impact of disability on family occupations. Emerging themes related to the impact of the child's disability were found in each of the four case studies. | | |
| Psychology | Posters | Masters Atrium |
| 8:00 AM Emerging Threat Stimuli | Emerging Threat Stimuli | # 59 |
| Presenter: Katlin Locke | | Mentor: Dr. Catherine Lemley |
| Few studies have evaluated emerging ontogenetic threat stimuli such as unattended packages or low-flying planes in the years since the attacks of September 11, 2001. This research investigated whether images previously viewed as non-threatening would now be detected as ontogenetic threats and if this expanded category of ontogenetic images would change the outcome of previous studies involving threat detection using a visual search task. Forty-five stimuli were arranged in three categories (potential emerging threats, neutral stimuli, and old threats) and presented individually to participants. Each participant viewed scenes including these stimuli, had a short break, and then was placed into one of two task groups: a threat group or a non-threatening group. In the threat group, which included both new and old threats, the participant searched for a bottle of poison among an array of common household items such as a lunchbox and a couch, and in the non-threatening group, the participant searched for a brick house. Old ontogenetic threats were found to be significantly threatening when the images were presented individually. Given the widespread publicity of these emerging threats, further research is needed on this subject because if individuals do not recognize the new images as threats, this lack of recognition could have potentially dangerous consequences for people. | | |
| 8:00 AM Impact of Threat-Relevant Stimuli on a Subsequent Visual Search Task | Impact of Threat-Relevant Stimuli on a Subsequent Visual Search Task | # 60 |
| Presenter: Shayna Clancy | | Mentors: Dr. Catherine Lemley, Dr. Michael Roy |
| Detecting threat-relevant stimuli faster than non-threat-relevant stimuli has evolutionary importance to quickly respond in a threatening situation (Öhman, Flykt, Esteves, 2001). Öhman, et al. (2001) found that threatening stimuli (e.g. snakes) are detected more quickly among threat irrelevant (e.g. flowers) stimuli than non-threatening stimuli among threat-relevant stimuli. Recently, Becker (2009) demonstrated that threat-relevant facial stimuli improve reaction time on a subsequent visual search task for non-threatening objects. The current study investigated whether or not snakes and spiders, also threat-relevant stimuli, would improve reaction time under similar conditions. We found that non-facial-threat-relevant stimuli did not improve reaction time. It is possible that non-facial-threat-relevant stimuli may not improve reaction time because, as Öhman (2002) suggested, faces are perceived in the amygdala in a "quick and dirty" manner through a simple subcortical network rather than through the complete cortical manner, indicating that faces are perceived more rapidly than other stimuli. | | |
| 8:00 AM Threatening Stimuli Inhibit the Colavita Effect when Measured by Visual Search Efficiency | Threatening Stimuli Inhibit the Colavita Effect when Measured by Visual Search Efficiency | # 61 |
| Presenter: Melissa Rooney | | Mentor: Dr. Catherine Lemley |
| There is an imbalance in the distribution of attentional resources across sensory modalities. Visual stimuli and threatening stimuli both can capture attention with or without a person's awareness of it. We examined whether or not a shift of attention towards threatening stimuli still occurs within circumstances that elicit the Colavita visual dominance effect. If this shift of attention does occur then threatening auditory stimuli should cause faster visual search times than neutral auditory stimuli. Forty-one Elizabethtown College undergraduates participated in this experiment for course credit. They completed 25 trials each of four bimodal conditions: auditory-threatening/visual-neutral, visual-threatening/auditory-neutral, audiovisual neutral, and audiovisual threatening. The stimuli were both neutral and threatening visual and auditory stimuli. At the beginning of each trial, an auditory and visual stimulus were presented simultaneously, followed by a fixation screen then a visual search task, which remained onscreen until the participant's response. The participant's reaction time (RT) was recorded. An ANOVA revealed a statistically significant difference in RT across conditions $F(3,120) = 3.01, p = .03$. Post hoc analysis using Tukey's HSD ($\alpha = .05$) demonstrated that there were faster RTs in the audiovisual threatening condition ($M = 649$ ms) than the audiovisual neutral condition ($M = 711$ ms). The results reveal that the Colavita visual dominance effect did not occur when only one stimulus was threatening because the threatening stimuli did capture awareness without direct attention to it and suggest that threatening stimuli do not increase visual search efficiency as much when presented with a neutral stimulus. | | |

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| 8:00 AM | Congruent Coloring Facilitates the Recognition of Incomplete Objects | # 62 |
| Presenter: | Courtney Kelly | Mentor: Dr. Catherine Lemley |
| <p>Biederman and Ju (1988) reported that while shape is a primary factor in object recognition, other features such as color are secondary. To further examine the role of color, the present research used incomplete objects to eliminate shape and varied color diagnosticity. Objects may have high color diagnosticity (HCD) (e.g. strawberry) or low color diagnosticity (LCD) (e.g. dog) which are determined by the frequency that an object is associated with a particular color. Research has demonstrated that surface color facilitates recognition of HCD objects but not LCD objects (Nagai & Yokosawa, 2003; Tanaka & Presnell, 1999). We extended this research by removing shape information. We used incomplete images of both LCD and HCD objects presented in congruent and incongruent colors in an identification task. Stimuli were presented to participants at a computer through Microsoft Office PowerPoint and were told that their task would be to identify each object as quickly as possible. Reaction times were recorded. Thirty-six incomplete images of common objects, 18 HCD and 18 LCD, were used as stimuli. Each object was presented in a congruent and an incongruent color for a total of 72 stimuli. Results revealed significant differences in reaction times when the images were presented in different congruencies in both HCD and LCD object. Our results suggest that surface color can facilitate both LCD and HCD object recognition when shape information is eliminated. Continued research is needed to elucidate the role of color diagnosticity in the recognition of objects.</p> | | |
| 8:00 AM | Influence of Time Until Completion on Both Remembered and Predicted Duration | # 63 |
| Presenter: | Caitlyn Hill | Mentor: Dr. Michael Roy |
| <p>Duration until a project is due can influence estimates of how long it will take, with closer deadlines leading to longer estimates of effort. This may be because closer deadlines lead people to think about the task in more concrete, rather than abstract terms (Trope & Liberman, 2003; Sanna, Parks, Chang & Carter, 2005). It is also possible that goals may shift from promotion, seeking gains, to prevention, avoiding losses, as deadlines loom (Pennington & Roes, 2003). The less time people have until the task needs to be completed, the longer they think it will take. It is also possible that duration until a project is due can influence memory for how long similar tasks have taken previously. Participants with a concrete, rather than abstract, mindset tend to remember events as having taken place more recently (Kuyng, Menon & Trope, 2010). Decreasing the amount of time before a task needs to be completed may increase remembered duration for previous, similar tasks. We examined the relationship between subjective time until a project is due and estimates of how long it has taken in the past and how long it will take in the future. Sixty-one participants were asked to imagine a hypothetical paper due in one month. They were asked to estimate how close the deadline felt on an 11-point scale. They also gave estimates of how long similar papers had taken, in hours, in the past and how long it would likely take them in the future, counterbalanced.</p> | | |
| 8:00 AM | Predicting Personality from Dog Ownership | # 64 |
| Presenters: | Stephanie Reynard, Shannon Moore, Stephen Marks, Jeff Mastrangelo | Mentor: Dr. Michael Roy |
| <p>Simply listening to someone's favorite music (Rentfrow et al., 2003) or examining their room or office (Gosling et al., 2002) can give insight into their personality. Given that previous research has found that people are able to match pictures of purebred dogs with pictures of their owners (Roy & Christenfeld, 2004; 2005), we examined whether or not a person's personality could be predicted by merely viewing a picture of his or her dog. Pictures were taken of 14 purebred dog and owner pairs with every dog representing a different breed. Each dog owner also filled out the Ten Item Personality Inventory (TIPI) measuring the big 5 personality traits (Gosling et al., 2003). Participants (n=109) were presented with the pictures of the dogs and were asked to indicate the likely personality for the owner of that dog using the TIPI. Factor analysis on the TIPI indicates that raters perceived personality traits for dog owners to be grouped in 3 categories (instead of 5): Extraversion/Openness to Experience (Eigenvalue = 3.0, $\lambda = .63$), Conscientiousness/Emotionally Stability (Eigenvalue = 1.8, $\lambda = .69$), and Agreeableness (Eigenvalue = 1.1, $\lambda = .67$). Out of these three traits, participants were able to predict what the actual owner reported for Extraversion/Openness to Experience, $r(13) = .55$, $p = .04$ (other $p > .2$). Results indicate that people are able to predict how outgoing a person is, or at least how outgoing that person believes himself or herself to be, simply by looking at a picture of that person's dog.</p> | | |
| Called to Lead | Presentations | Zug Recital Hall |
| 8:00 AM | Leaders Engaging Social Change Across Cultures: A Case Study | # 66 |
| Presenter: | Kurt Deschner | Mentor: The Rev. Tracy Sadd |
| <p>Using his six-week summer experience as a volunteer with a medical team in Tanzania, the presenter will present a case study of the social change leadership of Gladness Kisanga in Tanzanian Maasai culture. This social change pertains to roles of women, health care, religion, and infrastructure issues. Analyzing the case study, the presenter will focus on extrapolating Kisanga's best practices for leaders who would engage in social change. The paper also will analyze and critique the case from the perspective of the cross-cultural leadership provided by the student presenter, the Orphan's Foundation Fund co-founder, Dr. James Lace, and the team of medical students from North America.</p> | | |
| 8:30 AM | Determining the E-town Approach to Student Leadership | # 67 |
| Presenter: | Alexandra Conte | Mentor: The Rev. Tracy Sadd |
| <p>What leadership philosophy and theory should shape student leadership development at a college or university? This paper will compare and contrast the eight leadership theories that are frequently used at the more than 1,500 schools offering leadership development programs. The presenter will explore the social change model, transformational leadership theory, servant leadership theory, the relational leadership model, the character and ethics model, the leadership challenge model, the principle-centered leadership approach, the emotional intelligence model, and authentic leadership development. The presenter will determine which theories or models provide the best fit with the Elizabethtown College mission and experience.</p> | | |

Session I: 8:00 – 9:15

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| 9:00 AM | How to Become an Ethical Leader | # 68 |
| Presenter: | Kristin Mance | Mentor: The Rev. Tracy Sadd |
| By definition, ethical leadership describes a leader who has strong core values that they live by and who uses these core values to do good for others. Throughout history, we have seen many people rise to power. Some leaders, like Franklin Delano Roosevelt, Mahatma Gandhi, and Martin Luther King, used their power to fight for causes that would help others. Unfortunately, we have also seen some people rise to power only to hurt others. A perfect example of this type of leader is Adolf Hitler. While many argue that Hitler was a great leader because he was able to get so many people to follow his beliefs, he ultimately led people to make unethical decisions in order to fill his own dark motives. We all have the opportunity to make the choice about which type of leader we want to become, and becoming an ethical leader can help us all in many ways. | | |



| Social Work | Presentations | H-107 |
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| 9:30 AM | Assessing a Children's Group Ability to Increase Children's Understanding of Foster Care | # 71 |
| Presenter: | Sarah DeGeorge | Mentor: Dr. Susan Mapp |
| | Entering foster care can be traumatic and uprooting for a child, but having supporting services in place can help ease that transition. New Beginnings, a group for children in foster care for children ages 9-12, has a goal of increasing the children's knowledge about foster care. This group meets for eight weeks and focuses on an array of topics including stigma, support, and knowledge about care. I will be asking the children questions both before and after the group to gauge their understanding of foster care. The effectiveness of the group will be determined through the children gaining more knowledge about foster care. This study will be able to provide information on how well children in foster care understand their situation as well as the effectiveness of supportive groups in educating these children. | |
| FAPA | Presentations | H-107 |
| 10:00 AM | The Use of Sung Directions as an Aid in Learning a Motor Task | # 72 |
| Presenters: | Katelyn Santee, Leeann Hackett | Mentor: Dr. Gene Behrens |
| | The purpose of this study was to determine whether sung directions had an effect on the learning and demonstration of a seven-step origami folding task. Subjects included 24 students from a small college, ranging in classes from first year through senior. Eight males and 16 females were randomly assigned to the sung direction (n= 12) and the verbal direction (n= 12) groups. After a demonstration of origami, one group listened to the directions verbally while the other group listened to same directions sung to the tune of "Mary Had a Little Lamb". Participants were asked to recall and demonstrate the steps. Their performance was evaluated based on the amount of time taken to complete the task (efficiency of folds score) and the number of steps correctly completed (accuracy of folds score). The difference between each set of dependent variables was analyzed using an independent t test and evaluated at $\alpha = .05$. Results showed no significant difference between the sung and spoken groups for the accuracy of folds scores and the efficiency of folds scores. However, when the effect size index, Cohen's d, was calculated for both results, a moderate effect size was obtained for the efficiency of folds scores indicating there may have been a significant difference between the amount of time needed to complete the steps if more power was involved in the study. Given the motivational quality of music, these results do suggest that music therapists can use music to teach motor tasks without deterring the client's progress. | |
| 10:15 AM | Effect of Vocal Background Music on Reading Comprehension Scores | # 73 |
| Presenters: | Sarah Johnson, Julia Steinsberger, Danielle Hopkins | Mentor: Dr. Gene Behrens |
| | The purpose of this study was to investigate the effect of listening to vocal music versus no music while completing a reading comprehension task involving text and follow-up questions. Participants included 20 college students, obtained as a sample of convenience, and ranging in ages from 17 to 23. The 5 males and 15 females were randomly assigned to two groups, the music condition (n = 10) and the no-music condition (n = 10). Participants had 15 to complete four reading excerpts from a past SAT exam, each containing two to seven questions for a total of 21 questions. During the music condition, the participants listened to a continuous playing of 5 top Billboard Hits. Following the task, all participants completed a background information form, providing their demographic information and preferences for their group condition. The mean total correct scores for each group were compared using an independent t-test and evaluated at $\alpha = .05$. Results indicated there was no significant difference found between the music condition and the no-music condition scores on the reading comprehension test. Although no significant difference was obtained, Cohen's effect size index was moderate, indicating there may be a difference given a larger sample. In addition, high variability in the vocal group suggests the use of vocal background music while reading may impact each individual differently. Results also suggest music does not detract or assist in reading comprehension and supports the existing research which is inconclusive. Therefore, we conclude further research should be conducted. | |
| Education | Portfolios | H-110 |
| 9:30 AM | A Framework for Teaching: Professional Portfolios for Educators | # 76 |
| Presenters: | Benjamin Toland, Emily Deeds, Beth Corrigan, Julianne Keys, Dorothy Ryan, Samantha David | Mentors: Dr. Carroll Tyminski, Dr. Kathleen Blouch |
| See Session Abstract #9 | | |
| 10:00 AM | A Framework for Teaching: Professional Portfolios for Educators | # 77 |
| Presenters: | Alex Rhoads, Kristen Blome | Mentors: Dr. Carroll Tyminski, Dr. Kathleen Blouch |
| See Session Abstract #9 | | |
| Education | Presentation | H-211 |
| 9:30 AM | Citizenship Education and Social-Emotional Learning (SEL) | # 81 |
| Presenter: | Angela Caims | Mentor: Dr. Rachel Finley-Bowman |
| | This presentation examines how the framework established by the Collaborative for Academic, Social, and Emotional Learning (CASEL) can be used to promote citizenship education in the elementary classroom. Particular focus is given to the integration of CASEL's five core competencies -- self-awareness, self-management, social awareness, relationship skills, and responsible decision-making -- into the everyday social studies curriculum. | |

Session II: 9:30 – 10:45**Physics and Engineering** **Presentations** **Gibble Auditorium (Esbenshade)**
10th Annual Symposium of Robotics and Machine Intelligence
#86-#90, 9:30am – 10:45am
#166-#169, 11:00 am – noon
Session Chairs: Elizabeth Starkey and J. Wunderlich, Ph.D

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| 9:30 AM | Wunderbot Parallel Programming and Coding Alternatives | # 86 |
| Presenters: | Elizabeth Starkey, Mark Yorkey | Mentor: Dr. Joseph Wunderlich |
| Wunderbot 6 is presently being retooled to implement new undergraduate research including possibly new parallel-processing hardware and software. Additionally, new computer programming languages and platforms are being explored. This research was completed as a semester project for EGR/CS230 Microcomputer Architecture | | |
| 9:45 AM | Wunderbot Vision Upgrades | # 87 |
| Presenter: | Michael Conlow | Mentor: Dr. Joseph Wunderlich |
| LabVIEW 8.5 has been used in recent years to develop a vision system for Elizabethtown College Wunderbot's. This software has presented systems integration problems; for example the vision system (along with other sensor information) needs to interface more elegantly with motor control and path-planning. Due to the volatility of the trial software used to capture images in LabVIEW, all LabVIEW software must be removed and reinstalled in the proper order; otherwise the system will require the full USB interfacing software to be purchased. When the Wunderbot is receiving the image in LabVIEW the amount of filtering and positioning of the camera needs to be adjusted to perform optimally. Also, since the Phoenix Contact company has recently donated an advanced Programmable Logic Controller (PLC) that uses the IEC-61131 standard, new Wunderbot computer hardware and software platform can be explored, and digital image processing capabilities of this PLC can be assessed. Using IEC-61131 should work well as long as the PLC can handle digital image processing with ease, and since IEC-61131 is capable of coding in a variety of standards (structured text, functional blocks, and instruction lists), the power of each of these can also be explored. Currently no other student knows the details of how the Wunderbot vision system has been developed, so one of the Robotics and Machine Intelligence Club members who will be here next year has assisted me so they can carry on the work after this semester. This research was completed for EGR491/492 "Engineering Senior Project." A related POSTER has been made. | | |

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| 10:00 AM | Genetic Algorithms | # 88 |
| Presenter: | Ashley Jordan | Mentor: Dr. Joseph Wunderlich |
| Genetic algorithms are Computer Engineering & Science techniques to develop computer programs that use random permutations, inheritance, and heuristic searches to solve problems. | | |

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| 10:15 AM | Neural Network Theory and Application: Implementation of Artificial Neural Networks | # 89 |
| Presenter: | Coty Morrison | Mentor: Dr. Joseph Wunderlich |
| Neural networks have been part of the Robotics and Machine Intelligence initiatives at Elizabethtown College for many years. This talk reviews some recent analysis and implementation of Artificial Neural Networks. This research was completed as a one-credit EGR280 "Engineering Research" project. | | |

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| 10:30 AM | Remote-Controlled Multi-Shot T-Shirt Cannon | # 90 |
| Presenter: | Sean Flanagan | Mentor: Dr. Joseph Wunderlich |
| A Tel-net client-equipped cell phone is used to send commands to a computer that uses a modified USB missile launcher to trigger various relays, which fire cannons via sprinkler valves which in turn trigger a more powerful piston valve. Cannons are powered by compressed air. | | |

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| Modern Languages-Spanish | Presentations | BLR (Steinman) |
| 9:30 AM | The "Sistema de Castas" in Latin America and Its Resulting Effects on Racial Identity | # 91 |
| Presenter: Allan Craven Mentor: Dr. Montserrat Linares-Farras Latin America, although often generalized in the modern era as being made up of "hispanics," actually constitutes one of the most racially creative and diverse regions of the world as a result of the Spanish Conquest. Looking primarily at the racial structure of Mexico City, Mexico, with some other examples, this presentation seeks to explain the cultural phenomenon known as the "sistema de castas." This system is based on both physical appearance, social lifestyle, and governed contemporary Latin American social structure. This presentation focuses on each of the original, heterogeneous social groups (the Spanish, creoles, the indigenous, and blacks), the resulting combination of social classes (mestizos, mulattoes, and coyotes, among others), and the way that these racial combinations reflected on their own self-images and identities. | | |

