EDINBORO UNIVERSITY

a Celebration of Scholarship

EDINBORO UNIVERSITY

March 26, 2014

Welcome: Gregory Morrow

Dear Students, Faculty, Staff, and Guests,

It is my pleasure to welcome you to Edinboro University's first annual *Celebration of Scholarship*, recognizing a variety of student-faculty accomplishments. Students at Edinboro have a wide variety of opportunities open to them as they pursue their degrees. One of the most exciting of these is the chance to work collaboratively with our outstanding faculty and their fellow students on research and other forms of scholarship. Today's *Celebration of Scholarship* gives us the opportunity to both recognize the hard work and accomplishments of our students and their faculty mentors, and to connect with students and faculty from across the university. Too often we narrow our focus to our own departments and academic interests and we sometimes miss opportunities to expose ourselves to the many outstanding accomplishments occurring on campus. One of the most rewarding aspects of my current position has been the opportunity to learn more about the excellence in collaborative scholarship that is taking place across campus. These accomplishments are certainly something to celebrate and commemorate! I am very fortunate to be a part of a vibrant university with exceptional colleagues, students, and staff members and I hope that each of you feels this as well. Thanks to all of you for being a part of excellence at Edinboro!

Best wishes,

Gregory Morrow, Ph.D.
Department of Psychology
Chairperson: Committee for the Advancement of Undergraduate Research and Collaborative Scholarship

Keynote Speaker: Dr. Peggy Cebe

Peggy Cebe, Professor of Physics at Tufts University, is an internationally recognized expert in polymer physics, a Fellow of the American Physical Society, and an educator. She graduated from Edinboro State College in 1970 (BSEd) and 1977 (MS), and obtained her PhD in physics from Cornell University. Over her 27-year career in academia she has mentored 111 undergraduates, most from under- represented groups. Since 2003, Dr. Cebe has instructed and mentored 40 deaf and hard of hearing (DHH) interns who conducted research leading to co-authorship of scientific publications. In 2011, President Obama honored Dr. Cebe with a Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring.

Acknowledgments

The Celebration of Scholarship Committee would like to thank:

Reviewers

Ivan Chopallov	Anurag Dasgupta	Patricia Neff Claster	Sam Claster	Kevin Courtright
Qun Gu	Joyce Jagielo	Korey Kilburn	Richard Lloyd	Amy McClune
Timothy Meyer	Greg Morrow	Doug Puharic	Arunasalam Rahunanthan	Mike Skelly
Lisa Unico	Theodore Yeshion			

Judges

Celebration of Scholarship Awards

Patricia Neff Claster	Sam Claster	Kevin Courtright	Anurag Dasgupta	Qun Gu
Patricia Hillman	Joyce Jagielo	Jingze Jiang	Korey Kilburn	Erinn Lake
Karen Lindeman	Richard Lloyd	Monty McAdoo	Amy McClune	Anthony McMullen
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Jim Wertz	Amy Weschler	Richard White	Julie Wollman	Andrea Wyman
Theodore Yeshion	Ellen Zimmer			

Provost's Choice Awards

Alan Biel   Steven Combs   Michael Hannan   Judy Kubeja

Additional Thanks To:

- Dr. Timothy Meyer: Program Editor

- Dr. Alan Biel, Dean of Graduate Studies and Research, for providing prizes for the three general competitions.

- Dr. Peggy Cebe, Keynote Speaker, for her participation in this program.

- Dr. Michael Hannan and the office of the Provost for the Provost's Choice Award prizes.

- Mr. William Berger for assistance in designing the program and the COS logo.

Committee for the Advancement of Undergraduate Research and Collaborative Scholarship (CAUGRCS)

Dan Bennett	Alan Biel	Steven Carpenter	Ivan Chompalov	Patricia Neff Claster
Samuel Claster	Kevin Courtright	Anurag Dasgupta	Qun Gu	Joyce Jagielo
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James Wertz	Theodore Yeshion			

Celebration of Scholarship Committee

Dan Bennett (Chair)	Steve Carpenter	Kevin Courtright	Anurag Dasgupta
Judy Kubeja	Lisa Unico	Theodore Yeshion	

Schedule

2:00 to 3:00 Poster Setup

3:00 to 5:00 Poster Exhibition/Judging

5:00 to 6:00 Program

- Welcome: Dr. Michael J. Hannan, Provost
- Presidential Remarks: Dr Julie E. Wollman, President
- Keynote Address: Dr. Peggy Cebe, *Undergraduate Research in Smart Materials*
- Awards

All activities take place in the Multi-purpose room of the Pogue Student Center.

March 26

Work Done by Undergraduate Students at Edinboro

STUDENTS' PERCEPTIONS OF MAJOR ISSUES RELATING TO ERRONEOUS CONVICTIONS

M. Wilson, C. Feely, P. Walker

Political Science and Criminal Justice

Project Advisor(s): T. Yeshion, D. Vegh

Course: CRIM 467 - Wrongful Convictions

Keywords: Wrongful Convictions, College Student Perceptions

Wrongful convictions and exonerations within the criminal justice system have become an area of intense interest within the last decade. Research on the perceptions and attitudes of the public is in its infancy (Ramsey & Frank, 2007; Zalman, Larson & Smith, 2012). The purpose of this presentation is to present college students' knowledge of issues related to wrongful convictions, including perceptions of the problem, views on compensation and assistance for exonerated persons, and the level of sanction for criminal justice practitioners who may impact a case negatively. A convenience sample of 326 college students were administered a survey after IRB approval and instructor permission to use class time. The findings reveal that unlike previous research, college major did not significantly impact wrongful conviction knowledge, compensation and assistance views, or the level of sanction to impose on criminal justice agents whose egregious or questionable actions led to a wrongful conviction. University year, however, did impact many of the topics under investigation, including overall knowledge, assistance, and sanctions. Discussion on education and exposure to information and issues related to violations and the impact of wrongful convictions, as well as the utility of a wrongful convictions course is provided.