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| 9:45 AM | Translation of Intemperie | # 92 |
| Presenter: | Shayna Clancy | Mentor: Dr. Montserrat Linares-Farras |
| Translation is the art and science of "rendering the meaning of a text into another language" (Newmark, 1988). A successful translation is developed through expertise and creativity in both languages and cultural awareness. In this presentation I will discuss the process of translating a literary text, including the importance of the type of reader, to the difficulty in translating metaphors. I will also include a brief overview of the Spanish writers known as "Generation X" whose "raw expression of contemporary life" has sparked praise and criticism (Henseler, 2004). More specifically, I will discuss Spanish novelist Care Santos and the process of translating <i>Intemperie</i> , her second collection of short stories. | | |

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| 10:10 AM | Niebla: A Literary Analysis | # 93 |
| Presenter: | Ashley Clark | Mentor: Dr. Montserrat Linares-Farras |
| <p>Miguel de Unamuno's <i>Niebla</i> (Spanish for "fog") is a classic and significant Spanish novel which was published in Spain in 1914. The presentation of this novel will consist of two parts. The first part of the presentation will include a brief introduction of the novel and as well as of its distinguished author, Miguel de Unamuno. The second part of the presentation will draw upon experience and insights gained through a semester-long study of Spanish literature in order to analyze the novel on several levels. This analysis will include an examination of the literary elements of the work such as the plot, themes, symbolism, and instances of figurative language. In addition, the presentation will include a study of the novel's characters and narrator, and their roles in the development of the novel. (Note: This presentation will be conducted in Spanish.)</p> | | |
| 10:25 AM | Zafónmania: A Closer Look at the Success of <i>The Shadow of the Wind</i> | # 94 |
| Presenter: | Jordan Ridge | Mentor: Dr. Montserrat Linares-Farras |
| <p>Carlos Ruiz Zafón, one of the most published authors in today's Spain, has become a very popular novelist, and his words have been translated into more than twenty languages. In an attempt to identify the root causes of his immense popularity, an examination of his most popular novel <i>The Shadow of the Wind</i>, looks closely at the major themes (love, war, and magical realism) incorporated into the work and draws comparisons to other widely read pieces of literature within the author's genre. Furthermore, a closer look at the author's extensive number of interviews and highly visited official website attempts to determine whether his unique interactions with his readers contributes to the cultivation of his dedicated fan base.</p> | | |
| Sociology/Anthropology | | Presentations |
| 9:30 AM | Simple Disney for a Simple Life | H-212 |
| Presenter: | Elizabeth Riccardi | Mentor: Dr. Michele Lee Kozimor-King |
| <p>Disney movies began in 1923 and quickly became very popular among young children and families. Disney movies are related to simple living since watching such movies consumes much of American leisure time. Simple living is defined as conscious and deliberate living including a focus on what you truly need or genuinely cherish. Taking time for leisure is an important simple living characteristic because it allows time to focus on more enjoyable things, like spending time with family and friends resulting in the development of quality relationships. Previous research has examined the content of Disney movies for the effects of socialization, gender role creation, and reflection of current social values. This research examined whether Disney is incorporating simple living characteristics into current films. The data for this study were obtained from a random selection of Disney movies released in theaters between 2006 and 2010. The movies randomly selected were: <i>Snow Buddies</i>, <i>Happy Feet</i>, and <i>The Game Plan</i>. A coding sheet was constructed to examine each movie for simple living characteristics and to determine which movies portrayed the characteristics. The simple living characteristics focused on were: nature, family, others community, well-being, and environment. It can be concluded that Disney movies do display a considerable amount of simple living characteristics since 2006.</p> | | |
| 9:45 AM | Are Racial Differences Due to Lack of Education or Lack of Will? The Effects of Residence and Educational Degree on Individual Views of the Sources of Racial Inequality | # 97 |
| Presenter: | Sarah Kittle | Mentor: Dr. Michele Lee Kozimor-King |
| <p>Racial discrimination occurs frequently in American society, particularly in schools where Whites consistently academically outperform African-Americans. Residence and level of education have been shown to affect personal views on the sources of racial inequality. This research investigated the effects of residence and educational degree on individual views of the sources of racial inequality. The data for this research was obtained from the 2006 and 2008 wave of the General Social Survey which was conducted at the National Opinion Research Center. The total sample size is 3,007. Results of the bivariate correlations showed that individuals who live in more urban environments are more likely to believe that racial differences are due to African-American lack of will ($r = -.105$; $p < .01$). The relationship between residence and opinions about differences being due to discrimination ($r = .082$; $p < .01$) and due to lack of education ($r = .089$; $p < .01$) were weak, but statistically significant. Individuals with a higher educational degree were less likely to believe that racial differences were due to lack of will ($r = .194$; $p < .01$). Those with higher levels of education were also more likely to believe inequality was due to a lack of education ($r = -.159$, $p < .01$) and less likely to believe the source was due to inborn disability ($r = .171$, $p < .01$). Surprisingly, there were no significant correlations between education level and the belief that discrimination is the cause of racial differences. It can be concluded that level of education and place of residence do affect views on sources of racial inequality.</p> | | |
| 10:00 AM | Until Infidelity Do Us Part? Effects of Religiosity and Spirituality on Marital Infidelity | # 98 |
| Presenter: | Maggie Keefer | Mentor: Dr. Michele Lee Kozimor-King |
| <p>Marital infidelity is a social issue which plagues celebrities and average 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 more religious individuals are less likely to have sex with someone other than their spouse. This is consistent with previous research on examining marital infidelity and religiosity. 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.</p> | | |

Session II: 9:30 – 10:45

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| 10:15 AM | Thanks A Lot Martin Luther: The Effects of Denomination, Residence, and Co-Workers' Church Attendance on Christian Confidence in Organized Religion | # 99 |
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Presenter: Lindsey Summers

Mentor: Dr. Michele Lee Kozimor-King

In order for an individual to commit to one form of organized religion over another, or to any at all, they must possess a certain amount of confidence in what that particular institution stands for. Without a certain confidence level, individuals will leave and no longer identify themselves as a part of the institution. Previous research has found that there is a decline in religious identity across the United States. This research examines the effects of denomination, residence and co-workers' church attendance on Christian confidence in organized religion. The data for this study were obtained from the 2006 General Social Survey conducted by the National Opinion Research Center. The total sample size consisted of 172 respondents. Results from bivariate correlations do not support the hypotheses of this research. There was no relationship between religious preference and confidence in organized religion ($r = -.019$, $p < 0.05$), which does not support the hypothesis that members of mainline Christian denominations will have less confidence in Christian churches than members of the Catholic denomination. There is no relationship ($r = .000$) between confidence in organized religion and co-workers church attendance refuting the hypothesis that individuals with more non-churchgoers in their life will have less confidence in Christian churches. Lastly, results do not support the hypothesis that individuals living in urban areas will have less confidence in Christian churches than individuals living in rural areas. The results of this research will be beneficial for church organizations, church leaders and even those who have stepped away from their faith traditions.

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| 10:30 AM | No Time For Marriage: A Content Analysis of Media Portrayal of Prioritization of Marriage of Women | # 100 |
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Presenters: Kathryn Varner, Dorothy Ryan, Nicole Day

Mentor: Dr. Michele Lee Kozimor-King

The age at first marriage for women has steadily risen within the last forty years. Due to the availability of extended education and increasing career opportunities for women, the median age for first marriages is increasing. Television has been shown to inaccurately reflect the demographic composition of society. Based upon this fact it is necessary to examine how television is portraying marriage patterns of women compared to actual statistics. The data for this research will be obtained from a content analysis of ten selected television shows. From each of the ten television shows one random episode will be chosen from the most recent seasons. All of the television shows consist of issues corresponding to women and marriage. Results from the content analysis will be presented. Women in society today are deciding to push back marriage based upon the desire to further their education, advance in their careers, and are waiting for the right person. Coding for different television series will provide a broad portrayal of media's interpretation of women and marriage. Results from this research will be useful for young women contemplating marriage, marriage counselors, couples, and scholars interested in the media's portrayal of the prioritization of marriage of women.

| History | Presentations | H-213 |
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| 9:30 AM | An Interpretation of India's Achievement of Independence: Political Disorder Surrounding the Hindu and Muslim Conflict Leading up to 1947 | # 101 |
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Presenter: Katie Sallade

Mentor: Dr. David Kenley

The presentation will summarize a research paper completed as a part of an Independent Study in the fall of 2010. In this paper, I discuss the political factions that arose in India before its independence and the various leaders of these organizations. The presentation encompasses the entirety of British rule in India, while mainly focusing on the years directly before independence. It suggests that the political turmoil, while a result of various religious and social differences, led to the partition of India because of shortcomings on the parts of Jawaharlal Nehru, Muhammad Ali Jinnah, Mahatma Gandhi, Clement Attlee, Franklin Delano Roosevelt, and the British government's policies toward the transfer of power in 1947. While focusing on the political agendas of these individuals and groups in both India and Britain, this paper also allows that many factors contributed to the eventual dissolution of a united India, but the end result was not inevitable. Primary sources, such as Mahatma Gandhi's autobiography and an article written by Lord William Hailey (Governor of the Punjab from 1924 to 1928), were used, as well as a wealth of secondary materials.

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| 9:45 AM | Single Female Missionaries in China, The Life and Times of Anna Blough | # 102 |
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Presenters: April Tuggle, Morgan Nebbia

Mentor: Dr. Brian Newsome

The women of the early twentieth century are often stereotyped as dependent housewives; however, for many, this was not the case. Some women were able to find independence and enhance their role in society. One route by which such independence was made possible was through mission work, particularly in the case of unwed female missionaries. One of these missionaries was Anna Blough, a Brethren missionary from Iowa, who bravely journeyed to China to spread the word of God. Married missionary women, though they too experienced a new degree of independence, led much different lives than those of their single counterparts. By examining the lives of unwed female missionaries in China during the early twentieth century, and using married missionaries as a comparison, it becomes evident that the former, in particular Anna Blough, were able to improve their positions in society by way of missionary work. Note: Research paper heavily utilized Elizabethtown College's Digital Collection, Anna V. Blough Missionary Letters and Diaries from China.

10:00 AM A Muralist's Interpretation of History: Violet Oakley and Her Representations of William Penn's Life and Works # 103

Presenter: Katie Sallade

Mentor: Dr. Brian Newsome

The presentation will summarize a research paper completed for my internship at the Pennsylvania House of Representatives Archives. In this paper, Violet Oakley's life and works are examined, most specifically her murals in the Capitol Building in Harrisburg, Pennsylvania. As a muralist, Oakley was a woman outnumbered in a male-dominated field, but she managed to transcend gender barriers and receive commissions for government buildings and churches during the late nineteenth and early twentieth century. Her murals in the Harrisburg Capitol encapsulate her own religious morals and values, and her designs echo the philosophies of William Penn. The paper compares Oakley's works with Penn's ideals, while analyzing Oakley's own dedication to women's rights and nonviolence as seen not only in her art, but also in her lifestyle and writings. Primary sources such as Violet Oakley's papers and her articles, as well as William Penn's papers were used in addition to a wealth of secondary material.

H-213**10:15 AM The Double Struggle: Gay Activists in the Civil Rights Movement # 104**

Presenters: Amanda McGahey, Caroline McMullin

Mentor: Dr. Diane Bridge

We are exploring the lives of four people, two men and two women. In our presentation we look at their achievements for the civil rights movement and also how they dealt with their additional struggle of being homosexual. This is something that is not often looked at, and is very prevalent in today's world as well.

Business Presentations H-214**9:30 AM Perception of Price and Value: An Application to Higher Education # 106**

Presenter: Katie Bornholdt

Mentor: Dr. Bryan Greenberg

Existing research indicates that a large number of consumers are unaware of what they pay for goods. Dickson and Sawyer (1990) found that more than 50% of shoppers could not correctly name the price of the item just placed in their shopping cart. Further, more than 50% of shoppers who purchased an item on special were unaware that the price was reduced. Johnson (1993) found that price search behavior is more common among consumers who place a greater importance on price, but that there was little difference in price knowledge among these consumers compared to those that were not concerned with price. Previous price knowledge research has primarily focused on low-involvement, low-cost transactions in the grocery industry; however, a recent provision in the Higher Education Opportunity Act suggests that price knowledge as it applies to high-involvement, high-cost transactions such as education may be equally low. The provision is designed to compel institutions to become more transparent with regard to their pricing strategies, necessitating a better understanding about how pricing impacts enrollment. This research focuses on price awareness as it relates to higher education tuition and will evaluate three primary pricing issues: (1) the discrepancy between perceived price and sticker price of post-secondary institutions, (2) the discrepancy between the perceived price and discount rate of post-secondary institutions, and (3) how students' understanding of price influences their valuation of post-secondary institutions. The data for this study consists of survey responses from prospective students at two central Pennsylvania colleges that utilize distinct pricing strategies.

9:45 AM The Use of Social Media in Higher Education # 107

Presenter: Caitlin Taylor

Mentor: Dr. Bryan Greenberg

The proper use of social media offers a number of benefits including connectivity and participation with target market, user-generated content, and collaboration among users (Bowley & Henderson, 2010). Many organizations, including higher education, are taking advantage of the benefits of social media and utilizing it for their own marketing purposes. Given the target audience of higher education, prospective students, there are many opportunities for professionals to use social media to connect with them (Fusch, 2011). Research has demonstrated that institutions have increased the use of social media to establish and maintain communication with various constituents (Bowley & Henderson, 2010). While there is an increased usage of social media by higher education professionals, there is a dearth of research on whether social media benefits the organization, whether it actually reaches the target markets, and how to effectively measure social media campaigns. In order to understand the effectiveness of social media as part of our marketing toolbox, it is important to step back and address these questions. To accomplish this, the present study examines higher education professionals, specifically college admissions counselors. Utilizing a survey approach, the goal of this research is to determine how admission counselors define social media, what social media is most commonly utilized in admissions offices, what specific practices they are undertaking, and how institutions plan on integrating social media into their marketing and communications tools moving forward. An additional goal is to gain insight into what metrics, if any, institutions use to measure the effectiveness and return on investment of social media.

10:15 AM Big League Nation # 108

Presenter: Greg Katz

Mentor: Dr. Cristina Ciocirlan

Major League Baseball (MLB) has been experiencing an increase in the revenue gap between large market teams and small market teams on almost a yearly basis. In comparison to the other major sports leagues in America, most notably the National Football League, MLB shares the smallest percentage of the total revenues evenly amongst the teams. Thus, larger teams are able to spend outstandingly higher amounts on talent in comparison with the smaller teams in the league. Today, the salary gap has widened so much that the top team spends over 500% of that of the smallest team on talent alone. The question that begs itself is: who really cares? Every stakeholder in Major League Baseball cares. The fans want to see better competition, more heated rivalries, and more meaningful games. The players want to play in front of packed stadiums, not empty seats. In a league that generates a higher percentage of ticket sales revenues than any other league, the owners could not agree more. Healthier competition can improve these outcomes, and ultimately increase each team's revenues. My paper will analyze the reasons for the lack of competitive balance in the baseball industry and will suggest recommendations for restoring it. For this purpose, secondary data are collected and analyzed using multivariate regression analysis.

Session II: 9:30 – 10:45

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| 10:30 AM | From Mind to Money: How Emotional Intelligence Impacts Sales Performance | # 109 |
| Presenter: | Lauren DeMezza | Mentors: Dr. Cristina Ciocirlan, Dr. Bryan Greenberg |

How can one's level of success be gauged? Quite often, employers, friends, and colleagues make judgments based on IQ scores. But recent research shows that only a very small percentage of job success can be attributed to IQ. So, what is the primary factor associated with success? The answer lies at the opposite end of the spectrum—emotional intelligence (EI). Emotional intelligence essentially represents one's ability to "read people" (Goleman, 1995). Several studies provide support for a positive relationship between EI and variables such as leadership, managerial effectiveness, and sales performance. Furthermore, the implementation of EI training programs in organizations seems to yield positive results. In a country with approximately 4 million direct salespeople, knowing what factors lead to successful sales is critical for firms to understand. However, little research has been conducted on the influence of EI on sales performance in companies using a direct sales business model, such as Mary Kay. If EI matters in sales in general, it should be even more critical for a sales position involving such a large amount of personal interaction with customers. This study attempts to fill this gap, by analyzing the relationship between EI and sales performance using a sample of Mary Kay sales consultants. A cross-sectional research design, based on multivariate statistical analysis methods, is employed. Data are collected through surveys, distributed through the Surveymonkey.com website. Two models will be estimated, using annual sales and customer satisfaction, respectively, as dependent variables. The set of independent variables includes measures of EI, sales experience, and personality characteristics. The study will have multiple benefits, for practitioners and researchers alike, by shedding light on the complex link between EI and sales performance.

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| Political Science | Panel | H-215 |
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| 9:30 AM | Aryan Nations: A Realist Group | # 111 |
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Presenter: Kaitlin Ballantine
Mentor: Dr. Oya Ozkanca
This paper focuses on the terrorist group Aryan Nations. Aryan Nations is a far right, neo-Nazi, white-supremacist group in the United States. This group perpetuates a strong dislike for law enforcement and authority. The group is considered, by the FBI, to be the most violent domestic terrorist group in the United States. This paper argues that this group acts on the Realist theory's premises, as it believes in the use of force, conflict, zero-sum game, self-help, and that whoever is not with you is against you. Aryan Nations is concerned with their survival and will use whatever force members deem acceptable to reach their goal of a "perfect" nation. This group has a very one-sided view on the world and believes that their view is the right view and that their race is the right race. It does not approve of any one with differing ideas, ethnicities, or racial backgrounds. The group wants to revolt and take over the government in the United States to implement their plan of achieving their idea of a "perfect" nation. Through the use of scholarly research and news coverage, this paper analyzes the group's history, its operations and goals. It also explores how law enforcement is dealing with this terrorist group.

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| 9:30 AM | Provisional IRA: Friend or Foe? | # 112 |
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Presenters: Ashley Yagielniskie, Lauren Hamilton
Mentor: Dr. Oya Ozkanca
This paper examines how the provisional IRA uses political violence, and sometimes terroristic threats, in an attempt to gain political power in order to drive out the Unionists/Protestants. By using qualitative research methods, including various first-hand accounts, case studies and painted wall murals, the research explores the impact of the recent violence in Northern Ireland, despite the widespread efforts for peace between the Unionists and the Loyalists. Specific attention will be given to the country's capital, Belfast, as well as Derry/Londonderry, where many bombings have recently occurred. In light of our analysis, a specific International Relations/Terrorism Theory that best explains the causes of the renewed conflict will be introduced. As such, the history of the Irish conflict, the religious cleavages, the culture of the area, and the recent developments in this ongoing issue will be presented. Additionally, the provisional IRA's chief demands/concerns as well as the response to their demands by the state and many internal groups will be addressed. The paper will conclude with projections on the future of the conflict.

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| 9:30 AM | Political Violence in Columbia | # 113 |
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Presenter: Katrina Westcott
Mentor: Dr. Oya Ozkanca
Columbia has a long history of terrorism and political violence. Historically, one of the major players in this area has been the Revolutionary Armed Forces of Columbia (FARC). This paper examines the role of illegal and violent acts performed by FARC and satellite groups (including a focus on the trade of illegal drugs) and how the organization has helped to shape domestic Columbian politics as well as its relationship with the United States.

| Biology | Posters | Masters Atrium |
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| 9:30 AM | Effects of Antibiotic Exposure and Immune System Challenge on the Development of Allergic Asthma | # 116 |
| Presenter: Kaitlyn Snyder | | Mentor: Dr. Debra Wohl |
| In previous studies, experimenters have found that the risk of atopic disease is increased due to less exposure to infection and increased antibiotic use during immune system development. The data has supported this finding in accordance with hay fever, eczema and atopy, but is inconclusive regarding asthma. This study aims to further research the effects of antibiotic use and immune system challenge early in life on the development of allergic asthma. This was done retrospectively by collecting data from labor and delivery records of mothers who delivered vaginally, pediatric records up until age two, and participant completed questionnaires concerning family medical history and home environment information. A total of 241 women and 354 children of which 19.8% have asthma were enrolled in the study. Children who were prescribed antibiotics any time after birth until two years of age were statistically more often diagnosed with asthma than those who were not given antibiotics ($X^2=9.38$; $p<0.05$). Results also suggest that babies who were born pre-term (<37 weeks gestation) were statistically more likely to be asthmatic which may reflect insufficient lung development ($X^2=7.25$; $p<0.05$). Birth order and exposure to antibiotics administered to the mother during delivery, which can correspond to immune system challenge, were determined to have no statistical relationship with asthma diagnoses. This research supports that allergic asthma is dissimilar to other atopic diseases in relation to birth order. More data is currently being collected to further study these relationships. | | |
| 9:30 AM | Expression of Heat Shock Factor and Heat Shock Proteins in Hydra Stem Cells | # 117 |
| Presenters: Stephanie Ellwood, Stephanie Gingrich, Scott Douglas | | Mentor: Dr. Diane Bridge |
| Different species of the invertebrate genus <i>Hydra</i> show substantial differences in lifespan. The species <i>Hydra oligactis</i> shows rapid age-associated physical deterioration after reproduction, while <i>Hydra vulgaris</i> individuals appear able to survive indefinitely. We are investigating the possibility that aging in <i>H. oligactis</i> is caused by low production of one or more heat shock proteins. In organisms from bacteria to vertebrates, high temperatures and other stressful conditions trigger production of heat shock proteins. Heat shock proteins protect cells by reducing the levels of proteins that are not properly folded. As humans and some other organisms age, the amounts of heat shock proteins that are produced in response to stress decrease. While <i>H. vulgaris</i> produces heat shock proteins in response to stress, <i>H. oligactis</i> does not. To investigate the roles of heat shock proteins in both species of <i>Hydra</i> , we are using RNA in situ hybridization to characterize the expression of genes encoding heat shock factor, an HSP70 heat shock protein, and the heat shock protein mortalin. We have documented expression of heat shock factor in <i>H. vulgaris</i> and found that heat shock factor mRNA is present at high levels in a population of stem cells termed the interstitial stem cells. Interestingly, in <i>H. oligactis</i> , numbers of these cells drop sharply just before physical deterioration begins. Future experiments will determine whether expression of heat shock proteins differs in the interstitial stem cells of <i>H. vulgaris</i> and <i>H. oligactis</i> . | | |
| 9:30 AM | Isolating an Actin Promoter from Hydra Oligactis to Allow Analysis of Gene Function | # 118 |
| Presenter: Gregory Shedlock | | Mentor: Dr. Diane Bridge |
| Existing data suggests that the simple invertebrate animal <i>Hydra vulgaris</i> does not experience senescence. <i>H. vulgaris</i> individuals appear to survive indefinitely with no physical deterioration. The closely related species, <i>Hydra oligactis</i> , displays increasing physical deterioration and eventually death following reproduction. Identifying genes involved in the difference in lifespan between the two <i>Hydra</i> species may provide insight into the biology of aging in other species, including humans. To study the effects of a gene in <i>H. oligactis</i> , it is important to be able to experimentally change the level of gene activity. The goal of this project is to produce genetically modified <i>H. oligactis</i> that produce extra mRNA for genes of interest. To do this, I am working to isolate a promoter which will cause continuous transcription of a gene of interest in multiple cell types. An actin promoter has been used successfully to do this in <i>H. vulgaris</i> . I have used the polymerase chain reaction (PCR) to isolate a portion of an actin gene from <i>H. oligactis</i> cDNA. I plan to use PCR walking techniques to amplify the putative promoter region of this actin gene from genomic <i>H. oligactis</i> DNA. | | |
| 9:30 AM | Morphological and Biochemical Differences in Tumor Lines | # 119 |
| Presenter: Melanie Hartman | | Mentor: Dr. Jane Cavender |
| This project was designed to investigate morphological and biochemical differences between two tumor cell lines and their normal cell line controls in the hopes of determining consistent transformed properties that would enable better diagnosis, prognosis and treatment of cancer. More specifically, the nucleolar structure, lipid profiles, acid phosphatase and nucleophosmin (B23) levels and phosphorylation state will be assessed in the human cervical carcinoma (HeLa) and mouse melanoma (B16F10) cells lines. These results will be compared to the human diploid fibroblasts (HDFs) and Black6 spontaneously immortalized mouse (B6scl7) cells. Since recent evidence suggests that increases in nucleolar number, and size, are correlated to decreased patient prognosis, the nucleoli will be examined by immunofluorescence. B23-positive nucleoli will be counted and measured to see if this correlation is consistent with the published invasiveness of the cervical and melanoma cell lines. To date, we have used thin layer chromatography to examine the lipid profiles, and our data suggest that the human carcinoma cells have increased phosphatidyl inositol, and the melanoma line have decreased sphingomyelin compared to the normal lines. This could be important in the increased cell signaling pathways. Immunofluorescence data has shown that both cancerous cell lines showed larger, nucleoli than their normal counterparts, correlating with a more aggressive tumor. Presently experiments are underway to determine the B23 and actin levels, the B23 phosphorylation state, and the enzymatic levels of several proteins. All of this data will aid in the overall knowledge of the cellular changes that contribute to tumorigenesis. | | |

Session II: 9:30 – 10:45

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| 9:30 AM | The Non-Repeat Enhancer of the Ribosomal Gene | # 120 |
| Presenter: | Brian Frantz | Mentor: Dr. Jane Cavender |
| <p>The non-repeat enhancer (NRE) of the rat ribosomal gene is a 174 base pair cis element located between nucleotides -2,183 and -2,357 in the rat non-transcribed DNA spacer region. When discovered, this sequence was thought to be unique to the rat species and to function solely as an enhancer element. It was shown that the Ku auto-antigen bound to the sequence and it was suggested that this protein enhanced the ribosomal gene transcription by forming a stable transcription initiation complex at the promoter. However, it was later shown that the Ku protein can negatively regulate the ribosomal gene promoter by binding to the NRE, in serum-starved cells or when Ku is in high cellular concentration. Recently we discovered that the 37 base pair region of the NRE is also found in the mouse genome and contains only 1 nucleotide difference. In an attempt to reconcile the literature we have designed a series of in vivo experiments to test the NRE of the mouse and rat species under normal, serum starved and high calcium environments. Preliminary data suggests that the rat NRE can repress the ribosomal gene transcription in the presence of high calcium suggesting a possible calcium-dependent signaling pathway. Experiments are currently under way examining the function of the NRE elements under high and low serum. Our findings may reconcile the published data that shows the NRE functions as both a repressor and enhancer and that it is modulated by environmental cues.</p> | | |
| 9:30 AM | SV40 Large T-Antigen Interaction with TATA-Binding Protein is Abrogated by W94A or F98A Amino Acid Substitutions Within the pAb 416 Epitope | # 121 |
| Presenter: | John Fuesler | Mentor: Dr. Jane Cavender |
| <p>SV40 large T-antigen (Tag), a viral oncoprotein is sufficient to cause oncogenic transformation of mammalian cells in culture and form tumors in experimental animal models. The promiscuous transcriptional activity of Tag is proposed to aid the increased demand for protein expression in rapidly-dividing transformed cells. Tag interacts with TATA-binding protein (TBP) to transactivate genes containing RNA Pol I, II and III-dependent promoters; and this interaction has been demonstrated previously in <i>in vitro</i> GST fusion protein studies. We have determined that exogenously expressed full length Tag and N-terminal fragments of Tag (aa 1-121, 1-127, 1-138 and 1-147) bind TBP in Saos-2 human osteosarcoma cells. Additionally, our lab has further mapped the PAb416 antibody epitope to include aa 94 and 98 of Tag; specifically, amino acid substitutions W94A or F98A prevented PAb416-Tag binding in immunoprecipitation and Western blotting studies. Preliminary co-immunoprecipitation data suggest amino acid substitutions W94A or F98A disrupt Tag-TBP interaction. Specifically, Tag-TBP complexes can be co-immunoprecipitated with N-terminal PAb902 and C-terminal PAb901 anti-Tag antibodies but not with PAb416 antibody. Taken together, these preliminary data suggest that TBP interacts with amino acid residues 94 and 98 of Tag and this wild-type PAb416 epitope is essential for Tag-TBP complex formation.</p> | | |
| 9:30 AM | Correlation Between p53 and Rb-Binding Activities of SV40 T-Antigen and the Ability to Block Differentiation of Pre-Adipocytes | # 122 |
| Presenter: | Francis Pankowicz | Mentor: Dr. Jane Cavender |
| <p>Cellular differentiation is the basis for higher ordered organisms, yet little is known about the mechanisms that drive this process. This project is an expansion upon the work of Higgins (2000) that showed the SV40 oncoprotein, T antigen (Tag), effectively abrogated the differentiation of 3T3-L1 fibroblasts to mature adipocytes. They found that two regions/activities of T antigen potentiated the block of differentiation. The N-terminal Tag function that sequesters the retinoblastoma gene product (Rb); and an unknown activity marked by amino acids (aa) 121-708 independently blocked differentiation. We hypothesize that this unknown activity involves binding and inactivating the p53 tumor suppressor protein. p53-binding has been mapped to two Tag regions (aa351-450 and 531-626). The 3T3-L1 cell line was stably transfected with T antigen p53-defective binding-mutants Tdl382-400 and Tdl501-550. Differentiation was induced in these lines, and our data, in combination with Higgins, indicate that free p53 and Rb are necessary to promote adipocyte differentiation. Currently, ongoing investigations address whether Rb- and p53-binding and sequestration are the only activities involved in preventing adipocyte differentiation. By better understanding how these cells develop, it is possible to better understand their role in obesity and the associated health concerns facing many people today.</p> | | |
| 9:30 AM | Investigating the Effects of Estrogen on Peritoneal Macrophages | # 123 |
| Presenter: | Emily Brumbach | Mentor: Dr. Jodi Yorty |
| <p>Macrophages are innate immune cells that perform phagocytosis and alert adaptive immune cells by release of cytokines, such as interleukins (IL) and tumor necrosis factor (TNF). A macrophage can eliminate bacteria after performing phagocytosis by way of several bactericidal mechanisms. The most commonly used mechanism is respiratory burst, where toxic oxygen-derived species are created and exposed to the pathogen. Estrogen is a female sex hormone which can interact with macrophages via their α- and β-estrogen receptors. Previous studies assessing the effects of varying doses of estrogen on macrophages have reported conflicting data. The studies described herein attempt to clarify the effects of estrogen on peritoneal macrophages. The IC-21 cell line was exposed to a low dose (1×10^{-8} M) of 17β-estradiol and their growth, bactericidal activity, and cytokine production was measured. Based upon the literature, it was hypothesized that a low-dose of 17β-estradiol would enhance both the inflammatory and bactericidal activity of macrophages. An ELISA suggested that 17β-estradiol neither increased nor decreased TNF-α production in IC-21 cells. The growth assay suggested that estrogen enhanced the proliferation of IC-21 cells. Ongoing experiments are being performed to determine 17β-estradiol's affects on bactericidal activity of the IC-21 cell line. It is important to understand the effect of estrogen on macrophage cells in order to distinguish the differences in immune response between genders. After the effects of the natural form of estrogen are fully determined, future studies could compare the effects of synthetic estrogen present in most birth controls.</p> | | |

9:30 AM Effects of the Stress Hormone Corticosterone on Growth and VEGF Levels in Tumor Cells # 124

Presenter: Elizabeth Sodomin

Mentor: Dr. Jodi Yorty

These studies investigate the effects of glucocorticoids, specifically corticosterone (CORT), on tumor cell growth in vitro and in vivo, using a Balb/c mouse model. CORT is a steroid compound released during stress, which regulates metabolism, and is immunosuppressive and anti-inflammatory. Previous studies suggest that CORT slows or blocks the cell cycle thereby inhibiting growth of cells. The current studies serve to identify alterations in growth and protein expression in breast and renal carcinoma tumor cell lines, treated with physiologically relevant levels of CORT. The hypothesis was that both cell lines would exhibit decreased growth when treated with CORT. The current in vitro data suggests that both cell lines investigated are susceptible to CORT-mediated suppression of growth through the glucocorticoid receptor (GR). Conversely, the in vivo data suggests that the two cell lines have variable levels of susceptibility to CORT-induced suppression of growth. Though the renal carcinoma cells exhibited suppressed tumor development in CORT treated mice, the growth of breast carcinoma cells was unaffected. Current studies are investigating expression levels of vascular endothelial growth factor (VEGF) and the GR, between the two cell lines. These studies are important since identification of a natural hormone that when used at physiological levels can suppress tumor growth may allow for the development of chemotherapy treatments with fewer side effects.

9:30 AM The Effects of Corticosterone on a SV40 T-Antigen Transformed Cell Line # 125

Presenter: Amanda Hopkins

Mentor: Dr. Jodi Yorty

Simian Virus 40 (SV40) T-antigen is a strong oncoprotein known to suppress p53 activity, which leads to an increase in DNA replication and cell division. SV40 T-antigen is commonly used to transform cell lines, allowing cells to continuously grow and divide. Corticosterone (CORT) is an anti-inflammatory glucocorticoid naturally produced in response to stress. It is known that CORT slows the rate of cell division in non-transformed cells. This study investigated whether or not physiological levels of CORT have the same effect on a cell line transformed with the oncoprotein SV40 T-antigen. It was hypothesized that CORT would be able to decrease the rate of cell division, but would not completely halt the process. Treatment of T-antigen expressing cells with CORT has shown that CORT decreases the rate of proliferation of the cells. Further studies using a receptor antagonist demonstrated that the decreased proliferation is due to the interaction of CORT with the glucocorticoid receptor. Protein assays have shown that cells treated with CORT still produce SV40 T-antigen. It was of interest to determine how CORT may be interfering with T-antigen's ability to drive the cell cycle. Luciferase assays have suggested that CORT may decrease T-antigen's ability to transactivate the Cyclin A promoter. Related assays suggest CORT may also decrease the ability of T-antigen to transactivate the Cyclin E promoter. In general, these studies demonstrate CORT slows the rate of proliferation in cells containing a strong oncoprotein. These findings may be applicable to slowing the growth of tumors in vivo.

9:30 AM Mutant p53 Gene Characterization in the Saos-2 Human Osteosarcoma Cell Line and Subsequent Introduction of a Wild Type p53-Containing PAC Clone # 126

Presenters: John Fuesler, Heather Peluso

Mentor: Dr. Jonathon Coren

The p53 tumor suppressor gene is crucial for proper cell cycle regulation in human cells. p53 is an important regulator of cell growth which is implicated in cell cycle arrest and apoptosis in cells with extensive DNA damage. We have determined that the p53 deletion in the p53-/- Saos-2 cell line spans exons 2-11 via PCR screening of desired loci. A p53-containing pJCPAC-Mam1 clone was transfected into the p53-null Saos-2 human osteosarcoma cell line to demonstrate the usefulness of the 115,000 member arrayed human genomic library constructed in our laboratory for functional studies in human cells. Transient expression of wild type p53 mRNA and protein were demonstrated following transfection of this clone into Saos-2 cells via RT-PCR and Western blotting, respectively. Additionally, preliminary data suggest that transfection of this p53-containing PAC clone induces apoptosis in Saos-2 cells, which is a hallmark characteristic of p53 cellular activity. Stable expression of p53 mRNA and protein will be demonstrated by co-transfected the p53-containing PAC clone with an SV40 large T antigen-expressing plasmid to functionally inactivate p53, preventing apoptosis and facilitating cell proliferation. Eventually, a p53-GFP fusion protein-expressing PAC clone will be used in gene therapy experiments in SAGE p53-null rats to demonstrate in vivo expression of p53 and regression in tumor size.

Chemistry and Biochemistry Posters Masters Atrium**9:30 AM Synthesis and Multinuclear NMR Studies of Germanium-Phosphorus Complexes # 127**

Presenter: Cameron Gettel

Mentor: Dr. Charles Schaeffer

In contrast to the significant amount of research in organometallic germanium chemistry, coordination chemistry between Ge(II) and Ge(IV) halides with Group 15 elements has received little attention. Literature suggests that reactions with 1:1 stoichiometry involving GeX_4 (X = Cl or Br) and tertiary phosphines result in a redox reaction, forming the ionic germanium (II) complex $[\text{R}_3\text{PX}][\text{GeX}_3]$. We have undertaken preparation and analysis of compounds of the type $[\text{PR}_3\text{Cl}][\text{GeR'}_{3-n}\text{Cl}_n]$, using the reactants PR_3 ($\text{R}' = \text{Me, Et, n-Pr, n-Bu, t-Bu, Cy, Me}_2\text{N}$) and $\text{GeR'}_{4-n}\text{Cl}_n$ ($\text{R}' = \text{Me, Et, Ph}$). Due to the moisture-sensitivity of the compounds, all of the germanium complexes were prepared in the same manner in an anaerobic atmosphere. ^1H , ^{13}C , ^{31}P and ^{73}Ge NMR spectroscopic techniques are currently being utilized to understand the interaction between the cation and anion in these complexes.

Session II: 9:30 – 10:45

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| 9:30 AM | Development of a Green Discovery Laboratory Utilizing Allylic Rearrangements | # 128 |
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Presenter: Corey Green

Mentor: Dr. James MacKay

Discovery experiments allow students to develop critical thinking skills while applying knowledge to learn new concepts. We will attempt to develop an experiment for the undergraduate organic chemistry laboratory based on the discovery of allylic rearrangements. In classical experiments, students often perform reactions to obtain an expected result. Through discovery experiments, students utilize the scientific method and in doing so tend to develop greater ownership and understanding of the experiment and related concepts. The concept of allylic rearrangements, used in the exercise, will illustrate that the same product may be obtained from two different starting materials. Additionally, the lab will make use of environmentally friendly reagents to emphasize the importance of chemically green processes and environmental responsibility. In developing the experiment, it is also necessary to optimize reaction conditions so that the exercise is workable for undergraduates. Several reactions are being investigated that incorporate allylic starting materials and their rearrangements in a way that adheres to time constraints, cost of materials, and ease of procedure.

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| 9:30 AM | Studies on an Allenolate Variant of the Rauhut-Currier Reaction | # 129 |
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Presenter: Zachary Landis

Mentor: Dr. James MacKay

Many molecules, including antibiotics and pharmaceuticals, are based around a cyclic core. Organic chemistry research often involves developing new reaction methods that can be utilized in synthesizing desired compounds. There are many reactions capable of generating cyclic molecules. One such reaction is the intramolecular Rauhut-Currier reaction, which is the focus of this research. Commonly, the starting material for the reaction contains two electrophilic vinyl groups. This research studies the effect of utilizing an alkynoate as the initial electrophilic acceptor for one of the vinyl groups. The reaction is catalyzed by a nucleophilic phosphine, and trimethylsilyl cyanide is used as a pro-nucleophile to regenerate the catalyst and further functionalize the product. This functionality is important, because it allows for further chemistry to be performed. For example, the product could undergo a reduction and second cyclization forming a new bicyclic ring system with known pharmaceutical significance. This presentation will demonstrate the generality of the methodology through the use of different substrates, including a deuterated substrate that will help probe the reaction mechanism.

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| 9:30 AM | Synthesis of Dapoxyl Derivatives for Applications in Luminescence-Based | # 130 |
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Sensing

Presenter: John Tellis

Mentors: Dr. James MacKay,
Dr. Kristi Kneas

Dapoxyl dyes are ideally suited for applications in luminescence-based sensing. They have been utilized successfully in the development of relative humidity sensors and have shown promise for use in lactate and ethanol sensors. The electronic properties of Dapoxyl dyes, imparted by a rigid, five-membered, nitrogen and oxygen containing ring (oxazole) and the presence of both electron withdrawing and donating groups (sulfonyl and amino, respectively), result in environment-sensitivity that surpasses other commercially available luminophores. Specifically, a dramatic shift in emission wavelength is observed upon variation of solvent polarity. However, the high cost of Dapoxyl dyes and the inability to covalently anchor the sensor molecule to the polymer matrix hinders the progress of sensor design. In an effort to obtain sufficient quantities of the desired sensor molecule that can be incorporated into a polymeric network, an acrylamido derivative of the Dapoxyl dye is envisioned that can be synthesized from inexpensive starting materials. This molecule's photochemical properties and compatibility with the polymer matrix will be characterized. The luminophore will then be utilized in the development of luminescence-based sensors for the measurement of analytes in both vapor and aqueous phase. Before the complete synthesis of the Dapoxyl derivative is attempted, experiments will be performed on a model system of reduced complexity. Reported here are the general strategy and current progress toward synthesis of the desired Dapoxyl model and the broader implications of the work in the development of luminescence-based sensors.