Poster
UE-100

COMPUTATIONAL ANALYSIS OF THICA AND REACTION INTERMEDIATES

D. Sirianni

Simultaneous Chemistry and Mathematics

Project Advisor(s): G. Hoffman

Keywords: Computational Chemistry, Vibrational Analysis

The chemistry of trihydroxyisocyanuric acid (THICA), a trimer of N-hydroxyisocyanate, is not well documented in the literature. Additionally, the nature of its photochemical decomposition into CO and HON moieties has not yet been reported. As a first step in studying this process, computational methods are used to elucidate ground-state properties of the species involved. Computational methods used included Hartree-Fock self-consistent field and second order Møller-Plesset perturbation theory, as well as higher order methods. The geometries of several conformers of each species, as well as their charge distributions and vibrational spectra are presented. Results from this project will be of interest to fields including both organic synthesis and quantum chemistry. Computational analysis will continue via the addition of further layers of correlation correction to the computations, using Coupled Clusters (singles and doubles).

Poster
UE-101

CALCULATING π IN VARIOUS METRICS

R. Jarrell

Mathematics

Project Advisor(s): D. Puharic, R. White

Course: MATH 250 - Informal Geometry

Keywords: π, Metric

Poster

UE-102

π is one of the most well-known numbers in all of mathematics. For millennia mathematicians have been approximating the numerical value of π. π is commonly approximated using 3.1415; however, this value is only true when distances are measured in the normal Euclidean sense. This project takes the formal definition of π and uses various metrics to investigate the notion that π is a mathematical constant.

PRESQUE ISLE, ERIE, PA: GEOLOGIC HISTORY INVESTIGATED

S. Steadman, A. Bear

Geosciences

Project Advisor(s): E. Straffin

Keywords: Geology, Presque Isle, Erie PA, Geomorphology

Presque Isle State Park is a migrating sand spit in Lake Erie. Presque Isle has been migrating episodically at least over the past 3000 years, and continues today. While there is little information on the many different sedimentary deposition environments, there is even less known about the timing of the major dune/sand spit migration episodes.

Poster

UE-103

To address this lack of information, and to reconstruct the nature and timing of spit migration, field excursions were undertaken to collect stratigraphic and sedimentological data. Vibracores were collected, and ground penetrating radar (GPR) surveys were conducted. Sediments were analyzed for grain size by dry sieving, and by laser diffraction. Samples for Optically Stimulated Luminescence (OSL) dating were also recovered.

Data were then used to construct a cross section of the research site which illustrates the geometry of sedimentary environments. These data will provide a better understanding of past depositional environments. OSL dating will provide an estimated rate of pre-historic spit migration. Combined, stratigraphy and dating will allow for comparison of the timing of major episodes of dune formation and spit migration with environmental events within the Erie basin.

PERCEPTIONS OF DECEPTION BETWEEN FRIENDS IN VARYING ELECTRONIC MEDIUMS

M. Dodds, J. Lefler, A. Reardon, M. Zurasky

Psychology

Project Advisor(s): R. Craig

Keywords: Psychology and Law Deception, Electronic Media, Psychology

Electronic mediums like Facebook, Twitter, and texting allow for near constant conversational connectedness with friends and family. Research has examined deception presented on webpages, personal profiles, and emails; however, little has been done looking at its presence and impact in these more conversational electronic formats. The nature of these interactions, often personal between friends, may impact the types of lies and their perceived impact. Further, the inability to receive traditional interpersonal feedback via these mediums may also impact perceptions and views of its wrongfulness. However, some of these mediums also provide a more public format for the lie, i.e. Twitter, and thus may also impact perceptions. This study explored the impact of lie told via Facebook, Twitter, texting, or cell phone conversations on perceptions of the deception. The gender of the communicators was also varied to see if that impacted perceptions. Participants completed an online survey where they read an interpersonal lie told in one the mediums and then responded to questions about the lie, its wrongfulness, in addition to their experiences regarding deception in these mediums. Data will be analyzed to identify any effects of medium perceptions of deception and experiences with deception in these mediums.

Poster

UE-104

FOLDING CUBES

G. Jennings

Mathematics and Computer Science

Project Advisor(s): D. Puharic

Course: Math 250 - Informal Geometry

Keywords: Geometry, Paper Folding

This presentation investigates the maximum size of a cube that can be folded from a given rectangular sheet of paper. The 11 nets of a cube were considered as the base for folding the cube. The discovery incorporated the use of Geogebra to conclude which net is to be used to maximize the size of the cube given the dimensions of the rectangular sheet of paper.