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| 9:30 AM | Functionalization of Cyclopentenes and Cyclohexenes Obtained through an Intramolecular Rauhut Currier Reaction | # 131 |
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Presenter: Stephen Motika

Mentor: Dr. James MacKay

Cyclic compounds represent an important class of molecules and may contain a wide variety of functional groups; for example, pharmaceuticals frequently contain rings. This may include cancer fighting drugs such as chemotherapeutics. In nature, compounds containing rings are frequently made through elaborate enzymatic processes. Synthetic methods represent an alternative way to make cyclic products with diverse functionality. Our research is focused on the optimization of an alleneolate variant of the Rauhut-Currier reaction as well as further functionalization of the product obtained. This cyclization involves an acyclic compound containing an alkyne and alkene, each tethered to electron withdrawing groups. Product yields can be manipulated through changing reaction variables including the EWGs, solvents involved and catalyst used. The ultimate goal of this research is to further functionalize the product obtained. Functionalization of cyclopentenes and cyclohexenes can be achieved through a reduction using transition metal salts and a hydride source. Another cyclization may also occur leading to a bicyclic ring containing nitrogen. Functionalization will alter both the structure and the reactivity of these rings, demonstrating the application and utility of our methodology.

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| 9:30 AM | Synthesis and Luminescent Properties of Metal-Organic Frameworks | # 132 |
| Presenter: | Steven Boyer | Mentor: Dr. Jeffrey Rood |
| Metal-organic frameworks (MOFs) are porous materials that have desirable properties for applications as diverse as hydrogen storage, selective small molecule separation, and sensing. Determination of the pore structure in a MOF is usually dependent upon single crystal X-ray diffraction, a technique that is not readily available in all chemical labs. This project focuses on developing a useful method for determining the pore sizes of MOFs using luminescence spectroscopy. Specifically, studies will correlate the luminescence of trapped guest molecules to the pore sizes of known MOFs. It is envisioned that establishment of luminescence /pore size trends will allow for the determination of pore size in newly synthesized MOFs by studying the guest molecule emission. This will be particularly useful when X-ray diffraction is not available and/or the material does not form single crystals. The synthesis of a series of MOFs and initial studies into the luminescence behavior will be described. | | |
| 9:30 AM | Metal Organic Frameworks Constructed from Phosphinic Acids and Divalent Metals | # 133 |
| Presenter: | Michael White | Mentor: Dr. Jeffrey Rood |
| Metal-organic frameworks (MOFs) are a dynamic and increasingly prevalent class of materials being studied due to the potential of these materials for applications in catalysis, chemical separation, and small molecule storage. Most research has thus far been focused primarily on metal-carboxylate frameworks as porous materials. To recognize the full potential of this exciting field, compounds aside from metal carboxylates need to be explored as new porous materials. This project will focus on metal phosphinate compounds as new routes to porous materials. These compounds have the potential to form novel porous structures useful for the applications described above. The use of <i>p,p'</i> -diphenylmethylenediphosphinic acid (H ₂ PCP) and <i>p,p'</i> -diphenylmethylenediphosphinic acid (H ₂ PC ₂ P) have been successfully utilized in the formation of inorganic-organic hybrid materials capable of forming complex porous structures. To date, most information has been focused on those structures containing manganese, zinc, nickel, and copper as the divalent metal node utilizing the H ₂ PCP ligand. Reported herein is the synthesis of inorganic-organic hybrid materials using H ₂ PCP and H ₂ PC ₂ P ligands with various divalent metals. | | |
| 9:30 AM | Preparation of Organomagnesium Complexes as Potential Catalysts for Polymerization Reactions | # 134 |
| Presenter: | Timothy Goldkamp | Mentor: Dr. Jeffrey Rood |
| Propylene oxide is an important chemical compound that serves as an intermediate for many important materials. It can be used in the production of urethanes and resins for use as building insulation and adhesives. Polypropylene oxide (PPO) is the polymer form of this compound and can be used as a precursor for liquid crystal technology. This project focuses on the synthesis of new organometallic catalysts to form PPO from PO. Specifically, the alkaline earth metals magnesium and calcium are of interest because of their high reactivity, non-toxicity, and low cost. Reported here are the initial investigations into the synthesis and structures of salicylaldiminato magnesium complexes and their potential use as catalysts for polymerization reactions. | | |
| 9:30 AM | Synthesis and Characterization of Cationic Transition Metal - Carbene Complexes | # 135 |
| Presenter: | Ashley Huttonstine | Mentor: Dr. Jeffrey Rood |
| N-heterocyclic carbenes (NHC's) are commonly used as π -donating ligands for transition metal complexes. Similar to phosphine ligands, their tunable sterics enable them to be useful ligands in the development of organometallic catalysts. More specifically, cationic transition metal complexes containing both NHC's and phosphine ligands are of great interest in organometallic chemistry because of their potential use as catalysts in numerous reactions such as hydrogenations and aminations. The goal of this project is to explore the structure and bonding of these ligands and transition metals through X-ray crystallography and NMR studies. Specifically, X-ray crystallography structures of cationic rhodium and silver complexes will be detailed. Extensions of the methodology to include iridium will also be described. Once an understanding of solid-state and solution structures has been achieved, an investigation into the catalytic nature of these species will be investigated. | | |
| 9:30 AM | Studies into the Structure and Reactivity of Bis(salicylaldiminato) Magnesium Complexes | # 136 |
| Presenter: | Geoffrey Quinque | Mentor: Dr. Jeffrey Rood |
| Organometallic magnesium complexes are of particular interest as they have the potential to act as initiators of propylene oxide (PO) polymerization reactions. Propylene oxide is a petrochemical intermediate of great significance, finding use in a variety of markets such as urethanes and resins. Its polymeric form, polypropylene oxide (PPO) serves as a precursor material for liquid crystal technology. This project aims to synthesize and characterize a series of bis(salicylaldiminato) magnesium complexes, both in the solid-state and in solution. By functionalizing a ligand backbone, we hope to control the aggregation state of the species that results. We report herein the initial investigations into the synthesis and characterization of these compounds as well as a rationale for their further use as initiators of polymerization reactions. | | |

Session II: 9:30 – 10:45

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| 9:30 AM | Development of a Luminescence-Based Lactate Sensor Using Smart-Hydrogels and an Environment Sensitive Luminophore | # 137 |
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Presenters: Matthew Myers, Mingqi Hang

Mentor: Dr. Kristi Kneas

In light of applications in sports medicine, food science, and clinical care, there is great interest in the development of low cost, highly accurate lactate sensors. In the luminescence-based sensing approach described here, “smart” hydrogels swell and contract in response to changing lactate concentrations, thereby bringing about a change in the emission properties of an environment-sensitive luminophore, embedded within. Results are presented for the synthesis of 3-acrylamidophenylboronic acid (3-AAPB), a monomer containing the boronic acid moiety which reversibly binds to lactate. Water-insoluble, thin sensor films with lactate sensitivity were produced by co-polymerization of 3-AAPB and acrylamide. Results are presented for the lactate induced swelling response of the polymer as well as the change in emission properties of two different luminophores. The first, daptroxyl sulfonic acid disodium salt, responds to the polarity of its local environment, and the second, an organometallic ruthenium complex, responds to the rigidity of its local environment. Future work includes optimization of the ratio of the two monomers as well as the degree of crosslinking within the polymer to control the swelling and tailor sensitivity.

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| 9:30 AM | Development of a Luminescence-Based Alcohol Sensor for Forensic Applications | # 138 |
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Presenter: Sarah Strohecker

Mentor: Dr. Kristi Kneas

The detection of ethanol vapor is important to forensic applications such as the monitoring of alcohol concentration in the breath of drivers and in the reduction of alcohol related car accidents. Current breathalyzers utilize fuel cell technology in which the alcohol is oxidized within the cell, producing a current; the concentration of ethanol is proportional to the current that is produced. In this research, an alternate method of detection and determination of ethanol vapor concentration is presented. The method is based on the swelling of a polymeric hydrogel containing a polarity-sensitive fluorophore. The presence of ethanol vapor causes a swelling of the hydrogel and concomitant shift in the emission wavelength and decrease in emission intensity, both of which can be calibrated accurately. The resulting ethanol sensors have the potential to serve as a low cost and highly sensitive alternative to traditional breath alcohol concentration measurements, thus introducing the possibility of use by law enforcement agents and even consumers for purposes of self-monitoring.

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| 9:30 AM | Low Cost Preparation of Membrane Electrode Assemblies for Polymer Electrolyte Membrane Fuel Cells | # 139 |
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Presenter: Zachary Kulp

Mentor: Dr. Kristi Kneas

Fuel cells are an excellent alternative to more traditional non-renewable energy sources that produce harmful greenhouse gases and contribute to global warming. Of the fuel cell types, polymer electrolyte membrane fuel cells show great promise for many applications because of reasonable running temperatures, ease of portability, and high current densities. Unfortunately, membrane electrode assembly (MEA) production and the individual components are costly, thus hindering fundamental research, mainstream use, and the ability to expose undergraduates to the technology. Described here are efforts to produce MEAs more economically through ink deposition and the heat press method. Thermal inkjet printing is being used to address the issue of ink deposition using a hand-painting method as a stepping stone. Compared to an industrial high temperature, high pressure heat press used to fuse membrane layers together, a T-shirt press offers an inexpensive but viable alternative. Reasonable MEAs have been produced in the research lab as well as the undergraduate laboratory setting, and continued work is directed at optimization of their performance and durability.

Applicability of the current work to commercial MEA production and preparation of MEAs for research and teaching applications will be discussed.

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| 9:30 AM | Authentication of Questioned Documents Using High Performance Liquid Chromatography | # 140 |
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Presenter: Mollie Mares

Mentor: Dr. Kristi Kneas

The separation and measurement of ink degradation products by high-performance liquid chromatography (HPLC) is an emerging area of great relevance to forensic investigations of forged or questioned documents. Based on differences in degradation products of an ink, it should be possible to discern between writing that is original to the document and that which has been added later. To date, only controlled investigations of a limited number of inks extracted from hand-drawn, straight lines have been conducted. Little is known about the variations of ink degradation products with ink type, paper type, and thickness of ink deposited on the paper. In the current work, methods of ink sampling, extraction, and detection are under development for HPLC analysis of handwritten ink samples. The sampling methodology and preliminary ink aging study results will be shared and the feasibility of the experimental approach for use in both the crime laboratory and the teaching laboratory will be discussed.

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| 9:30 AM | Developing Low Cost Methods for the Non-Evasive Detection of Cortisol in Children | # 141 |
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Presenter: Kurt Deschner

Mentor: Dr. Thomas Hagan

This research project is the biochemistry component of a new multi-year collaborative venture with the departments of social work and occupational therapy addressing the question: “Does identification and treatment of Sensory Processing Disorder (SPD) in children with attachment issues improve their outcomes?” The purpose of this work is to establish a low-cost and effective means to measure salivary cortisol stress hormone levels, specifically for pediatrics. Cortisol is a significant indicator of stress, thus knowledge of cortisol levels would be highly advantageous in the diagnosis of SPD. We are specifically exploring the use of the analytical methods of fluorescent and electronic absorption spectroscopies to establish conditions necessary to detect cortisol levels in the physiological salivary range. A variety of conditions are being evaluated to establish suitable limits of detection associated with each of these spectroscopic methods for cortisol detection. By exploiting the intrinsic electronic and fluorescent behaviors of cortisol and related steroid hormones, we intend to establish a protocol which can eventually be utilized in a clinical setting.

9:30 AM Giant Unilamellar Vesicles as Models for Exploring Interactions of Catechins with Cancer Cell Membranes # 142

Presenter: Katie Diamond

Mentor: Dr. Thomas Hagan

Over the last few decades green tea has been the subject of many medical and biochemical studies to determine its mode of action for health benefits, including the prevention of certain cancers. The potency of green tea against certain cancers is putatively linked to the presence of catechins. The catechin that is most relevant to chemoprevention of cancer is epigallocatechin-3-gallate, better known as EGCG. Studies have shown that EGCG acts in numerous intracellular signaling pathways within the cancer cell to prevent proliferation or enhance apoptosis, thus disabling the cancer cell. While the majority of previous studies have examined the intracellular mechanism of action of EGCG, limited studies have examined how EGCG acts to enter the cell membrane. From a purely fundamental approach, we are examining the role of membrane lipid composition in facilitating interactions with EGCG. Utilizing giant unilamellar vesicles (GUVs) with imbedded fluorescent probes, we are exploring the ability of EGCG to increase the permeability of the lipid bilayer resulting in the release of these fluorescent molecules from the GUVs. This will contribute to our understanding of how EGCG exerts its influence as an effective chemotherapeutic.



| Biology | Presentations | H-107 |
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| 11:00 AM | Residential Patterns of Elizabethtown College Faculty | # 150 |
| Presenters: Barbara Prince, Rebecca Dowling | | |
| Mentors: Dr. David Bowne, Dr. Michele Lee Kozimor-King | | |
| <p>Elizabethtown College creates policies and runs its campus under the belief that the majority of its faculty lives within Elizabethtown Borough. For example, in the event of inclement weather decisions to close campus are based on the conditions in Elizabethtown. While the conditions near campus may be passable, this may not be true for conditions elsewhere. In addition, faculty assembly, department meetings, social gatherings, etc. are all planned at certain times of day (usually late afternoon) based on the assumption that most faculty live close to campus and therefore will not have an issue attending the events. We test this assumption by creating a geographic information system (GIS) using information about residential location of full time faculty. We created an interactive map depicting the residential location of full time faculty in relation to campus. Additionally, we tested whether length of time teaching at the college and department influence residential location. The findings of this research will be useful for policy planning at Elizabethtown College.</p> | | |
| 11:15 AM | A Geographic Analysis of Watersheds and Land Usage in Haiti | # 151 |
| Presenters: Jordon Godfrey, Jess Duelfer | | |
| Mentor: Dr. David Bowne | | |
| <p>Due to recent natural disasters and inadequate management of resources, Haiti is currently suffering from many ecological problems that are affecting public health. One of the main public health problems the people of Haiti are currently facing is poor water quality, which is caused in part by contaminated water run-off from agricultural and other developed areas into the water supply. To assist in our understanding of water run-off and quality we analyzed land use within each watershed. A watershed is a region of land that drains into a river or stream. The land usage in each watershed affects the quality and quantity of water entering nearby water supplies. Using this knowledge, geographic information was gathered to create a Geographic Information System (GIS). Through the analysis of our GIS, we deduced where conservation efforts are needed to improve the quality of water in Haiti.</p> | | |
| 11:30 AM | Areas of High Erosion Risk in Haiti | # 152 |
| Presenters: Samantha Hartzell, Aaron Hester | | |
| Mentor: Dr. David Bowne | | |
| <p>Haiti has experienced a significant decline in public health that has been manifested through water contamination and disease. The repercussion of water pollution has drastic implications on the environment and economical institutions, such as agricultural productivity. A major source of water pollution originates from erosion of soil and sediment, especially in areas with close proximity to waterways. This project focuses on the identification of areas that border various waterways where the surrounding terrain is at a high risk for erosion. Using a Geographical Information System (GIS), an analysis of topography was conducted to distinguish areas in Haiti that are of a major threat for erosion. By designating these areas of high erosion risk, the land can be monitored and manipulated to minimize the effects of erosion and the ecological and economic consequences it presents. This GIS will be essential for Haitians and international aid workers who plan to increase soil levels and conditions through reforestation techniques in the hopes of restoring the quality and fertility of Haiti's terrain and waterways.</p> | | |
| 11:45 AM | Off-Campus Housing Availabilities for Elizabethtown College Students: GIS Collaboration with Residence Life | # 153 |
| Presenters: Melanie Stum, Kelly Clayton | | |
| Mentor: Dr. David Bowne | | |
| <p>An interactive geographic information system (GIS) was created to provide off-campus housing information and availability for current and future Elizabethtown College students. The purpose of the GIS is to assist with locating an off-campus house or apartment - either through Elizabethtown College Residence Life or private property owners. Due to fewer students transferring out of Elizabethtown College, the college needs more housing opportunities for its upperclassmen students who, like all students, are guaranteed housing for four years while in attendance. The GIS acts as a guide for choosing the most favorable property for those upperclassmen who opt to be off-campus residents. It addresses the questions of which apartment complexes and independent landlords rent to college students, which properties are considered on- and off-campus (i.e., which housing is and is not operated through Residence Life), and how many students are allowed per living unit. The GIS incorporates pertinent factors that are involved with accommodation decisions. A map of Elizabethtown Borough, including streets and building locations, along with addresses of interest acquired through Residence Life and local realty websites will be the basis for this instructive tool used by current students hoping to find an alternative to dormitories and on-campus independent living units.</p> | | |
| Education | Portfolios | H-110 |
| 11:00 AM | A Framework for Teaching: Professional Portfolios for Educators | # 156 |
| Presenters: Meredith Sefcik, Andrea Lynch, Cristen Minor, Jessica Waetke, Rebekah Leigh | | |
| Mentors: Dr. Carroll Tyminski, Dr. Kathleen Blouch | | |
| See SessionAbstract #6 | | |
| 11:30 AM | A Framework for Teaching: Professional Portfolios for Educators | # 157 |
| Presenters: Rebecca Weida, Brad Eargle, Dominique DiMeglio, Danielle Caggiano, Joanne Potter | | |
| Mentors: Dr. Carroll Tyminski, Dr. Kathleen Blouch | | |
| See SessionAbstract #6 | | |

| Education | Presentations | H-211 |
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| 11:00 AM | Teaching Value-Based Education in Parochial and Public Schools | # 161 |
| Presenter: Dorothy Ryan | | Mentor: Dr. Rachel Finley-Bowman |
| Curriculum design can vary between parochial and public schools. One important aspect in education today is the use of value-based education and its impact on schools. Value-based education refers to incorporating values in the curriculum to help students become better citizens of the community. Social studies teachers in particular must determine if values must be applied to the classroom as they are shaping their students into civically active citizens. The question also arises as to how values should be taught, such as through religious studies. This study will examine the use of value-based education in both parochial and public schools in Pennsylvania. The data for this study has been collected from previous literature on the subjects of value-based education and religion in schools. Surveys distributed to parochial and public school teachers will be assessed to determine feelings towards value-based education. Use of value-based education in schools will also be assessed. I predict that teachers will rank value-based education as important to schools and society today. Results from the content analysis and surveys will be presented. The findings of this study will be useful to schools determining the importance of value-based education and its implementation in social studies curriculums. | | |
| 11:30 AM | Teaching Community Through Culturally Responsive Instruction Strategies in Grades K-3 | # 162 |
| Presenters: Alexandra Walmer, Chelsie Caltagarone, LeighAnn Matthews | | Mentor: Dr. Rachel Finley-Bowman |
| This presentation examines strategies in culturally responsive instruction (CRI) that facilitate powerful learning for ethnically diverse students in early childhood social studies. Teaching the concept of community in grades K to 3 is specifically examined. | | |
| Physics and Engineering | Presentations | Gibble Auditorium (Esbenshade) |
| | 10th Annual Symposium of Robotics and Machine Intelligence | |
| | #166 – #169, 11:00 am – noon | |
| | #86 – #90, 9:30 am – 10:45 am | |
| | Session Chairs: Elizabeth Starkey and J. Wunderlich, Ph.D | |
| 11:00 AM | How Full-Authority Fly-by-Wire Flight Control Systems Opened up a New Frontier in Transformational Aircraft, Namely, the Tiltrotor | # 166 |
| Presenter: Clayton Belcher | | Mentor: Dr. Joseph Wunderlich |
| For as long as aviation has been around, control surfaces have traditionally been physically linked to the pilot's controls (i.e., pushrods, pulleys, cables, etc.), and the pilot has had full-authority over those control surfaces. The single most profound challenge in developing the Tiltrotor was to solve the problem of transforming from helicopter, to airplane, and vice versa. This meant developing an aircraft with BOTH helicopter and airplane control surfaces, that could be controlled by the same pilot. The Tiltrotor could only be fully realized through the integration of a software controlled fly-by-wire system that could automatically "wash-out" degrees of deflection during conversion. In essence, it's ultimately the flight control computers that have full-authority over the thrust and control surfaces based on their interpretation of the pilot's input and nacelle angle. This research was completed as a project for the BOEING Company and has been incorporated into the course content for EGR/CS333 "Digital Design and Interfacing." A related POSTER has been made. | | |
| 11:15 AM | Phoenix-Contact IEC61131 Advanced Programmable Logic Controllers (PLCs) | # 167 |
| Presenter: James Kelly | | Mentor: Dr. Joseph Wunderlich |
| Elizabethtown College's Engineering professors Dr. Wunderlich and Dr. Estrada have recently agreed to be the first faculty in the United States to be part of an international engineering educational initiative, the "EduNet," which presently includes universities in Austria, Belgium, China, Germany, Hungary, Ireland, Lithuania, Spain, and Turkey. This initiative involves integrating high-end Phoenix Contact IEC61131 advanced Programmable Logic Controllers (PLC's) into engineering courses. Dr. Wunderlich and Dr. Estrada will be traveling annually to international locations to collaborate with many universities about teaching such technologies. The student giving this talk was present during the final meeting with Phoenix Contact executives to formalize this agreement, and this talk will provide an overview of the capabilities of these advanced PLC's. This research was completed as a semester project for EGR/CS230 "Microcomputer Architecture." | | |
| 11:30 AM | Automated Hydroponic Garden Using a Phoenix-Contact NanoLC PLC | # 168 |
| Presenters: Jacqueline Westman, Daniel Fenton | | Mentor: Dr. Joseph Wunderlich |
| A hydroponic garden is a fast and effective way of growing plants through soilless culture. Keeping routine maintenance on plants can be time and attention consuming. By automating a watering, light, and pH balancing system using a nano logic controller, (Nano LC), the garden takes care of itself. More importantly, the garden grows fast and saves a valuable resource: water. The garden pulls water from a reservoir via a pump to irrigate the plants, and when the plants' growing medium can no longer hold any more water, it drips back into the reservoir. The programmed timing of water and light exposure eliminates under watering and insufficient plant food growth. Implementing a project like this on a large scale project can provide food for an entire season. The costs of these systems are relatively inexpensive, meaning implementation is possible without cost concerns. | | |