Poster

UE-105

LAND USE CHANGE AND CURRENT FOREST STRUCTURE AT HOWARD FALLS LAND TRUST IN NORTHWESTERN PENNSYLVANIA

N. Baldwin, O. Borgia, R. Hnida, R. Kirby, M. Normandeau, T. Norway, A. Pace, A. Piper, M. Ritner, P. Schreiber, A. Swan

Project Advisor(s): K. Eisenhart

Course: GEOG 525 - Forest Geography

Keywords: Pennsylvania-northwest, Land Use Change, Forest-eastern Deciduous, Forest Structure

The purpose of this research project was to determine and analyze the change in land use on the Howard Falls Land Trust property in Erie County, Pennsylvania. We used aerial photographs from 1939, 1959, 1969 and 1992 along with tree cores to estimate the minimum age of forest patches. We subsampled stand structure of seven plots that are currently forested, and collected tree cores from the largest trees in 5 of 7 plots for age determination. The property experienced dramatic changes in land use between 1939 and 1992. In 1939, 43% of the land trust area was cultivated and 23% was forested. By 1992, 63% was forested and only 17% was cultivated. Sampled forest patches ranged in age from at least 25 years old to more than 75 years. Considering all seven field plots, tree species richness was 10 (for DBH >10cm); however, like other studies of post-agriculture landscapes in the eastern U.S., red maple dominated the tree density and basal area in all sampled plots. Few studies of this type have been conducted in Northwest Pennsylvania and this project is the first in Erie County. Our study suggests the Howard Falls Land Trust property is typical for the eastern deciduous forest region.

Poster

UE-106

AN ARITHMETIC METRIC

S. Bradford

Mathematics

Project Advisor(s): R. White

Keywords: Distance, Primes, Hasse Diagram

A different way of defining a distance on the set of natural numbers is introduced. This definition uses divisibility properties of the naturals instead of the absolute value of real numbers. The metric uses prime factorization to define distance using least common multiples and greatest common denominators. Examples of the metric being used to calculate the distances are shown, with Hasse Diagram as an illustrator.

Poster

UE-107

TEACHING TABOO: THE ROLE OF CONTROVERSIAL LITERATURE IN THE CLASSROOM

R. Leonard

Secondary Education English

Project Advisor(s): D. Sheehy

Course: ENGL 499 - Thesis Seminar in Literature

Keywords: Education, Literature, Pedagogy, Controversial Topics

In order for the English classroom to avoid stagnation, it is vital to bring in new texts. These new texts often contain material that can be considered controversial, and educators must find innovative ways to approach it effectively. This project examines how texts are chosen for classroom curricula on a district and regional level. It explores the realm of controversial literature, including the American Library Association's banned books list, and the role it plays in the educational system. *The Perks of Being a Wallflower* and *To Kill a Mockingbird* serve as examples in this examination of techniques that can be used to teach controversial literature in the classroom. In addition to the controversial primary texts, this presentation draws upon curriculum requirements and research surrounding the pedagogy of teaching taboo topics. This project sheds new light on the role and necessity of controversial literature in the classroom.

Poster
UE-108

BLEAK FUTURES, POPULAR NOVELS: A STUDY OF YOUNG ADULT DYSTOPIAN LITERATURE

K. Barszcz

Secondary Education English

Project Advisor(s): D. Sheehy

Course: ENGL 499 - Thesis Writing in Literature

Keywords: Young Adult Literature, Dystopias, Young Adults

Although not a form of high literature, young adult dystopian literature is an increasingly popular subgenre. In many of these novels, the decline of the utopian world into a dystopia occurs during a change in the young hero's or heroine's life, reflecting the challenges faced by the young adult audience. This project explores four important themes from a sampling of young adult dystopian literature and examines their cultural significance. The challenge of assimilation and lack of personal choices in these texts reflects young adult's struggles with conformity. The division of the world's population represents the influences of cliques in young people's lives. The social rebellions of the characters dramatize young adults' conflict with authority. Combined with study of various examples of young adult dystopian literature such as The Giver and The Hunger Games, this poster examines critical analyses of the works, studies about dystopian literature, and research about current young adult culture. The study of this subgenre explains why dystopian literature has grown in popularity in recent years and continues to attract today's youth.

Poster
UE-109

MEDICAL TECHNOLOGY TRAINING PROGRAMS OF HEALTH SERVICES FIRMS IN THE ERIE COUNTY: A PRELIMINARY OVERVIEW

J. Schneider, C. Price

Business/Marketing

Project Advisor(s): M. A. Jantan

Course: MKTG 390 - Professional Selling

Keywords: Health Services, Health Care, Health Specialist Firms, Medical Technology Training Programs, Training and Development, Erie County

Significant effort has been given to investigate the effectiveness of the training programs of health services firms within the past decade. The sample of this study was drawn from the list provided by Highmark Blue Shield's website focusing in the areas of: internal medicine, urology, cardio disease, and gastroenterology. Out of the 100 health specialist firms contacted in the Erie County, 22 of them (22% response rate) have agreed to participate in our study. Findings revealed that 77% of the sample agreed that medical technology training programs indeed exist and that they are very well managed. 68% of the respondents revealed that training needs were assessed objectively. Among the important medical technology training goals were: Improving patients quality treatment (95%) and making correct decision under emergency situation (95%). Top two training methods utilized were: On the job (90%) and lecture (86%) format. Among critical medical technologies that received training attention were: MRI/ NMRI (86%) and Medical Laboratory (86%) technology. Findings also reported that medical technology training programs were evaluated at the reaction (100%); knowledge (90%); and behavior (95%) level. Lastly, 82% of the medical staffs agreed that medical technology training has directly impacted the quality of life of their patients.

Poster
UE-110

AN INTRODUCTION INTO CRYPTOLOGY AND THE RSA ALGORITHM

R. Bragg

Mathematics and Computer Science Game and Virtual World Track

Project Advisor(s): D. Puharic

Course: MATH 490 - Independent Study

Keywords: Cryptology, Cryptography, Cryptanalysis, Plaintext, Ciphertext, Cipher, Asymmetric-Key Encryption, RSA, Public Key, Private Key, Prime, Coprime, Euler's Phi Function, Multiplicative Inverse

Poster
UE-111

Cryptology is the study of encrypting "plain text" into "cipher text" and decrypting "cipher text" back into "plain text". Cryptology is used world wide, and has uses in most all aspects of our daily life. Since this study is so vast, and there are many people yearning for more security with information, it is no surprise that hundreds of different algorithms and ciphers have been developed. RSA is a specific type of asymmetric-key method that is widely regarded as one of the best encryption methods to utilize. This poster will cover the basics of Cryptology, the implementation of the RSA algorithm, and the number theory that backs it.

CONVERTING FLUORESCENCE EXCITATION SPECTRA TO ABSORPTION SPECTRA UTILIZING FLUORESCENCE INNER FILTER EFFECT

K. Bocian, B. Theriot, E. Culbertson

Biochemistry

Project Advisor(s): Q. Gu

Keywords: Fluorescence, Absorbance, Inner Filter Effect

Inner filter effects (IFEs) cause nonlinearity in the relationship between fluorescence intensity and concentration. Primary Inner Filter Effect (pIFE) is the attenuation of the excitation beam traveling through the sample. Secondary Inner Filter Effect (sIFE) is the attenuation of fluorescence by the sample solution. Because IFEs are caused by absorption, the linearity of fluorescence can be recovered by certain equations to correct IFEs using absorbance data. On the other hand, fluorescence data can be used to calculate absorbance values. For this project, the IFE-correction equations were modified to calculate absorbance or molar absorptivity using fluorescence data. In this way, data in excitation spectra can be used to obtain absorption spectra. The excitation spectra of anthracene were obtained at different cuvette positions using a self-made sample stage equipped with micrometers. These spectra were used to recover the absorbance spectrum of anthracene using the IFE correction equation. Although the excitation spectra obtained at different cuvette locations look very different from one another and from the absorption spectrum, using the method described above, the recovered absorbance spectrum of the sample matches very well with one measured using a UV-Vis spectrometer. (Former students contributed to this project: Jonathan Thomas, Hilary Weismiller, Morgan Williams, Jacob Villamont, Cameron Stephans)

Poster
UE-112

USING A SIMPLE EEG TO CONTROL A TELEPRESENCE ROBOT

J. Doran

Computer Science

Project Advisor(s): D. Bennett

Course: CSCI 480 - Computer Science Seminar

Keywords: Brain-Computer Interface, Robotics, Telepresence, Bioinformatics

An EEG detects the activity of the brain and translates it into a voltage that can be read by a computer. Within the last fifteen years, advances in computing technology and EEG technology has allowed researchers to bridge the gap between the human brain and a computer or robot. The goal of this project is to employ a consumer grade EEG device to control simple robotics via the volition of the user. By using easily obtainable, low cost components and combining multiple assignments, a complex, interconnected system was developed into an operational, but hardware limited, brain controlled telepresence device.

Poster
UE-113

DEVELOPING ANDROID APPS

J. Kirwin

Mathematics and Computer Science

Project Advisor(s): T. Meyer

Course: CSCI 490 - Independent Study

Keywords: Android, App Development, 3.200-Meter Run, Eclipse + ADT, Mobile Computing

Poster
UE-114

The purpose of this study is to learn the ins and outs of mobile computing with a strong focus on developing Android applications for sport science. One of the Android applications developed so far this semester is a 3,200 meter run app for track and field officials to use during races. The applications in this study are developed with the Eclipse integrated development environment using the Android Development Tools plugin and the backend code written in Java. The applications will be used in the real world to test their effectiveness. Mobile computing is becoming more prevalent in many of the things that we do and learning these skills can provide a competitive edge for computer science professionals.

THE CANNABINOID CB1 ANTAGONIST AM 6527 REDUCES RESPONDING FOR FOOD IN A MANNER CONSISTENT WITH BOTH SATIATION AND ATTENUATED REWARD VALUE IN RATS

J. Jagielo-Miller

Psychology and Biology

Project Advisor(s): P. McLaughlin

Keywords: CB1 Antagonist, Fixed Ratio 10, Satiation, Reward Value, Operant

Poster
UE-115

It has been suggested that the inhibition of food intake caused by CB1 antagonists is mediated primarily by reduced food motivation, rather than by undesirable side effects. However, CB1 antagonists such as AM 6527 may induce satiation, reduce the reward value of food, or both. It was hoped that close examination of a large number of variables related to the timing and rate of food-maintained operant responding could be used to determine whether AM 6527 reduced responding in a manner similar to satiation or reduced reward value. Adult male Sprague-Dawley rats were trained to respond for palatable pellets on a fixed-ratio 10 (FR10) operant schedule, and assigned to a total of 12 conditions in a counterbalanced, within-subjects design: four levels each of AM 6527, prefeeding with sucrose pellets, and quinine concentration. Various measures of operant responding were available as predictors in a stepwise discriminant analysis. This analysis yielded two significant functions. AM 6527 produced reduced reward-like behavior at low doses, and satiation-like behavior at higher doses. It was concluded that AM 6527 produced both reduced reward value and satiation, and its behavioral profile was distinguishable from either nondrug manipulation.