Session III: 11:00 – 12:30

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| 11:45 AM | Robotics and Machine Intelligence Club Recent and Future Accomplishments: # 169 |
| | Next Year's Plans for the Robotics and Machine Intelligence Club |
| Presenters: | Daniel Fenton (President), Elizabeth Starkey, Mark Yorgey, Zachary Johnson, James Kelly, Christopher Janssen |

In January 2011 Wunderbot 6 was demonstrated to 160 of the top executives of the [Phoenix Contact](#) company; a 10,000-member, multi-billion dollar International Corporation; this included demonstrating new environmental sampling capabilities of the robot (a [EGR491](#) “Engineering Senior Project” by *Dan Fenton and Jacqueline Westman*, plus a major semester project in [EGR/CS332](#) “Computer Organization and Architecture” by *Elizabeth Starkey, Mark Yorgey, Zachary Johnson, James Kelly, and Chris Janssen*. This talk will include next year's plans for the Robotics and Machine Intelligence Club. A related POSTER has been made.

| Physics and Engineering | Presentations | Gibble Auditorium (Esbenshade) |
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| 12:00 PM | Floating Greenhouses-Food Production of Tomorrow # 170 |
| Presenter: | Andrew Vanderpool |

The population of the human race is growing, as a result, the land we have for food production is shrinking. In the future, our ability to feed ourselves will outpace our ability to produce food. Hunger is already an issue many countries are concerned with. How do we solve this problem? Since water covers more of the earth's surface than land, we should look to oceans to grow our food. I propose we farm on the sea using mobile, interconnected, floating green houses. These would be small units that could handle the churning waters. They are mobile so they could be transported to areas of optimal growing climate during the changing seasons or even moved to avoid an oncoming storm. They would collect rain water and use the natural evaporation of the sea. In addition to rainwater and evaporation, solar powered water desalination systems could supply fresh water required for plant growth. The solar power could also run the systems onboard. They would use aeroponic or hydroponic plant germination systems. In this way we could utilize a vast unused area of space on earth for the benefit of mankind.

| Communications | Presentations | BLR (Steinman) |
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| 11:00 AM | Hernley's Polaris Victory Demo Tour # 171 |
| Presenter: | Shawn Cotton |

Hernley's Polaris Victory is hosting the "Victory Demo Tour" on April 15th and 16th. This will allow customers to test ride the 2011 Victory Motorcycle. This project aims to increase attendance to this event. Research will explore the most effective way to communicate with the target market (defined as men ages 27-65). Research suggests print material such as flyers and a media press release will successfully alert people of the event as well as provide exposure throughout the demonstration.

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| 11:00 AM | Equal Vision Records: Street Team Building # 172 |
| Presenter: | Shelby Meyerhoffer |

Located in Albany, New York, Equal Vision Records is an independent music record label founded in 1991. In order to maximize the awareness of bands on their roster, the label would like to utilize “guerilla marketing” techniques to build upon a “street team” (volunteer-based promotion). This project explores management and organization of alternative and independent marketing and promotion to generate more awareness of the label's bands.

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| 11:00 AM | Developing Promotional Publicity for the Susquehanna Stage Co. # 173 |
| Presenter: | David Gerhart |

The Susquehanna Stage Company in Marietta, Pennsylvania, would like to increase the attendance of staged productions. This presentation will discuss how to effectively advertise for a non-profit organization. The research implies that the most effective way to increase attendance at these productions is to design and create more print, audio, and video publications, and spread them across a larger region of Lancaster County. The hopes are that with more publications offered, a greater number of people will see these advertisements, which will in turn create a larger turn out for the productions held at the theatre.

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| 11:00 AM | Hershey Bears Charity Auction as a Tool for Public Image # 174 |
| Presenter: | Thomas Hagerty |

The Hershey Bears Hockey Club of the American Hockey League holds specialty jersey auctions following select home games. Following the game on March 19, 2011, game-worn jerseys will be auctioned off during an event benefitting local charities. This project explores the planning, promotion, and execution of such an event with the intent of improving public awareness and perception.

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| 11:00 AM | Pre-Production Stages of WITF's Travel Show, “Explore PA” # 175 |
| Presenter: | Carrie Chase |

“Explore PA” is a travel show produced by WITF, a regional PBS station located in Harrisburg, Pennsylvania. The show began in 2004 and will be entering its sixth and final season after a break of one season. The five day long, on-location shoot will occur during the summer months of 2011. Research is being conducted to find the most effective way to conduct the stages of pre-production. In this stage, steps such as location research, itinerary research, casting and logistical planning will occur. This presentation will explore the most effective way to plan the upcoming on-location shoot.

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| 11:00 AM | Susquehanna Center for the Creative Arts: Presenting an Image to the Public # 176 |
| Presenter: | Melanie Giardina |

Founded in 2010, the Susquehanna Center for the Creative Arts (SCCA) in Columbia, Pennsylvania is expecting to open its doors to the public Spring 2011. In addition to an art gallery, the SCCA plans on offering classes in drawing, painting, ceramics, and glass blowing. The organization has been focused on attaining non-profit status and has yet to present its mission to the surrounding communities. This poses the question: What is the most effective way that a new non-profit organization can present its image to the public? Research suggests the most effective way that a new non-profit organization can present its image to the public is by sending a consistent message through the use of press kits, websites, and social media outlets.

Session III: 11:00 – 12:30

11:00 AM **Encouraging Enrollment by Anticipating a New Trend in the High School Recruiting Process** # 177

Presenter: Brielle Parady Mentor: Dr. Colin Helb

Notre Dame High School is a private, Catholic, coeducational school for grades nine through twelve located in Lawrenceville, NJ. Notre Dame currently holds a variety of direct recruiting events for eighth grade students and indirect events for earlier grades. The school is beginning to find that earlier grades are now becoming interested in the differences between the surrounding private high schools and wanting vital admissions information earlier than before. Research is being conducted supporting the thesis that a properly planned open house that covers all the information students and parents are uncertain of during the decision making process can effectively promote the school as the best option for students to achieve their full potential through a faith-filled atmosphere.

11:00 AM **Public Affairs Campaign to Advance Voter Identification Legislation** # 178

Presenter: Kara Luzik Mentor: Dr. Colin Helb

The existence of voter fraud within Pennsylvania is infringing on its citizens' right to fair elections. However, many people are unaware of this issue and, therefore, do not actively support legislation to correct it. The goal of this project is to persuade members of the General Assembly to introduce a bill supporting photographic identification for voters. This research explores the most effective tactics to use in a public affairs campaign.

11:00 AM **The Hershey Theatre: Creating a Marketing Strategy to Promote a Show Through the Use of Social Media** # 179

Presenter: Emily Knitter Mentor: Dr. Colin Helb

The Hershey Theatre is a non-profit performing arts center located in Hershey, PA. The theatre offers the public many opportunities to see various performances throughout the year such as touring Broadway shows, music, dance productions, and well-known entertainers. In spring 2011, the Hershey Theatre will be presenting the national tour of *Hair: The American Tribal Love-Rock Musical* (more commonly known as *Hair*). Like all productions at the Hershey Theatre, *Hair* needs a marketing and promotional strategy in order to sell as many tickets as possible. Research suggests that various types of social media have been effective when promoting a show at the Hershey Theatre.

11:00 AM **Written Content in Online Citizen Journalism** # 180

Presenter: Kevin Yu Mentor: Dr. Colin Helb

Online citizen journalism is a participatory movement that allows citizens to publish their articles into a citizen journalism website. These websites publish user-generated content that is reviewed by an editorial website board while others are open communities. Wetown.com is a citizen journalism website that is run by the Department of Communication at Elizabethtown College. The website is used to inform and create public interest, specifically for the residents of Elizabethtown. The research will inform citizens how written citizen journalism stories inform the public of reliable and credible information.

Sociology/Anthropology Presentations H-212

11:00 AM **Student Senate Collaborative Academic Service-Learning Project** # 181

Presenters: Joe Kantor, Ambre Biehl, Tyler Norton, Christopher Spackman, Lindsey Cooper, Lauren Hamilton, Lindsey Summers, Maggie Keefer, Sarah Kittle, Stephanie Reynard, Kenneth Nakagawa, Matt Orlando, Kelena Hoff Mentor: Dr. Michele Lee Kozimor-King

The Student Senate Collaborative Academic Service Learning Project (CASLP) examined attitudes toward and familiarity with Student Senate at Elizabethtown College using qualitative and quantitative methodology. CASLP's main goals were to (1) provide an experiential learning opportunity for the students taking the Methods of Social Research and Social Statistics courses, which are skill-based; (2) involve the students enrolled in those classes with a research-based, service-learning project; and (3) provide Elizabethtown College Student Senate with information about the level of community awareness and perception of Student Senate and its roles and performance. The project was conducted during the 2010-2011 academic year. Involvement with the CASLP research enabled students to obtain real life experience using research methodology outside of the classroom. Data was obtained through a campus wide survey distributed to a probability sample of core classes and through five focus groups. A total of 355 questionnaires were completed. Questions conceptualized familiarity with and perceptions of Student Senate and respondents' involvement in campus activities. The results examining perceptions and attitudes toward Student Senate will be presented. Results from this research will be useful for Elizabethtown College Student Senate enabling them to be better advocates for student rights. This research will also provide information on assessment of student governments which could be used by other institutions. This study builds upon the limited amount of previous research that has been conducted on student governments. It also contributes to a better understanding of campus attitudes toward student government organizations.

Session III: 11:00 – 12:30

| English | Presentations | H-213 |
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| 11:00 AM | Rape in the Democratic Republic of the Congo | # 186 |
| Presenter: | Alyssa Broda | Mentor: Dr. Kimberly Adams |
| <p>This presentation will give viewers an insight into the conflict in the Democratic Republic of the Congo (DRC) and how it affects women. Specifically, the presentation will show an overview of rape used as a weapon against the women and girls of the DRC. First, I will explain what is occurring to the women and how it affects their lives. I will talk about how a rape affects them physically, socially, psychologically, and culturally. Then I will review a brief history of the conflict in the DRC and how it led to the problems facing the country today. Next, I will discuss both US and UN aid to the DRC and whether or not it has helped. Most importantly, I will inform viewers of their role in the conflict. Very few people know they are contributing to these rebel groups who rape the women by purchasing electronic items. Overall, my presentation will make viewers aware of the rape of women in the DRC as well as show viewers the impact they have on it by being consumers of electronic items.</p> | | |
| 11:15 AM | Red Overalls, Green Carapace: A Marxist Literary Analysis of Super Mario Bros | # 187 |
| Presenter: | Michael Plasket | Mentor: Dr. Matthew Skillen |
| <p>Red Overalls, Green Carapace is a Marxist examination of Super Mario Bros based on the nature of the conflict between the game's protagonist, Mario, and its main antagonist, Bowser. As the representative of the oppressed proletariat, Mario's quest is to revolt against the tyrannical bourgeoisie, represented by Bowser, and reinstate Princess Toadstool as the ruler of the Mushroom Kingdom to restore equality. Karl Marx's theories on available resources among classes and commodity fetishism explain the purpose of items in Mario's quest and the importance of Bowser's armed forces. Antonio Gramsci's writings on cultural hegemony provide further insight as to how the differences between Mario and Bowser's social statuses fuel their conflict. Georg Lukács' perspective on class consciousness accounts for Mario's sense of justice against Bowser's unfair rule. This proposed presentation will serve as a springboard for the examination of other Mario games by different Marxists theorists.</p> | | |
| 11:45 AM | Mysteries in Fiction - The Process of a Detective Novel and Character Point of View | # 188 |
| Presenters: | Greta Kvinnesland, Nathan Derr | Mentor: Dr. Rebecca Olson |
| <p>Seniors Nate Derr and Greta Kvinnesland will each present a portion of their creative honors thesis projects. Each of them will explore the process of incorporating "mystery" into fiction, both in a traditional and nontraditional sense. Under the advisory of Dr. Rebecca Olson, Nate has written a surreal detective novella, set in Japan and tentatively titled 'Shinjuku.' Greta's project is also a novella, titled 'Fast Now Above the Trees,' and is a story told from three different viewpoints by a family dealing with the loss of their father.</p> | | |
| Business | Presentations | H-214 |
| 11:00 AM | Applied Risk Arbitrage Strategies within the Hedge Fund Industry | # 191 |
| Presenter: | Kristen Kelly | Mentor: Dr. Hongsong Neuhauser |
| <p>The purpose of my project was to study risk arbitrage, specifically mergers and acquisitions arbitrage, liquidation arbitrage, and pairs trading, through risk metric models such as the Black-Scholes model and its variations observed in hedge funds. I studied and interpreted how risk arbitrage hedge fund managers can utilize different investment strategies while making profits in such a volatile environment. This included several implications such as the relationship among trading volume, share liquidity, takeover premiums, and the number of risk arbitrageurs investing on a particular deal. The focus of my study was to demonstrate how the arbitrage strategies and financial models are applied within the reality of the current market. My subject matter was an extension of the concepts I have obtained in Financial Institutions Management (BA376) while focusing on the specific trading strategies utilized within the hedge fund industry. I learned how arbitrage situations arise and how they are used to make profits. I included mathematical textbooks that emphasize equations designed for risk analysis as well as financial textbooks that explain the definitions and importance of arbitrage situations. The subject matter is extremely relevant and important to my current career goals. Although I am an actuarial science major, I do not plan to follow the typical path of a career in the insurance industry. Instead, I plan to pursue a career in finance. This independent study will give me the opportunity to use my extensive mathematical background to gain a better understanding of my future profession through in-depth research in the field and analyzing financial statistics.</p> | | |
| 11:30 AM | F.D.I. in Argentina During the 2000 Financial Crisis | # 192 |
| Presenter: | Steven Di Grazia | Mentor: Dr. Hossein Varamini |
| <p>To investigate what a number of economic and financial factors had on the level of foreign direct investment in Argentina during the Financial Crisis between the years 1999 - 2002. A financial analysis will be performed to determine the significance of each variable in relation to the economic crisis. It is probable that factors such as GDP Volume Change, balance of payments, and reserves minus gold had some of the greatest influence on F.D.I. and the Financial Crisis. The Argentine Economic Crisis officially began in the fourth quarter of 1998 after two quarters of negative GDP growth. This crisis affected almost all sectors of the economy causing GDP to contract 4.3%. Argentina defaulted on over \$100 billion of government debt in 2001, resulting in a countrywide economic recession. Argentina is a country that has recently experienced the world's largest sovereign debt default in history. A combination of political and financial policies, and other conditions contributed to Argentina's economic decline in the years 1999 - 2002. Since that time, Argentina's economy has become a little more stabilized, at least halting the rapid decline.</p> | | |

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| 11:45 AM | Crisis: The Impact of the International Monetary Fund on the Asian Financial Crisis | # 193 |
| Presenter: | Allan Craven | Mentor: Dr. Hossein Varamini |
| | | Following World War II, the international community saw the need to create an international institution dedicated to the prevention of future balance of payments crises and currency devaluations, and thus created the International Monetary Fund (IMF). The IMF has intervened on countries' behalf on numerous occasions by loaning money to economies in failure given their compliance to several policy improvements. In July 1997, many foreign investors began to withdraw their investments from Thailand following the rapid depreciation of the Thai baht. As the Thai and other Asian economies began to collapse, many of these countries approached the IMF for aid to stimulate their economies and thus re-attract direct foreign investment (DFI) to their feeble nations. By the beginning of 1998, the IMF had bailed out Thailand, Indonesia, and South Korea from the Asian crisis, as it had come to be known. But did the IMF actually increase the amount of DFI inflows to these nations? And if so, were its policies regarding economic growth, the exchange rate, and the lending rate significant factors in the increase of these DFI inflows or did some other factor attribute to the economic stimulation? Overall, IMF involvement in the Asian crisis does not prove significant in improving the economic climate. |

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| 12:00 PM | Explaining FDI Inflows in Emerging Markets | # 194 |
| Presenter: | Jordan Ridge | Mentor: Dr. Hossein Varamini |
| | | Inspired by recent news coverage related to multinational enterprises increasing investments in emerging market countries, this paper attempts to identify relationships between increasing foreign direct investment (FDI) inflows in emerging markets and various economic factors. To determine the relationships, a regression analysis was run consisting of a portfolio of three emerging market economies as defined by the World Bank (Brazil, Russia, and Mexico) using data from the first quarter of 2001 through the last quarter of 2008. A review of recent literature related to the subject of FDI flows in emerging markets compares other research with the results of the regression analysis. |

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| 12:15 PM | Understand the Buzz: Entrepreneurial Firms and Word of Mouth | # 195 |
| Presenter: | Ryan Donahue | Mentor: Dr. Petru Sandu |
| | | Word of mouth (WOM) has become one of the most effective communications channel. WOM marketing is defined as the ability of a company to get consumers to talk about its products and services, causing a viral message that grows exponentially. This research is an exploratory study to gain insights into the use of WOM by entrepreneurial firms and the role of WOM in a connected marketing strategy. An entrepreneurial firm is one that creates wealth through new economic activity by bringing together unique packages of resources to create and exploit marketplace opportunities (Davidsson, 2005; Shane and Venkataraman, 2000). The outcome of the paper consists in identifying guidelines and trends in the use of WOM as an important tool that supports the development of entrepreneurial businesses. |

| Political Science | Panel | H-215 |
|--------------------------|--|-------------------------|
| 11:00 AM | Ivory Coast: Can There Be a Winner? | # 196 |
| Presenter: | Paul Whitman | Mentor: Dr. Oya Ozkanca |

Ivory Coast has had many conflicts in the past, many of which have caused an international response. The latest incident happened in November 2010 in which two candidates, Laurent Gbagbo and Alassane Ouattara faced off in a highly disputed race to claim presidency in Ivory Coast. They have both claimed to have won. In the first and only recognized election from the internationally community, Ouattara won. However, Gbagbo, who has been ruling the country since 2000 and carried his country through a civil war, claimed that the first election was not official. He decided to take seven regions' votes and cancel them, which made him the winner. Both he and Ouattara claimed victory and both were sworn into office. Only one can be the winner and the international community is supporting Ouattara. This paper discusses the problems that are currently observed in the country as well as its long history of political violence. In light of the most recent news about the presidency conundrum, it analyzes what is being done to resolve this issue. It also addresses the problems this election and the resolution process could create for the international community's presence in the country. This paper argues that the international community should make sure that conflicting parties resolve this issue immediately so that another conflict, similar to a civil war that they had years ago in Ivory Coast, would not be observed again.

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|-----------------|---------------------------|--|
| 11:00 AM | Terrorism in Japan | # 197 |
| Presenter: | Maggie Stromoski | Mentor: Dr. Oya Ozkanca |
| | | Terrorism is sadly something that we as modern people have to encounter every day. From the Israel-Palestinian conflict to the ongoing battle between the IRA and the United Kingdom, we are bombarded by images of violence and cruelty with a political objective. Japan, a place thought to be untouched by violence of this magnitude, has also been affected. This paper explores both the political terrorism that has impacted Japan through the Red Army faction, and the religious terrorism enacted through the now defunct Aum Shinrikyo. It also analyzes Japan's reaction to these events as a whole, and the measures that have been put in place to prevent such acts from occurring again. |

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| 11:00 AM | Neighbors at War: A Case Study of the Iran-Iraq War | # 198 |
| Presenters: | Abdullah Ata, Colby Sherbafi, Daniel Obold | Mentor: Dr. Oya Ozkanca |
| | | This paper conducts a case study of the Iran-Iraq War, with a particular focus on the analysis of the national interests of Iran, Iraq, and the United States. The analysis will be supported by a number of interviews with the soldiers during the time of the war. Regarding the analysis of the Iranian interests, the Shi'a origins of the country, the Islamic Revolution, the Shah's policies, and sociological factors of the Iranian society will be explored. Regarding the Iraqi part of the analysis, the Shi'a and Sunni co-existence in Iraq, Saddam Hussein's policies, and the Kurdish minority's roles will be explored. The research will also include an analysis of the US policy towards the warring parties. It aims at providing a comprehensive analysis of the causes of the Iran-Iraq War. |

| FAPA-Music | Posters | Zug Gallery |
|---|---------|--|
| 11:00 AM Tri-Fold Display Posters in Conjunction with French Recital Presenters: Stephanie Crawford, Anna Matlack, Travis Lucas, Elizabeth Shea, Carolyn Sepp, Kara Burkholder, Monica Caluda | | # 201 Mentors: Dr. Sarah Daughtrey, Dr. Debra Ronning |

In conjunction with the separately submitted proposal for the French recital, students will work together on tri-fold displays which highlight the composers and works to be performed. Each composer will be represented on one poster, and students performing works of that composer will research and then design a poster which will highlight (but not be limited to) the following: The composer's biography (brief) His significance in music during this period, and his connection to the wider culture of Paris at the time Information about the pieces performed – background, genre, etc. Information about the poet and poetry of the vocal works performed Artwork of the period which reflects the works performed

| FAPA-Music | Presentations | Zug Gallery |
|---|---------------|-----------------------------------|
| 11:00 AM The Use of Sung Directions as an Aid in Learning a Motor Task Presenters: Leeann Hackett, Katelyn Santee | | # 211 Mentor: Dr. Gene Behrens |

The purpose of this study was to determine whether sung directions had an effect on the learning and demonstration of a seven-step origami folding task. Subjects included 24 students from a small college, ranging in classes from first year through senior. Eight males and 16 females were randomly assigned to the sung direction (n= 12) and the verbal direction (n= 12) groups. After a demonstration of origami, one group listened to the directions verbally while the other group listened to same directions sung to the tune of "Mary Had a Little Lamb.". Participants were asked to recall and demonstrate the steps. Their performance was evaluated based on the amount of time taken to complete the task (efficiency of folds score) and the number of steps correctly completed (accuracy of folds score). The difference between each set of dependent variables was analyzed using an independent t test and evaluated at $\alpha = .05$. Results showed no significant difference between the sung and spoken groups for the accuracy of folds scores and the efficiency of folds scores. However, when the effect size index, Cohen's d, was calculated for both results, a moderate effect size was obtained for the efficiency of folds scores indicating may have been a significant difference between the amount of time needed to complete the steps if more power was involved in the study. Given the motivational quality of music, these results do suggest that music therapists can use music to teach motor tasks without deterring the client's progress.

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| 11:00 AM Effect of Vocal Background Music on Reading Comprehension Scores Presenters: Julia Steinsberger, Sarah Johnson, Danielle Hopkins | | # 212 Mentor: Dr. Gene Behrens |
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The purpose of this study was to investigate the effect of listening to vocal music versus no music while completing a reading comprehension task involving text and follow-up questions. Participants included 20 college students, obtained as a sample of convenience, and ranging in ages from 17 to 23. The 5 males and 15 females were randomly assigned to two groups, the music condition (n = 10) and the no-music condition (n = 10). Participants had 15 to complete four reading excerpts from a past SAT exam, each containing two to seven questions for a total of 21 questions. During the music condition, the participants listened to a continuous playing of 5 top Billboard Hits. Following the task, all participants completed a background information form, providing their demographic information and preferences for their group condition. The mean total correct scores for each group were compared using an independent t-test and evaluated at $\alpha = .05$. Results indicated there was no significant difference found between the music condition and the no-music condition scores on the reading comprehension test. Although no significant difference was obtained, Cohen's effect size index was moderate, indicating there may be a difference given a larger sample. In addition, high variability in the vocal group suggests the use of vocal background music while reading may impact each individual differently. Results also suggest music does not detract or assist in reading comprehension and supports the existing research which is inconclusive. Therefore, we conclude further research should be conducted.

| Modern Languages-French | Posters | Zug Gallery |
|---|---------|-------------------------------------|
| 11:00 AM French Program Presenters: Bruchette Myrti, Michael Hendrie, Jaime Shuminski | | # 213 Mentor: Dr. Sharon Trachte |

Students will create posters to accompany the poems in French that they will read as part of the musical recital which will be performed by Dr. Sarah Daughtrey's singers. Posters will creatively present information about the poet, brief analyses of the poems, and information regarding the historical context.

| FAPA-French Music | Performance | Zug Recital Hall |
|---|-------------|--|
| 11:00 AM Recital of French Music from the Turn of the 20th Century Presenters: Stephanie Crawford, Anna Matlack, Travis Lucas, Kara Burkholder, Monica Caluda, Elizabeth Shea, Carolyn Sepp | | # 216 Mentors: Dr. Sarah Daughtrey, Dr. Debra Ronning |

This recital will highlight three French composers from the turn of the 20th century, Gabriel Fauré, Claude Debussy and Maurice Ravel, and will feature student performers in voice, flute and piano works of the period. Paris held a unique position as a center of art, music, literature and culture during this era, and the arts were deeply interconnected with each other. Each of the above composers was not born in Paris, but was drawn there by the opportunities available to artists of the time, and each became a leading composer in his own right. The works featured on the recital reflect several of the artistic and cultural trends present during the period, a taste for the exotic and colorful, a nostalgia for the past, and, later, for striking modernism, after the turn of the century

| Modern Languages-French | Performance | Zug Recital Hall |
|---|-------------|-------------------------------------|
| 11:00 AM French Program Presenters: Bruchette Myrti, Michael Hendrie, Jaime Shuminski | | # 216 Mentor: Dr. Sharon Trachte |

Students will read short poems in French that echo the themes of the songs that music majors will sing for the French Program. Themes include the fascination with the exotic, nostalgia for classical antiquity, and a desire to break with the past (modernism).

| History-French | Presentations | Zug Recital Hall |
|---|--|---------------------------|
| 11:45 AM | The Bohemian Migration From the Left Bank to Montmartre | # 217 |
| Presenters: | Lauren Driscoll, April Tuggle, Julia Escudero Ponce | Mentor: Dr. Brian Newsome |
| In 1881, Rodolphe Salis established his famous cabaret, the Chat Noir, at 84, boulevard Rochechouart. The Chat Noir's popularity marked a significant shift in the center of Bohemia from the Latin Quarter to Montmartre. This paper examines why Bohemian culture chose to entrench itself at la Butte de Montmartre. For the new Bohemians, Montmartre provided a physical and psychological distance from the officially sanctioned cultural domain of Paris. The Bohemians used this distance and Montmartre's older cabaret tradition to create a center of experimentation and freedom for artists, writers, and musicians who did not fit the dominant literary trends of the fin de siècle. | | |
| 12:00 PM | Women Impressionists | # 218 |
| Presenter: | April Tuggle | Mentor: Dr. Brian Newsome |
| The Impressionist movement during the late nineteenth century forever changed the art world. Most people are familiar with such artists as Monet, Manet, Degas, and Van Gogh. However, few are familiar with the female artists of the Impressionist movement. There were many women artists during this period, but the most successful were Berthe Morisot and Mary Cassatt. This paper will focus on the lives of these influential women, as well as their place within the Impressionist world. Their paintings will be used to interpret the place of women during this time period, as well as determine their outlook on women's roles during the late nineteenth century. The Diary of Julie Manet (the daughter of Berthe Morisot) will be utilized to further examine the daily life of a female artist as well as the hardships many women faced while attempting to enter the world of art. Therefore, this paper will fully examine the women of Impressionism as well as the obstacles they faced in a male dominated movement. | | |
| 12:15 PM | The Eiffel Tower Through Time | # 219 |
| Presenters: | Julia Escudero-Ponce, April Tuggle, Lauren Driscoll | Mentor: Dr. Brian Newsome |
| Even though nowadays the Eiffel Tower has become the touristic icon of Paris, the symbolism and the story of this tower are not completely related to tourism. Instead, they are related to a strong political and technological moment in the history of France. In 1889, the importance that the government and the people were giving to the anniversary of the French Revolution and the advancements that the country had made in the industrial area, led to the creation of a tower which symbolized all these processes that France was going through. Gustave Eiffel proposed a project which combined technological and industrial innovation and created a work which was surprising to everyone. At the beginning many people opposed it, especially the Parisian artists who saw the tower as a reflection of the lack of taste that the Industrial Revolution had and the Catholics who saw the Tower as a threat towards religion, because the Industrial era presented a lifestyle in which religion was not the main objective of human being. However, with time, people started to get used to the presence of the Tower and even started to like it. Also, an antenna was placed on top of it, so it began to work as a radio transmitter. In the present, it has become not only one of the most popular tourist attractions in the world, but also an important symbol of Paris and of France itself. | | |



French Program

Part I: Poetry and Music

See #213, 216

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| "Cantique des Colonnes" (1922)..... | Paul Valéry (1871-1945) |
| From <i>Charmes</i> | |
| Bruchette Mytil, Reader | |
| Syrinx (1913) | Claude Debussy (1862-1918) |
| Stephanie Crawford, flute | |
| Sonatine (1903-05)..... | Maurice Ravel |
| II. Mouvement de Menuet | (1875-1937) |
| Liz Shea, piano | |
| Aurore, Op. 39, no. 1 (1884)..... | Gabriel Fauré (1845-1924) |
| Carolyn Sepp, soprano | |
| "L'invitation au voyage"(1861)..... | Charles Baudelaire (1821-67) |
| From <i>Les Fleurs du Mal</i> | |
| Michael Hendrie, Reader | |
| Sicilienne, Op. 78 (1898)..... | Gabriel Fauré |
| (arr. T. Brown) | |
| Kara Burkholder and Monica Caluda, piano | |
| Les Cloches (1891)..... | Claude Debussy |
| Anna Matlack, soprano | |
| Poem 1/2(1918)..... | Guillaume Apollinaire |
| From <i>Calligrammes</i> | (1880-1918) |
| Jaime Shuminski, Reader | |
| From Don Quichotte à Dulcinée (1932-33)..... | Maurice Ravel |
| Chanson à boire | |
| Travis Lucas, baritone | |

Part II: History

See #217, #218, #219

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| Lauren Driscoll | "The Bohemian Migration from the Left Bank to Montmartre" |
| April Tuggle | "Women Impressionists" |
| Julia Escudero-Ponce..... | "The Eiffel Tower through Time" |

Session IV: 1:15 – 2:45

| FAPA | Presentations | H-107 |
|-------------------------|---|--|
| 1:15 PM | Music Therapy Protocols for Children with Visual Impairments – Past and Present | # 226 |
| Presenter: | Leeann Hackett | Mentor: Dr. Gene Behrens |
| | Music plays an important role in the lives of people with visual impairments as a way to connect with the outside world through their senses. This study investigates how music therapists who work with children with visual impairments adapt music therapy strategies to accomplish goals pertaining to the population. The project has consisted of two phases. First, I began by conducting a review of literature to identify the prevalence of existing literature and develop an understanding of how music therapists have worked with children with visual impairments. Second, I developed a questionnaire and am in the process of conducting a survey study of music therapists in the US who work with children with visual impairments. The survey seeks to answer questions including: What kind of goals do music therapists work on during sessions; How are these goals accomplished; What types of adaptations do music therapists implement specifically for this population; How do music therapists evaluate the progress of their work with this population; and What kinds of challenges exist when working with this population. I will analyze the results and compare responses from the questionnaire to past practices described in the literature. As a result of this investigation, I hope to identify changes or similarities in how music therapists are generally working with children with visual impairments. | |
| 2:00 PM | Music Therapy and the Sanctuary Model® — The Potential for a Trauma-Informed Approach to Music Therapy | # 227 |
| Presenter: | Julia Steinsberger | Mentor: Dr. Gene Behrens |
| | Although awareness and knowledge concerning the impact of trauma on the development of children's brains has recently increased, limited treatment strategies exist specifically for this population. Dr. Bloom began developing her trauma model, the Sanctuary Model®, during the 1980s (Bloom, 2005). In following this model, organizations agree to train staff to help clients meet several goal areas. Music therapy is one approach that potentially can support the goals involved in Bloom's model. This investigation sought to answer several questions: Does literature support the Sanctuary Model® as an effective approach in treatment for adolescents?; Is music therapy effective in achieving goals of the model?; and What music therapy experiences support the model? To address these questions, I conducted a review of literature on the Sanctuary Model® and research supporting music therapy as an effective tool to address the goals of that model. I then created a music therapy session plan that included components of one psychoeducation module. I conducted a session for at-risk adolescents at a local facility that utilizes the Sanctuary Model® and then assessed the effectiveness of that session in meeting goals of the model. This presentation will summarize literature on the model and discuss the potential for using music therapy to address specific goals. I will discuss the music therapy session plan I developed and the effectiveness of that session in meeting model goals. Finally, I will discuss how characteristics of music therapy support other Sanctuary Model® goals and suggest possible directions for future research. | |
| Education | Portfolios | H-110 |
| 1:15 PM | A Framework for Teaching: Professional Portfolios for Educators | # 231 |
| Presenters: | Elizabeth DeMatteis, Abby Bevkirch, Rebecca Rose, Megan Quarant, Lauren Thim, Adam Danner | Mentors: Dr. Carroll Tyminski, Dr. Kathleen Blouch |
| See Session Abstract #6 | | |
| 1:45 PM | A Framework for Teaching: Professional Portfolios for Educators | # 232 |
| Presenters: | Jessica Miller, Allison Conlin, Chelsea Bensel, Angela Caims, Kortni Smith, Tara Hart | Mentors: Dr. Carroll Tyminski, Dr. Kathleen Blouch |
| See Session Abstract #6 | | |
| Education | Presentations | H-211 |
| 1:15 PM | Achieving Geo-Literacy through Technology Use in the Classroom | # 236 |
| Presenter: | Samantha Morgan | Mentor: Dr. Rachel Finley-Bowman |
| | Geo-literacy is fairly low among Americans. Geo-literacy can be defined as an understanding of the world in which one lives. More importantly, a geo-literate person possesses the ability to understand how the earth's physical and human systems are interconnected, an important skill in the increasingly interconnected world of the 21st century. In schools without stand-alone geography courses, geography concepts are either not taught or are given minimal instructional time. This lack of instruction leads to students who are unable to develop the important skills associated with geo-literacy. This study explores the extent to which practicing teachers believe their students are geo-literate. It also examines the ability of technological classroom resources to improve geo-literacy among students. | |
| 1:45 PM | Teaching The Gifted Learner in Middle School Social Studies | # 237 |
| Presenters: | Andrew Burd, Becky Altland, Alexandra Conte, Jennifer Melnick | Mentor: Dr. Rachel Finley-Bowman |
| | This presentation explores the challenges and strategies associated with teaching the gifted learner in middle school social studies. Particular emphasis is given to developing and differentiating lessons that promote powerful concept learning in geography and related coursework. | |

| Occupational Therapy | Presentations | Gibble Auditorium (Esbenshade) |
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| 1:15 PM | Occupational Challenges and Adaptations for Integration of Hispanic Immigrants in Central Pennsylvania | # 241 |
| Presenter: | Alexandra Gold | Mentors: Dr. Tamera Humbert, Dr. Charla Lorenzen |
| <p>The Hispanic population is the largest minority group in the United States numbering 46.9 million, which is 15.4% of the total U.S. population. This figure continues to increase as adults and children continue to arrive from Mexico, and Central and South America, and those who have already come begin to start and raise families in the United States. It is important to consider how this population is surviving in the local communities: What are the challenges? How are they adapting to the transition? What can be done to aid in the integration process? It is a premise within occupational therapy that every individual has the right to freely participate in occupations in order to meet their needs; however, when stigmas, language barriers, and other difficulties restrict opportunities for immigrants to engage in meaningful occupations, injustice may occur. Occupational therapists are interested in how people adapt to new contexts with the assumption that the ability to adapt allows for successful integration into the new environment and that adaptation will also ultimately support function and well-being. The purpose of this research study was to raise awareness about the occupational challenges and adaptations that Hispanic immigrants face when integrating into a local Central Pennsylvania community. The results of this qualitative phenomenological study will be presented.</p> | | |
| 1:45 PM | Exploring Accessibility at Elizabethtown College | # 242 |
| Presenters: | Kate Rasmussen, Colleen LaForge | Mentor: Ms. Debbie Waltemire |
| <p>This project explores student, faculty, and staff perceptions of accessibility at Elizabethtown College. The actual structural accessibility of academic, recreational and student life buildings on campus were examined and compared to the standards set forth by the Americans with Disabilities Act. Our research aimed to answer "how do the perceptions of the Elizabethtown College community compare to the actual standards of accessibility as determined by ADA standards". We were able to identify strengths and weaknesses of the accessibility offered at Elizabethtown College. The data collection for this project was done primarily through the use of a voluntary and anonymous online survey sent out to students, faculty and staff to collect data on the campus perceptions of accessibility.</p> | | |
| Communications | Presentations | BLR (Steinman) |
| 1:15 PM | The International Dyslexia Association: Increasing Parental Membership and Involvement | # 246 |
| Presenter: | Brittany Phillips | Mentor: Dr. Kirsten Johnson |
| <p>The International Dyslexia Association (IDA) helps parents of children with Dyslexia and other language-based learning disabilities. They direct parents to the proper resources necessary to help children learn to deal with the learning disability. Current materials sent to prospective members are not specifically targeted toward this audience. Research will explore how to effectively gain the attention and involvement of parents with the intent of redesigning this package.</p> | | |
| 1:15 PM | Susquehanna Bank: Methods for Producing Effective Promotional Videos | # 247 |
| Presenter: | Kara Burkholder | Mentor: Dr. Kirsten Johnson |
| <p>Every bank has a community relations program that is involved in giving back to the region in which it serves. Most programs run a website to promote their work and, as companies increasingly rely on the Internet to conduct business, many of the programs are trying to stay relevant by posting more visual content on their websites. Susquehanna Bank's community relations program wants to produce and post an informative video to its website. This presentation explores effective methods for producing a promotional video that is informative and interesting.</p> | | |
| 1:15 PM | Promoting a For-Profit Medical Facility Through Video | # 248 |
| Presenter: | Samantha Alleman | Mentor: Dr. Kirsten Johnson |
| <p>Lancaster Regional Medical Center is a "full service medical facility with community hospital value." The Physician Liaison and Director of Marketing are looking for a way to promote the facility to community members and potential employees. An effective method of raising awareness and increasing interest in a for-profit medical facility is a promotional video focusing on physician recruitment and the attractions in and around Lancaster. This project explores various production techniques with the intent of recruitment.</p> | | |
| 1:15 PM | Media Influence on the Affects of Small Business Growth | # 249 |
| Presenter: | Joelle Atkinson | Mentor: Dr. Kirsten Johnson |
| <p>Nuts About Granola is a small business located in York, Pennsylvania that produces homemade granola and distributes it in local retail outlets in Central Pennsylvania. The company has received a multitude of national press coverage for their promotional endeavors. The owners are looking to expand their business, however, they do not have a way to present press coverage to prospective retailers. An online media scrapbook will create an effective way to combine press and blog posts and allow Nuts About Granola to harness its retail potential. This presentation will explore the ways an online media scrapbook can be an effective way to use print and social media to promote a small business.</p> | | |