FROM MAJOR MCNAIR TO MAD ANTHONY: ERIE'S BREWING HISTORY AND RENAISSANCE

N. Schillinger
History and Anthropology
Project Advisor(s): S. Dunn
Course: ANTH 305 - Anthropology of Food and Eating
Keywords: Beer, Brewing History, Erie History

My research focuses on both the history of beer brewing in Erie and the methods by which these brewers have connected to the community at large. Erie's history with brewing goes back almost as far as the city's founding. By 1867, there were 11 breweries in a city with fewer than 20,000 people. More than 100 breweries existed between 1815 and 1978 (with the closing of the Kohler Brewery). During this time period, The Erie Brewing Company emerged as the strongest–and for a time, the only–player within the city of Erie. The longevity of the Erie Brewing Company can be tied not only to shrewd business practices, but also the ties that it formed with the community. The Company donated to churches and schools, it sponsored sports leagues, gave scholarships, and made large donations to the Erie Zoological Society for the bears that would come to be known as "The Koehler Polars." This generosity was reciprocated, and at its peak the Company was producing over 10,000 cases of Koehler beer per day. Despite strong ties to the community, national brands were all the rage throughout the 1970s, and The Erie Brewing Company closed its doors in March of 1978.

Poster UE-116

Now, Erie hosts three breweries within city limits–Lavery Brewing, The Brewerie at Union Station, and Erie Brewing Company–and all of these breweries take pride in and give back to the city they reside in. Through donations to community groups and even with the names of the beers they brew, these new brewers create a sense of ownership within the city. The growing movement of people away from the commercial and homogenized has given rise to a movement that allows people to connect with their history, their city, and their local economy.

N-GONS OF A DIFFERENT COLOR

S. Gelik
Mathematics and Computer Science
Project Advisor(s): D. Puharic
Course: Math 250 - Informal Geometry
Keywords: Geometry, Paper Folding

Poster UE-117

This presentation investigates the various polygons formed by the TUP (turned up part) when a regular n-gon has been folded. The results for a square and a regular pentagon are given. Furthermore, the underlying geometry and the relationship with paper folding (origami) is used to explain and verify the results for the generalization of all regular n-gons.

THE EFFECTS OF BACKGROUND MUSIC ON FLUENCY

R. Grissom, B. Frantz

Psychology

Project Advisor(s): H. Snyder

Course: PSYC 427 - Applied Psychology Lab

Keywords: Music, Fluency

Poster
UE-118

Some students study and complete assignments while listening to music and say that the music helps them to concentrate. Previous studies on the effects of background music on cognitive tasks (such as schoolwork or creative tasks) report mixed findings; some studies show that music enhances performance while other studies show that it distracts. No studies that used Mozart's music (suggested to enhance performance) as background for completing a creativity task were found. The purpose of this study was to examine the effects of Mozart's music as background music on fluency (a measure of divergent thinking, considered a component of creativity). Fluency is defined as "...how many different things you named" (Kaufman, 2009, p. 13). Participants were students enrolled in one of two sections of a social psychology class who completed the alternate uses tasks. It was hypothesized that subjects who heard Mozart's "Sonata for Two Pianos in D major, K 448" would have higher fluency scores than those in the non-music control group.

TIME PERCEPTION IMPACTS RATS' PERFORMANCE OF A COUNTING TASK

R. Drozdowski, F. Myers

Psychology

Project Advisor(s): P. McLaughlin

Keywords: Operant Conditioning, Perception, Cognition

Poster
UE-119

Fixed Consecutive Number (FCN) tasks are commonly used as a measure of impulsivity in rats. However, as with other measures of impulsivity, task performance may be sensitive to changes in the perception of time. Our interest in this study was whether rats were counting the amount of lever presses, or basing the number of lever presses completed on their perception of the passage of time. We began with an FCN 8 where rats would have to press a counting lever 8 times before pressing the reinforcing lever. We randomly placed rats on an FCN 4 or FCN 12, in addition to an FCN 8 and FCN 4 control tasks. In the FCN 4 and FCN 12 experimental tasks, we varied the amount of time the counting lever was retracted between presses in order to hold constant the amount of time typically taken to complete a successful chain in the FCN 8 task. We found that chain length was altered dramatically when FCN changed, suggesting the rats were measuring the passage of time rather than counting lever presses. Future projects will be altered to account for the susceptibility in time perception.