Session IV: 1:15 – 2:45

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|--|---|--------------------------------------|
| 1:15 PM | Designing Effective Nonprofit Promotional Materials through Strategic Layout | # 250 |
| Presenter: | Jamie Bartolino | Mentor: Dr. Kirsten Johnson |
| <p>The Arc of Dauphin & Lebanon Counties provides both advocacy and a variety of educational programs for community individuals with mental disabilities. The Arc needs volunteers more than ever as they plan their annual Halloween fundraiser event, "Kiddie Fright Night." The Arc is seeking to increase financial sponsorship and youth participation for the event. Promotional elements will be produced for the client to assist in achieving this goal. The documents must be carefully designed to improve sponsorship and participation. After thorough research, it is evident that an effectively and strategically designed document can be successful in both recruiting sponsors and volunteers and raising awareness among the external public for nonprofit causes.</p> | | |
| 1:15 PM | Promoting Corporate Participation and Future Sponsorship in YWCA's Race Against Racism | # 251 |
| Presenter: | Dillon Gaul | Mentor: Dr. Kirsten Johnson |
| <p>The nonprofit organization YWCA located in Lancaster, Pennsylvania hosts a 5K race every year called "Race Against Racism." YWCA has limited resources to promote its race. Researching how to effectively promote an event for a nonprofit organization will be the key to gaining more sponsorship. Research suggests producing a web video integrating testimonial feedback will successfully develop more corporate sponsorship in "Race Against Racism." This project will explore multiple promotional methods and production techniques.</p> | | |
| 1:15 PM | Fighting to Disprove the Stereotypes of Pit Bulls | # 252 |
| Presenter: | Jennifer Fimmano | Mentor: Dr. Kirsten Johnson |
| <p>American Pit Bull Terriers were once considered America's favorite family dog. They are now the victims of negative stereotypes fueled by the media. The Humane League of Lancaster County is dedicated to disproving these stereotypes. This project focuses on the most effective way to debunk the myths surrounding pit bulls, raise awareness for the breed and educate the community through the production of an educational and informative video.</p> | | |
| 1:15 PM | Developing an Effective Training Video | # 253 |
| Presenter: | Kendra Linton | Mentor: Dr. Kirsten Johnson |
| <p>Capital Area Therapeutic Riding Association (CATRA) is a non-profit organization. Their mission is to provide children and adults who are physically challenged with horseback riding therapy. CATRA is run by volunteers, however there is currently no way to formally and consistently train volunteers. This presentation discusses the most effective way to create an education training video for a non-profit organization.</p> | | |
| 1:15 PM | Marketing an Experience through Social Media | # 254 |
| Presenter: | Nancy Briscoe | Mentor: Dr. Kirsten Johnson |
| <p>BCA Abroad, founded in 1962, is an independent study abroad agency, which aims to promote international understanding, awareness of global citizenship, and academic scholarship through educational exchange. The study abroad agency works with students, faculty, and administration to give them opportunities to study and travel worldwide. With a rise in the use of the Internet and new media sites (blogs, Twitter, and Facebook) as marketing tools, BCA Abroad would like to expand their social media properties. Research suggests that an effectively designed blog can generate more interest in a business. Therefore, the goal of this project is to implement a blog for BCA Abroad with testimonials written by previous and current BCA participants to prompt students considering studying abroad to commit to the BCA experience.</p> | | |
| 1:15 PM | Raising Awareness of We-town.com | # 255 |
| Presenter: | Caitlin Koller | Mentor: Dr. Kirsten Johnson |
| <p>Elizabethtown College's Department of Communications hosts a citizen journalism website called We-town.com. Although the site has been running for the past three years, many community members are unaware of the existence of We-town.com. Research is being conducted to determine the most effective way to raise awareness of a citizen journalism website. Research suggests the most effective way to raise awareness for We-town.com is through a television and radio promotion as well as a web video. The presentation will focus on what citizen journalism is as well as how effectively produced promotions for the mass media can be essential tools in raising awareness of a citizen journalism website.</p> | | |
| Sociology/Anthropology | | Presentations |
| | | H-212 |
| 1:15 PM | A Content Analysis of the Portrayal of Interracial Relationships in the Media | # 256 |
| Presenters: | Juliane Martin, Beth Trovato | Mentor: Dr. Michele Lee Kozimor-King |
| <p>Thirty years ago it was rare to see interracial couples together in public. Today, it is common for many to know someone personally who is in an interracial relationship. This change in society has been evolving over time due to a push for equality. In 2006, 3.8 percent of married couples were interracial couples. This is up from 2.6 percent in 2000 and 1.8 percent in 1990. From a statistical standpoint, it seems as though our society has become more accepting of this changing definition of family, but has the media reflected the change? Since 99 percent of American families own a television, it is obvious that TV plays an important role in the socialization of society. The data for this research will be obtained from a content analysis of two popular television shows. This study will examine if the media, specifically <i>Friends</i> and <i>The Office</i>, have reflected the growing number of interracial marriages and relationships in the United States. The results presented can be utilized by married couples, parents, marriage counselors, and anyone involved in an interracial relationship.</p> | | |

| | | |
|---|--|--------------------------------------|
| 1:30 PM | Robin Hood or Robin Hoodlum? The Effects of Occupation and Political Affiliation on Moral Decision Making | # 257 |
| Presenter: | Ambre Biehl | Mentor: Dr. Michele Lee Kozimor-King |
| <p>Should individuals always obey the law or are there exceptional occasions when one's conscience should be followed, even if that means violating statutes? Doctor assisted suicide and Islamic extremism are current examples personifying this timeless question that has pervaded history. The actions of many who have violated the law for moral reasons include individuals who risked their lives to hide Jews from the Nazis during World War II and the actions of Martin Luther King during the Civil Rights Movement. This research examines the effects of occupation and political affiliation on moral decision making. The data for this study was obtained from the 2006 General Social Survey conducted by the National Opinion Research Center at the University of Chicago. The total sample size consisted of 1,061 respondents. Results from bivariate correlations refute the hypothesis that legal, protective service and military occupations are more likely to follow the law than other occupations ($r = -.003$; $p < .01$). However, results support the hypothesis that conservatives are more likely to follow the law than liberals and moderates ($r = -.141$; $p < .01$). Other findings indicate that the respondents were almost evenly divided over whether or not the law should always be followed or whether there are occasions in which one should follow his or her conscience (51.6% support obey law; 48.4% support following conscience). As new laws are created, it is important to know who is more and less likely to violate them and the impact of morality. The criminal justice system can use this knowledge to help better enforce the law.</p> | | |
| 1:45 PM | We Don't Get What We Want: The Effect of Marital Status, Gender and Number of Children on Desired Time Allotment | # 258 |
| <p>President Obama's vacations with his family have been received negatively by the general public. President Obama has only taken 26 days of vacation during his first year in office which is much lower than his predecessors. In contrast, the average American takes fewer than 14 days off from their job a year. In addition, vacation usage has declined by 57 percent in the past 25 years. Research shows that Americans are also spending less time with family and working more hours. Circumstances like this provide relevance for the study of how individuals spend their time. Previous research has examined how individuals allocate their time between work and family demands. Time allocation refers to the dividing of paid work, housework, emotion work and leisure time. This study seeks to provide greater understanding of how children, marital status and gender affect desired time allocation. Data for this research were obtained from the General Social Survey (GSS) for the year 2006. The GSS is a representative sample conducted biennially by the National Opinion Research Center at the University of Chicago. The sample size for this study was 1175 respondents and included both English and Spanish speaking individuals. Time allotment included desired time paid work, time spent with family, time spent with friends, and time spent in leisure. Results from bivariate correlations, chi square tests and logistic regressions will be presented. The results of this study will have important implications for those living or studying work-family balance.</p> | | |
| 2:00 PM | Are The Vikings Really Gone? | # 259 |
| Presenters: | Lindsey Summers, Maggie Keefer | Mentor: Dr. Robert Wheelersburg |
| <p>Many cultures from the past have crept into the present even though the people are no longer existent. Norse, or Viking, culture has a continuing presence in many modern societies through the use of its symbology and associated cultural values. The examination of Norse Pagan religion and its cultural values through a content analysis led to interesting findings on how Norse culture has influenced contemporary American Culture. A content analysis is a form of qualitative research in which images are used to evaluate a certain aspect. This research analyzes images of contemporary items such as tattoos, movies and videogames will be analyzed for their use of Norse/Viking imagery. American culture uses Norse icons such as Thor's Hammer, values such as aggression for games, and even used the Norse gods, including Odin, in advertisements, film and videogames. Although Norse culture disappeared when their society died out before the middle ages their documents and artifacts have kept their traditions alive. These traditions, symbols and values are present within contemporary United States culture.</p> | | |
| 2:15 PM | An Artifact Analysis of Metal Artifacts of European Origin Found at the Washington Boro Susquehannock Indian Site | # 260 |
| Presenter: | Joe Kantor | Mentor: Dr. Robert Wheelersburg |
| <p>The excavation of a Susquehannock Indian village during the Washington Boro Phase (1600-1630 A.D.) located in Washington Boro, Lancaster County, has been conducted during the summers of 2007-2010 by the Elizabethtown College archaeological field school. This paper examines the metal artifacts of European origin found during those excavations according to their specific metal composition, the purposes they might have served in the Susquehannock community as per recorded history, as well as their connections to contemporary European artifacts. Jasmine Gollup's 2009 Elizabethtown College Honor's Thesis hypothesized that in developing a chronological sequence of European trade goods from Susquehannock sites, items such as altered/decorative goods (in archaeological theorist Lewis Binford's typology, goods with socio-technic functions) would be found in higher proportions at earlier sites while domestic/utilitarian items (goods with technomic functions) would be found more often at later sites. This hypothesis used the time period of the sites as an independent variable and their corresponding distance to European settlements as a dependent variable. Gollup's hypothesis was applied to the artifacts found at Washington Boro (which falls in the middle of the Susquehannock cultural sequence) in order to determine if this site supports her hypothesis. An investigation was also conducted into the presence of artifacts with ideo-technic functions (artifacts that serve a purpose in the religious or ideological contexts) in the form of five European trade axes buried in a circle, indicating the site may have been the location for a peace ceremony known from the Iroquois called "bury the hatchet."</p> | | |

Session IV: 1:15 – 2:45

| English | Presentation | H-213 |
|---|--|--------------------------------------|
| 1:15 PM | The Evolution of the Revolution: Nature, Blank Verse, and Epic, from Milton to Wordsworth | # 261 |
| Presenter: Megan Casey | | Mentor: Dr. Suzanne Webster Roberson |
| | The “long eighteenth century” in English literature is most commonly identified with its diversity of lyric poems and its Neoclassical ideals of order and decorum. Man and the intrigues of city life were the favored subjects, while heroic couplets constituted the favored form. This period is bookended, however, by two poems entirely different from the Neoclassical norm: <i>Paradise Lost</i> (1667), by John Milton (1608–1674), and <i>The Prelude</i> (1798–1850; 1850), by William Wordsworth (1770–1850). Not only are these poems epics, but they are composed in blank verse and feature prominently a subject matter generally dismissed by Neoclassical poets: Nature. The treatment of Nature differs greatly from Milton to Wordsworth, however, for while She plays a vital but ultimately subordinate role in <i>Paradise Lost</i> , Nature, in the 1805 version of <i>The Prelude</i> , is one and the same with God. Though countless studies of this transformation in the poetic treatment of Nature exist, little attention has been paid to the relationship between this transformation with the metamorphosis of blank verse from highly Latinate and formal in Milton to conversational and intimate in Wordsworth. The present study explores this interconnection, building a transitional bridge in the form of <i>The Seasons</i> (1730), by James Thomson (1700–1748), and <i>The Task</i> (1785), by William Cowper (1731–1800). Having established this much-needed sense of coherence, the study focuses especially intently upon the relationship between Nature and blank verse in the <i>Task</i> and the 1805 <i>Prelude</i> to illuminate the development of a “new Romantic” epic. | |
| English | Readings | H-213 |
| 1:45 PM | States of Mind | # 262 |
| Presenter: Austin DeMarco | | Mentor: Dr. Jesse Waters |
| | Allison Conner is an undergraduate student at the University of California in Santa Cruz. She spends most of her nights up late studying, gets good grades and has her eye on a boy from class, Jonah. Unfortunately, Allison’s psychology professor, Dr. Robert Swanson, has a problem. His daughter is dying of a disease for which there is no cure. In his attempts to save her, Swanson discovers a way to copy the thoughts, memories, emotions and every thing else that makes a person who she is and stores that information as data in a computer. But this is only the first step. Once she dies, Swanson must find his daughter a new body. | |
| 2:00 PM | Old Dogs, New Tricks | # 263 |
| Presenter: Andrea Georgic | | Mentor: Dr. Kimberly Adams |
| | This story focuses on a woman in the early 1900s involved in an abusive relationship, who finds an alternative method out. Written in the first person, the woman’s strong and intelligent voice offers a look at her thought process as she struggles with the decisions that she needs to make in order to survive. | |
| Modern Languages-Japanese | Panel Discussion | H-214 |
| 1:15 PM | Studying Contemporary Japan | # 266 |
| Presenters: Kenneth Nakagawa, Bryan Metz, Alexander Harris, Allison Gower, Megan Montfort, Erin Hensel, Nathan Derr | | Mentor: Dr. Mahua Bhattacharya |
| Kenneth Nakagawa: | Teaching Japanese in the US: Prospects and Challenges | |
| | Japanese is a very popular language in the United States today. Having knowledge of Japanese is very appealing for Japanese employers, since Japanese businesses such as Toyota, Honda, Sony, Panasonic, Nissin Foods, Bandai, Nintendo, and many more have bases all over the world and trade internationally. Along with Japan’s international businesses, Japanese culture is also gaining significant amounts of fans in the United States. From sushi, manga, anime, martial arts, samurai, and even bonsai, the study of Japanese culture is becoming very multi-dimensional. Though there are benefits to learning a second language, there are also great challenges. The Japanese language has a unique grammatical structure greatly differing from English, uses Kanji, or letters originated from China, which even the native speakers have difficulties with, and has specific rules of speech called ‘keigo’ when speaking to people of different social classes and ages. In this research, the issues of teaching Japanese grammar, kanji, and formal speech to students in the United States will be discussed and analyzed. | |
| Bryan Metz | Perspective of a Japanese Economist | |
| | The Japanese economy has entered a period of great uncertainty following 50 years of booming growth. With the Japanese lifestyle in jeopardy, the government has vowed to fight the economic crisis and restore the livelihoods of its people. However, the government’s efforts are thwarted by export dependency, rising unemployment, and inflationary pressures on costs of inputs for business. Through translation research of <i>Nihon no Keizai Shinrou</i> (The future of the Japanese economy) by Suzuki Yoshio, a new perspective on the economic situation in Japan is being revealed. Calling it “Cost-Pull Deflation,” Mr. Yoshio explains why it is appropriate to apply this approach to conditions in Japan today. He urges that the government is not properly examining the data of what is causing the economic slowdown and thus will not be able to reverse the current situation. The intent of this presentation is to address the issues facing the Japanese economy today through the perspective of a Japanese economist by using this text that is yet to be translated. | |
| Alexander Harris | The ‘New’ Japanese Consumer | |
| | After the Bubble Economy Japanese consumers have changed dramatically over the past two decades, with the younger generation defining the demands of the market. From the big spenders of the 1980’s bubble economy, they have become price conscious, and sophisticated shoppers, demanding the world’s best service and most innovative products. In this analysis, I will first examine the history of Japanese consumerism, and then look at the different types of consumers in the Japanese market in order to further analyze problems that have developed in the market. In the last part of my analysis, I will examine the change in consumer behavior that is developing in the younger generation of Japanese consumers in order to throw light on new consumer trends in the Japanese market. Finally, I will apply this examination to business today in order to show what implications and hurdles are facing today’s global market. | |

Allison Gower**Natsume Soseki and the Shisosetsu**

This presentation explores Natsume Soseki's short work, London News, written while Soseki was studying abroad in England. This literary work delves into the dark sides of life and the author, which is a chief perspective of the Japanese modern literature style of the Shisosetsu. Since directly presenting dark themes in literary works is frowned upon in Japanese culture, Japanese authors have cleverly projected their autobiographical experiences onto fictional characters. As such, the Shisosetsu has become a means for the Japanese to depict moral transgressions and blur the divide between reality and fiction. This notion is furthered by the grammar of Japanese itself, as it produces a narrowly personal soliloquy where only the narrating subject can convey his or her own personal thoughts directly, where others' experiences are only surmised.

Megan Montfort**Fumiko Hayashi: A Study of Women's Issues in Japan**

By translating and studying the short stories Aisuru Hitotachi, Konki, and Aru Onna by Japanese novelist Fumiko Hayashi, I wish to gain a better understanding of women's struggles in Japan. Through poems and short stories, Hayashi details the daily issues and lives of Japanese women. Many of Hayashi's pieces are somewhat autobiographical in content. These stories not only paint a picture of women's struggles, but of the complications in Hayashi's own personal life. Analyzing the themes prevalent in all three short stories will not only illustrate past struggles of the Japanese female artist, but also shed light on issues confronting Japanese women today.

Erin Hensel**Americanization of the Japanese Garden**

Japanese Zen gardens are part of a long and rich tradition dating back thousands of years. All across Japan, famous landmarks and family homes feature gardens designed in the traditional style. In modern times, however, Japanese families are focusing less on the timeless art of gardening because they are worrying about the rising cost of land and the difficulties of maintaining a home. Hand in hand with the decline of this tradition comes the miniaturization and globalization of the Japanese garden. This presentation will discuss how Zen rock gardens, fountains, and bonsai trees have become staples in American consumer culture, appealing to the workaholic's stressed mind with the promise of tranquility and relaxation. It will also examine common elements, comparing the appearance and purpose of current popular products to the original intentions and artwork of the Japanese garden. From historical Japan to modern America, how much has been lost in translation?