THE EFFECTS OF CANNABINOID ANTAGONISTS ON IMPULSIVITY IN RATS

T. Proper, E. Plyler

Psychology

Project Advisor(s): P. McLaughlin

Keywords: Cannabinoid, Appetite Suppressant, FCN, Animal Model, Impulsivity

The CB1 antagonist rimonabant, which was designed as an appetite suppressant, did not pass clinical trials due to its numerous psychological side effects, of which we propose that impulsivity was a critical component. This led to the production of a 'second generation' of drugs including the CB1 antagonists AM251, AM6527, and AM4113. Each of these new appetite suppressants was tested on an FCN 8 (fixed consecutive number) operant task to measure impulsivity in rats. Surprisingly, results indicated these 'next generation' drugs mildly produce impulsivity, with more pronounced effects when rats were pretreated with a serotonin antagonist, WAY-100,635. In contrast, a new CB1 antagonist, AM6545, which is believed to not cross the blood-brain barrier, did not produce impulsive responding. These results suggest that AM6545 is a safe appetite suppressant in animal models of psychological side effects.

Poster
UE-120

USING MATHEMATICAL PERSPECTIVE

M. Kunst

Fine Arts (Painting) and Art Education

Project Advisor(s): T. McKelvey, J. Hoggard

Course: ART 231 - Painting 1

Keywords: Linear Perspective, Art, Mathematical Perspective, Viewing Distance

This project explores how math relates to the linear perspective used in art. The project involves creating comparative views of a still life, using mathematical perspective as outlined in *Viewpoints: Mathematical Perspective and Fractal Geometry in Art* by Marc Frantz and Annalisa Crannell. The process involves first plotting points on a three dimensional grid and then using similar triangles to translate the three dimensional data into two dimensions. This process results in a perspectival image whose linear edges and angles correspond with those identified by visual artists utilizing the principles of traditional linear perspective drawing. This presentation specifically demonstrates how I utilized mathematical perspective and, with the aid of Excel, created two paintings of the same still life with different intended viewing distances. It also explains the resulting distortions caused by viewing a painting or drawing from a viewing distance that the artist didn't intend.

Poster
UE-122

MONSTROUS WOMEN CREATED BY MISOGYNISTIC AUTHORS

K. Wyant

Secondary Education, English

Project Advisor(s): S. Wolbert

Course: English 499 - Thesis

Keywords: Feminism, Renaissance, Literature, Demonization

Throughout literature, the female character has been associated with monstrosity. These monstrous female characters have been created to exorcise male anxieties about the potential female rise to power. This paper explores three dimensions of the creation of monstrous women in literature during the Renaissance period and the patterns of their demonization. Monstrous women have common traits of deception, uncontrollable aspects of femininity such as women's biological processes, and sexual deviance that bring forth female power, ultimately weakening males. Misogynistic authors, particularly in the Renaissance, create these monsters to exorcise anxieties through portraying negative aspects of female independence in order to repress it. Historically, these demonic women are coming out of a time period full of patriarchal fear of female independence, sexual anxieties, and hopes to keep reins on women. In addition to drawing on a wide range of literature, this paper will have historical and psychological evidence. The examination of monstrous female characters created by misogynistic authors will allow the reader to better understand the roots of this demonization and how it has shed light on contemporary issues.

Poster
UE-123

PROCEDURAL GENERATION OF OBJECTIVE BASED NARRATIVES THROUGH GENETIC ALGORITHMS

T. Hamilton

Computer Science, Application Track

Project Advisor(s): D. Bennett

Course: CSCI 480 - Computer Science Seminar

Keywords: Procedural Content Generation, Genetic Algorithms, Narrative Generation, Player Experience Modeling

This project presents a study of interrelated, objective-based narrations generated through adaptive algorithms built around pseudo-random iteration and player modeling. Considering a summary of recent research involving player experience modeling, evolutionary algorithms, and procedural content generation, an example implementation will be provided. Specifically, the model of a pseudo-random world through two pieces is given. The first piece is a collection of objective-based narratives called "quests". The second is a collection of two-dimensional maps called "dungeons", containing interactive entities. Both pieces are initially undetermined, and through application of an entity generator, constrained by a player experience model, filled with specific characters, locations, and objects. Thus, every dungeon, quest, character, location, and object is provided a unique set of attributes relative to the expanding world narrative and dungeon record, which in turn is turn shaped by a growing player experience model.

Poster
UE-124

INACTIVATION OF PATHOGENS THROUGH THE USE OF RA-DIANT CATALYTIC IONS ON THE SURFACES OF FOOD AND SWABS

J. Mannozzi, J. Wallace

Biology

Project Advisor(s): W. Mackay, D. Fulford, C. Steele

The United States Department of Agriculture has estimated the costs associated with foodborne illnesses to be between $2.3 billion and $4.6 billion a year. The areas impacted include fruits and vegetables, meats, seafood, poultry, baking, canning, and dairy industries. Reducing pathogens and additional microbial contamination on food contact surfaces will improve the quality and shelf life of many food products. New sanitizing technologies have emerged in recent to better decontaminate contact surfaces. Historically, both ozone-and peroxide-based technologies have been used as disinfectants in numerous applications. The use of ozone is now considered to be an organic form of treatment to disinfect food contact surfaces. RCI technology has been widely accepted within the food processing industry during recent years. This study has focused on the potential use of oxidative gases, including ozone and peroxide, generated by an RCI photocell for the inactivation of pathogens; *Escherichia coli*, *Salmonella*, and *Listeria*, introduced on the tips of sterile cotton swabs, and a number of fruits. Our results indicate a 90% killing of bacteria with a 90 minute exposure to RCI, demonstrating that the low level of oxidative gases produced by RCI has the potential to be an effective surface disinfectant tool for use in food processing.

Poster

UE-125

CROSS-LINKING CELLULASE TO A SOLID SUPPORT

E. Morisi

Biochemistry

Project Advisor(s): L. Unico

Keywords: Chemical Modification, Cellulase

The enzyme cellulase is a protein that speeds up chemical reactions and breaks down cellulose which is found in plants. In the laboratory and industrially, cellulase can be used to break down cellulose into glucose monomers which can then be fermented to produce ethanol. Most importantly, the cellulose found in plant waste materials such as the nonedible cornstalks, can be broken down and used to produce ethanol, an alternative fuel source. Current use of edible starches for this purpose has driven up food costs significantly. The goal for this research project is to create a chemical Velcro that specifically binds cellulase to a solid support so that the enzyme can be reused. The enzyme cellulase, the focus of this research project, is available commercially through Worthington Enzymes.

Poster

UE-126

ARTICULATORY SUPPRESSION: IS THE PHONOLOGICAL LOOP SLOWING DOWN MENTAL ROTATION?

R. Zimmerman

Psychology

Project Advisor(s): M. Skelly

Keywords: Articulatory Suppression, Mental Rotation, Cross-Modal Interference

The functionality of each component in Baddeley's (2000) working memory model is typically examined using a dual-task paradigm. It is widely agreed that articulatory suppression interferes with phonological processing, however, the effect of articulatory suppression on higher-level visual tasks, such as mental rotation, has not been examined. Accordingly, a 2 x 3 repeated-measures factorial design was used to investigate the effect of articulatory suppression (silence vs. suppression) and the effect of angular rotation (0 degrees, 45 degrees, 135 degrees,) on the time necessary, in milliseconds, to make a normal-mirror judgment of letter stimuli. The results indicate that the time to make a normal-mirror judgment increased with the increase in angular presentation of stimuli. Of particular interest is the finding that the suppression conditions were significantly faster in reaction time than the silent conditions at each angle of rotation (0, 45, and 135 degree). Results are argued as evidence for the temporal lobe inhibiting the processing in the primary visual cortex of the occipital lobe.

Poster
UE-127

FIRST-PERSON SHOOTER GAMERS APPEAR MORE RESISTANT TO CHANGE BLINDNESS

J. Watts

Psychology

Project Advisor(s): M. Skelly

Keywords: Change Blindness, Video Game Training

Playing action video games appear to increase performance on visual cognitive tasks (Powers et al., 2013). We hypothesize that change blindness, the failure to detect changes in visual stimuli during a saccade, may not be exclusive to all action video games, but specific to first-person shooter games. The present experiment investigated the effect of reported video game experience (non-gamer, action/other gamer, first-person shooter gamer) and image interest (central vs. marginal) on the reaction time, measured in milliseconds, necessary to detect a scene change in the flicker paradigm. The flicker paradigm, commonly used to test change blindness, randomly alternates the viewing of an original image and an altered version of that image in a rapid, repeating pattern. Specifically, images are displayed for 240 milliseconds and separated by an 80 millisecond interstimulus interval grey screen. The type of scene changes included color, shifting, and disappearing/reappearing objects. The results indicate that first-person shooter gamers detect scene changes significantly faster than non-shooter gamers and non-video game players. The effect of gamer was consistent across both central and marginal interest images. These findings suggest that first-person shooter video gamers may have enhanced visual attention and thus are resistant to experiencing change blindness.

Poster
UE-128

REAL WORLD APPLICATIONS OF RAPID PROTOTYPING

K. Perala

Physics and Mechanical Engineering

Project Advisor(s): P. Kuvshinikov

Course: PHYS 490 - Independent Study in Physics

Keywords: Rapid Prototyping, 3-D printing, Computer Aided Design (CAD)

Rapid prototyping (3-D printing) can be used in real world situations to aid in the production process of bringing new products to market in a quicker and cheaper manner as opposed to traditional means such as hand drawings and ideas waiting to become a 3-D reality. Meetings were conducted about ideas for new products with clients such as Karen Rzepeki, inventor of reCAP Mason Jars, and Pat Posner, inventor of a reverse blade knife. The clients' interpretation of their products including what they wanted out of their product such as Mason Jar lids that are easy to screw on and off was discussed at these meetings. Computer aided design (CAD) drawings of the clients ideas were then made and rapid prototypes of these drawings were constructed. The rapid prototypes were then presented to the clients and adjustments and revisions were made until the clients felt that their products were designed well enough to take to the next step in the production process. The clients then took the finished rapid prototypes and the final revision of the CAD drawings to aid them in the production of their products including Karen having injection molds made and Pat having tool paths written for different milling machines.

Poster
UE-129

DIAGENESIS OF FOSSIL BRACHIOPODS: IS THAT REALLY ORIGINAL, 350-MILLION-YEAR-OLD SHELL MATERIAL?