Nate Derr**Ryunosuke Akutagawa-Japan's Storyteller**

Known to many as the author of the short story Rashomon, the basis for the popular film of the same name, Ryunosuke Akutagawa is arguably Japan's most famous and well-loved short story author, and one of the few Japanese writers that has had considerable fame in the West. Because of his ability to enthrall readers of any nationality, I decided to take a closer look at Akutagawa's writing. I'll be translating three of Akutagawa's previously untranslated short stories, and will be examining trends in his storytelling. I'll then try to determine what it is that has led Akutagawa to be so beloved both in Japan and internationally, and how Akutagawa fits into the context and history of Japanese literature as a whole.

Political Science**Panel****H-215****1:15 PM****Civil War in Sudan****# 276**

Presenters: Nathan Smith, Noelle Babilya, Alex Brogan

Mentor: Dr. Oya Ozkanca

The focus of this research paper is on the political violence in Sudan between the North and the South, as well as the history behind the Sudanese violence. An analysis of the culture between the two geographically separated groups as well as a study of the differing class structures and the economic distribution of wealth provides insight into how the violence between the North and the South has escalated to the current levels. The paper focuses on Sudan from the time of its independence declaration to present day and explores standard economic indicators, political, social and cultural factors in explaining the civil war between the North and the South. A number of different political violence theories are tested to assess which theory helps explain the situation in Sudan. The paper concludes with projections for the future.

1:15 PM**Yemen: The Shiite Insurgency****# 277**

Presenters: Joanna Davis, Al Gorton, Matthew Cheyne

Mentor: Dr. Oya Ozkanca

This paper conducts research on the ongoing conflict that is taking place in Yemen. It looks into the political history of Yemen, and the different episodes of violence that have plagued the country. The focus of this research is on the more recent developments since 2004, including the Shiite Insurgency. After exploring the influence of political, religious, and geographical factors on the conflict, this research examines the methods of the different parties, and the external influences from countries and groups like Iran, Saudi Arabia, the United States, Hezbollah, and al-Qaeda. This paper also analyzes the implications of the conflict on civilians, and explores the human rights violations that the two parties commit. The paper finally evaluates the conflict as a whole, and makes recommendations on how best to resolve the fighting between groups, and what lessons can be learned from the violence.

1:15 PM**Egyptian Revolution vs. Iranian Revolution****# 278**

Presenters: Hanneh Desmond, Melissa McCarthy, Annie Ngo

Mentor: Dr. Oya Ozkanca

This paper examines the 2011 Egyptian Revolution. It first analyzes the economic, social, and (especially) political factors that caused the revolution and then analyzes the implications of the revolution and compares and contrasts it with the 1979 Iranian Revolution. The paper further discusses the limitations of the revolution as well as the debate on democratization versus stability. Analyzing the recent developments in Egypt and the regions surrounding the country, this paper examines the spillover effects of the revolution in Egypt to other nations. Moreover, through our research paper, we will analyze the different scenarios for the outcome of the Egyptian revolution, and whether the revolution results in positive change for the Egyptian people. Utilizing various sources, including electronic and print materials, to support our arguments, we will conclude with the implications of the Egyptian revolution on other democratization movements in the region.

Session IV: 1:15 – 2:45

| Computer Science | Posters | Masters Atrium |
|---|----------------|--|
| 1:15 PM Constructing For The Future Presenter: Lauren Selleck | | # 281 Mentor: Dr. Fani Zlatarova |
| This is a senior project for the <i>CS490 Readings and Projects in Computing</i> class with two main parts: developing a website for a real company, <i>DAS Construction Company</i> , and creating a database that contains company's useful information. <i>DAS Construction Company</i> , located outside of Pittsburgh, Pennsylvania currently has no website. The company needs a professional website that should include important features such as a company profile, information about current and completed projects accompanied by appropriate photo presentations, services offered, an interactive blog to create exposure, generate contacts, provide a forum for construction and/or maintenance related questions including the company's contact information. As the business environment has dramatically changed and became Internet-based, the development of a corresponding website is a necessity. Information Systems minor and Business Administration major acquired skills, will be used to create an inviting and informative website that will interact with a related database. The database tables will include information about customers, suppliers, and specific characteristics about the services of the company. The data processing tools will be used to develop a rich variety of queries that extract meaningful information from the database. This information will be used to make appropriate, helpful, important, and sometimes critical decisions for the company. The expected result from the project is to implement the database for everyday usage by the company's employees and to publish the corresponding website on the Internet that would allow proper online communication to the stakeholders of the underlying information system, and also advertise the company's activity worldwide. | | |
| Mathematics | Posters | Masters Atrium |
| 1:15 PM Solutions to Challenging Math Problems IV Presenters: Melissa Cangialosi, Robert Graham, Nathan Caudill, Michael Cheung, Alan Dyson | | # 282 Mentor: Dr. Timothy McDevitt |
| The Pi Mu Epsilon Journal regularly publishes difficult unsolved problems and solicits solutions from its readers. This poster presents several student solutions that have been submitted for publication. | | |
| Physics and Engineering | Posters | Masters Atrium |
| 1:15 PM Assistive Technology Controller and Virtual Keyboard Presenters: Chris Ramos, Ashley Jordan, Paul Brenner | | # 284 Mentors: Dr. Michael Scanlin, Dr. Thomas Leap |
| Assistive technology is technology used by individuals with disabilities in order to perform functions that might otherwise be difficult or impossible. To make navigating and operating a computer easier for the elderly or handicapped a Wii nunchuk and virtual keyboard are used in place of a computer mouse and keyboard. The Wii nunchuck interfaces with the virtual keyboard so that whether using Internet Explorer or Microsoft Word the user will be able to type or search seamlessly. With reviews from elderly users and ideas from organizations that work with the target audience this product will be real world applicable. | | |
| 1:15 PM Regulating the Temperature of Solar Panels Presenter: Breann Horst | | # 285 Mentors: Dr. Michael Scanlin, Dr. Sara Atwood |
| Solar panels provide more power when the sun's rays are magnified to intensify light absorption, or when the rays are centralized onto a smaller area. However, under these conditions solar panels over-heat, which greatly decreases their efficiency. Thus, a clay backing is proposed as a way to regulate the panel's temperature. The efficiency of a 12-volt solar panel will be tested with and without a clay backing under the conditions of intensified light, centralized light, and extreme changes in temperature. Clay has the potential to regulate the panel's temperature by redistributing the heat, hopefully allowing solar panels to provide more power with more efficiency. | | |
| 1:15 PM Steel Tubing Heat Treatments and Welds: A BMX Approach Presenter: Brian Wenger | | # 286 Mentor: Dr. Sara Atwood |
| The steel tubing at the critical toptube/downtube/headtube junction on a BMX bike is subject to large amounts of stress due to the abusive riding style that is common in BMX. The strength of the steel tubing may be manipulated by heat treating. However, the properties of the steel often change when the steel is further heated upon welding. The strength of the steel and the weld can be preserved if the proper heat treatments and appropriate materials are used. This project researches the processes and materials commonly used for bike joints, and proposes tests for many designs, materials, and types of welds. This research could also be applied to other welded joints in other applications, which could improve the safety and sustainability of many steel structures and frames. | | |
| 1:15 PM Puzzle Cubes Presenter: James Annab, Anthony Bird, Carlos Carpio, Trevin Fauntleroy, Andrew Fetterman, Anthony Fraccica, Ryan Hannon, Vaclav Hasik, Rafal Klos, Brian Layng, Tuyen Le, Jordan Lemberg, Kurt McCarthy, Kayla McKenzie, Kyle McNulty, Ryan O'Connor, Kyle O'Dougherty, Trevor Piede, Joshua Rowlands, Jose Ruiz Jara, Agnetha Serrame, Timothy Shaw, Zachary Slater, Paul Stronsky, Shannon Swiderski, Courtney Warlick | | # 287 Mentor: Dr. Sara Atwood |
| First-year engineering students have worked in small groups to design, draw, and construct a puzzle cube. The students followed the engineering design process in making a foam mock-up to choose a cube design that satisfies given parameters, detailing the cube design using engineering sketches and computer aided design software, and constructing the cube in the engineering department's machine shop. The resulting puzzle cubes will be on display for you to attempt to solve – bring a friend and a stopwatch for some friendly competition. | | |

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| 1:15 PM | Trebuchet Design (Apple Chunkin') | # 288 |
| Presenters: | Pat Dixon, Scott Lewis, Brad Risser, Nick Seaman, Shane Weller | Mentor: Dr. Sara Atwood |
| In Middle Age warfare, the trebuchet was a common siege machine found on the battlefield. The basic trebuchet design utilizes a counterweight 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 a trebuchet device to launch apples in a competitive setting. Three teams are competing to determine a winning design that launches apples the furthest with the most accuracy. The groups incorporated modern engineering design concepts, materials, and tools with traditional medieval techniques to maximize the performance of the launching mechanisms. | | |
| 1:15 PM | Trebuchet Design (Apple Chunkin') | # 289 |
| Presenters: | Kyle Gable, Elly McCarthy, Emily Vogel, Kyle Wilt | Mentor: Dr. Sara Atwood |
| See #288 | | |
| 1:15 PM | Trebuchet Design (Apple Chunkin') | # 290 |
| Presenters: | Deborah Bartyczak, Josh Rowlands, Paul Stronsky, Nick Young | Mentor: Dr. Sara Atwood |
| Se #288 | | |
| 1:15 PM | Design and Construction of a Hydraulic Press | # 291 |
| Presenter: | Timothy Iezzi | Mentor: Dr. Sara Atwood |
| The purpose of this engineering project is to design and build a functional hydraulic press for an automotive shop. A hydraulic press is used to assemble and disassemble interference joints commonly found in automobiles. The press must meet certain client requirements particularly space restrictions and ANSI safety standards. I used the modern engineering tools Solid Edge and ANSYS to model and simulate this press to help me in the design process. After I analyzed my initial design, I found some catastrophic failures that required a redesign before construction. After lengthy delays in sourcing materials due to inclement weather, I built the project from recycled materials as part of a commitment to sustainability in design. To complete the project, I performed tests to ensure quality and provided safety documentation and training on proper use to the client. | | |
| 1:15 PM | Solar Cabin Modifications | # 292 |
| Presenters: | Sean Sheehan, Andrew Vanderpool, Matthew Rice, Russell Speiden | Mentors: Dr. Tomas Estrada, Dr. Sara Atwood |
| This project will present three possible modifications/additions that could be made to the solar cabin in order to make it more energy efficient. For each of these possibilities, we will do research and collect data to determine whether each addition to the solar cabin is feasible with respect to construction as well as staying within our budget. The first of the possible additions we will research is whether putting up blinds with different material on each side will reflect light from the cabin to keep it cooler during the summer and absorb heat from the sun during the cooler seasons to keep the cabin warm. The second of the possible additions we will examine involves collecting rainwater from the roof of the cabin into a barrel. Once this water is collected we can run it through a turbine and filter the water into the creek nearby. The last of the modifications we will assess on the cabin involves the solar panels located on the cabin's roof. Solar panels are most efficient when operating at cooler temperatures. We will determine whether adding clay to the back of the solar panel will absorb some of the solar panel's heat allowing the panels to operate at an optimal temperature with greater efficiency. | | |
| 1:15 PM | Harnessing the Sun: Solar Power at Elizabethtown College | # 293 |
| Presenters: | Garrett Koep, James Hypnarski, Thet Lin Aung | Mentor: Dr. Tomas Estrada |
| Many students and faculty members of Elizabethtown College are unaware and uninformed about the recent, and not so recent installation of solar panels on campus. In 2006 the Engineering Department built a small cabin near the Young Center and installed a solar array on the roof. Every year since then it has been the base for engineering projects. Last year, twelve panels were installed on the roof of Esbenschade through a grant from The Sustainable Energy Fund and this year we have taken the initiative for a project of our own. The main goal of our project is to increase awareness of the panels here on campus, through, although not limited to, the installation of a screen with a user-friendly readout of the power output and the money saved per hour, per day since their installation. With this knowledge Elizabethtown Colleges' sustainable energy efforts will be readily viewed by all who visit campus. We will benefit from this project by learning about solar panels and all that goes into their installation, maintenance, control and communication systems. | | |
| 1:15 PM | Brushless DC Motor Control | # 294 |
| Presenter: | Jeremiah Peropat | Mentor: Dr. Tomas Estrada |
| This project will describe the operation and control of a brushless DC motor. Specifically, the project will identify how the brushless DC motor operates, while classifying mathematically how the signals are generated and function within the device. Furthermore, using MatLab and Simulink, output and control curves will be generated and used to develop a control loop to maintain accurate control of a DC brushless motor. We will be defining the system loosely as the motor itself including both the signals that are generated through its operation as well as the signals that are fed to the motor to control its operation. This will entail an understanding of the control loops that dictate its operation. The MatLab and Simulink models will include simulations to include speed referenced control, torque referenced control, and control of a time variant plant function. The project encompasses the very basics of motor theory and magnetism to the finest details of speed/torque curves and electric commutation. | | |

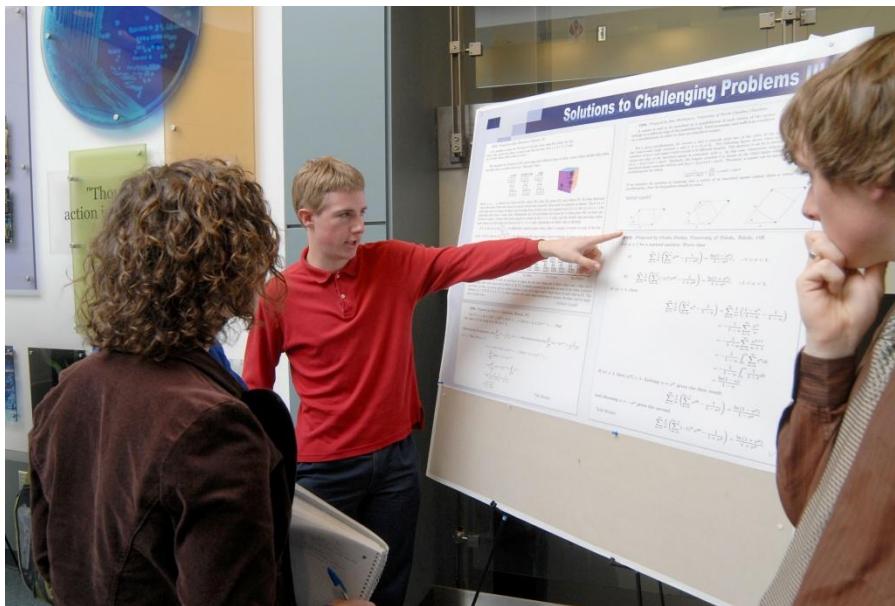
Session IV: 1:15 – 2:45

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| 1:15 PM | Study of a Guitar's Natural and Pinch Harmonics | # 295 |
| Presenter: | Christopher Oswald | Mentor: Dr. William Stuckey |
| An in-depth analysis on changing energy levels produced through natural and pinch harmonics on a KH-202 model guitar. A natural harmonic utilizes the node of a string to prevent the amplification of overtones so that the fundamental frequencies can be heard separately; while a pinch harmonic uses the thumb to silence overtones and fundamental frequencies, leaving on the node at contact audible. By identifying the linear mass density and mass per unit length on a given guitar string, an output energy level can be found mathematically to be a function of tension and displacement of the node or pinch along the length of the string. | | |

| Physics and Engineering | Posters | Masters Atrium |
|---|--|-------------------------------|
| 1:15 PM | Wunderbot Vision Upgrades | # 296 |
| Presenters: | Michael Conlow | Mentor: Dr. Joseph Wunderlich |
| 1:15 PM | Five Years of Boeing Engineering While Pursuing a BS in Computer Engineering | # 297 |
| Presenter: | Clayton Belcher | Mentor: Dr. Joseph Wunderlich |
| This poster illustrates selected works from five years of full-time engineering experience at the Boeing company in Philadelphia. This professional engineering work was undertaken over the past eight years while simultaneously pursuing a BS in Computer Engineering and participating in the Pennsylvania Air National Guard. Projects at Boeing included <i>CV-22 SATCOM Antenna</i> , <i>First-Time Quality Database</i> , <i>Environmental Control System Upgrade</i> , <i>Supported for NAVAIR physical configuration audits</i> , <i>Engineering changes to wiring harness assemblies</i> , <i>Overhead Cockpit Console Redesign</i> , and <i>Wiring Improvements Trade Study</i> . | | |
| 1:15 PM | Automated Hydroponic Garden using a Phoenix-Contact NanoLC PLC | # 298 |
| Presenters: | Jacqueline Westman, Daniel Fenton | Mentor: Dr. Joseph Wunderlich |
| 1:15 PM | The Robotics and Machine Intelligence (RMI) Club | # 299 |
| Presenters: | Daniel Fenton (President), Elizabeth Starkey, Mark Yorkey, Zachary Johnson, James Kelly, Christopher Janssen | Mentor: Dr. Joseph Wunderlich |

| FAPA | Performance | Zug Recital Hall |
|----------------|--|-----------------------------|
| 1:15 PM | Shakespeare's Verse in Performance | # 300 |
| Presenters: | Clara DeAngelo, Jess Roberts, Michael O'Connell, Laura Grube, Taryn Cherry, Alex Yastishock, Katrina Dilorio | Mentor: Dr. Michael Swanson |

In TH235, Voice for the Actor, students improve their stage speaking abilities by analyzing and performing the works of William Shakespeare. At this point in the term, students have been working on Shakespeare's sonnets as well as monologues from his plays. Today's performers will present their work with one of those selections each.



Religious Studies

1:45 PM

The Reign of King David: An Analysis of First Chronicles and the Deuteronomistic History # 301

Presenter:

Alicia Conway

Mentor: Dr. Christina Bucher

When thinking about the story of King David one cannot help but think about his greatness, his love of God, and his establishment of a dynasty that would be known throughout the ages. But who was King David? In analyzing the Deuteronomistic History and First Chronicles the reader is given multiple depictions of the great king's reign. For example, in the Deuteronomistic History one views a living breathing human being. He, like us all, makes mistakes, and also has great victory, displaying his virtues and his vices. However, in First Chronicles this is a very different scenario. The story of David is almost completely revised, and negative stories depicted in the previous book are edited. He is a king of great virtue. King David, in both books, is characterized very differently, still being glorified, but in First Chronicles actions that tainted the image of his reign have been removed. In analyzing these stories of his reign one will come closer to why this difference in depiction takes place. Furthermore, the authors of each book, the Deuteronomist and the Chronicler, have written in different tones, and created different themes, making it necessary to insert and omit certain material. This is because both authors were affected by many factors that contributed to their finished work: the time period, political climate, and a rekindling of the temple cult and religious life.

Presentations

Zug Recital Hall

2:15 PM

The Communes in War Time

302

Presenter:

Ryan Long

Mentor: Dr. Jeffrey Bach

Hutterites were first challenged in the United States during the World War I. After a varied experience migrating throughout Europe to escape religious persecution, the pacifist Hutterites emigrated to the United States in the 1870s. The challenges of World War I forced Hutterites to apply their theology and refocus their convictions in the context of the United States. Studying the Hutterites through the window of World War I reveals new insights into this resilient communal group. That time of intense pressure actually helped to solidify the Hutterites' future place in North America.

**Participant:
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■



Cover by Chelsea Decker '12

Congratulations to Chelsea Decker '12, the winner of this year's Scholarship and Creative Arts Day cover contest!

Chelsea's cover was inspired by a January 2010 service-learning trip to Houma, Louisiana, to rebuild hurricane-ravaged houses with the Center for Community and Civic Engagement. "I treasure that experience because I met incredible people and got to hear fantastic stories about the Louisiana bayous, their shrimping lifestyle, and the rich culture," the communications major says. "While exploring with my friend, I took this photo because the serenity and stillness of the bayou was an amazing moment I wanted to capture."

The Scholarship and Creative Arts Day committee also congratulates the following students, who were recognized with honorable mentions in the cover contest:

Matthew Butera '12, Actuarial Science and Economics
Hope Salisbury '11, Communications
Traci Tempone '14, Art Education