B. Oleniacz

Geology, Env. Biology

Project Advisor(s): D. Tschudy

Course: GEOS 490 - Independent Study

Keywords: Diagenesis, Brachiopods, Devonian Period

I investigated the diagenetic fates of local, Devonian aged brachiopods to address a long standing question of area geologists and paleontologists: "are the 350 million year old 'shells' in local bedrock made of original shell material?". I sampled brachiopod fossils from Late Devonian sedimentary rocks (siltstones and sandstones of the Chadakoin Formation) of southern Erie Country, PA. Four possible diagenetic outcomes were tested via thin section microscopy and X-ray diffraction. Results indicate that the original biogenic mineral, calcite (a common crystal form of $CaCO_3$), remains, albeit recrystallized in parts. The degree of recrystallization varies among specimens, from none to nearly complete. I speculate that this variation can be attributed to taxonomic differences and, also, variations in the physical characteristics (permeability, etc.) of the surrounding matrix.

Poster
UE-130

TELESCOPE SOFTWARE SIMULATION

N. Sickafoose

Computer Science

Project Advisor(s): P. Hillman

Course: CSCI 490 - Independent Study

Keywords: Telescope, Training, Simulation

This project is the creation of a training simulator for the software that controls the telescope located in the Cooper Hall observatory. The simulator will be used by current Physics majors before they are permitted to use the actual software interface with the telescope. The training simulator will be developed to mimic the layout of the software it simulates as closely as possible. The development environment for the simulator will include the Unity 3d game engine.

GAMING AND FITNESS: AN EXERCISE IN GAME DEVELOP-MENT.

D. Dampier

Computer Science

Project Advisor(s): T. S. Meyer, J. Molnar

Course: CSCI 490 - Independent Study

Keywords: Game Development

This work focuses on the use and development of video games and its applications for exercise and sports. The main objectives are to (1) develop an abstraction for managing or developing a gaming project, (2) give insights into the game development process from a programming perspective, (3) Develop a set of gaming applications to assist in the planning, instruction, and execution of a fitness regimen between a user and a trainer, (4) Network the applications together via database to allow for remote communication and information passing, (5) Connect the user side application with a physical data recording device to monitor the user during the workout and report the data back to the trainer, and (6) deploy the project for mobile Android devices. This model will include a look at game design and development tools and give a broader perspective on the game development process. The research that will be presented will cover basic game design principles, game programming techniques, and the process taken to develop an exercise related gaming application.

CALCULATING π THROUGH PARALLEL COMPUTING

M. Coghill

Computer Science

Project Advisor(s): D. Bennett

Keywords: Pi, π, Parallel, Computing

Parallel Computing is the practice of utilizing a Beowulf Cluster to hasten complex numeric computations. The purpose of this research project is to explore the benefits and difficulties associated with parallel computing by using multiple numeric computations to calculate π. Edinboro University's cluster accompanied by the C++ programming language and the MPI (Message Passing Interface) are standard.

Each of the methods and their implementation will be discussed in detail as well why parallel computing is an effective choice. The efficiency and timing of adding additional nodes will be included as well as the issues parallel computing has with these computations.

Poster
UE-133

EMERGENCE OF THE OEDIPAL CHARACTER IN THE TELEMACHIAD OF JAMES JOYCES' *ULYSSES*

E Skadhauge

English

Project Advisor(s): D. Sheehy

Course: ENGL 499 - Thesis Writing in Literature

Keywords: James Joyce, Literary Criticism, *Ulysses*

The first three chapters of James Joyce's Modernist epic *Ulysses* showcase the oedipal character as an archetype of experimental modernist literature. This poster explores Part One of the novel, also known as the Telemachiad, as the main protagonist is fashioned after Telemachus as well as James Joyce himself. Part One consists of three chapters which help to showcase the personality quirks and flaws of Stephen. As the chapters progress, Stephen's disdain he holds for his recently deceased mother become more apparent and demonstrate Stephen's oedipal complex. Although there was a resurgence of Ancient Greek literature and philosophy, Joyce's use of the oedipal complex may be a reflection of the author himself as well as other literary characters he alludes to in Part One.

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In addition to critically interpreting Part One of the novel, this investigation will also draw upon leading Joyce scholars' interpretations of possible influences upon the author himself.

The poster will help bring to light the prevalence of the oedipal complex in Stephen Dedalus and what had influenced the author to ascribe such personality traits.

Work Done by Undergraduate Students Outside of Edinboro

PREPARATION OF ALGINATE/CHITOSAN FIBERS FOR BIOMEDICAL APPLICATIONS

E. Culbertson

Chemistry

Project Advisor(s): M. Auad

Location: Department of Polymer and Fiber Engineering, Auburn

Keywords: Chitosan, Alginate, Biomedical, Fiber

Poster
UX-200

Alginate/chitosan fibers were produced using a wet spinning technique. Alginate was spun into a coagulation bath of chitosan dissolved in acetic acid. The dry mechanical properties of the fibers were tested using a strain controlled dynamic material analyzer. The fibers were loaded with sulfathiazole, an antimicrobial drug. Drug release rates as well as bacterial growth inhibition were studied. It was found that higher molecular weights of chitosan yielded the strongest fibers. Fibers loaded with sulfathiazole showed excellent inhibition of *E. coli* after an incubation time of 24 hours at 37° C. The results of this research suggest that alginate/chitosan fibers have potential for medical applications.

MECHANISMS UNDERLYING RESCUE OF ΔF508-CFTR MATURATION

N. Jurcak

Chemistry

Project Advisor(s): P. McCray

Location: McCray Lab, Cell and Molecular Biology Program

Keywords: Cystic Fibrosis Gene Therapy

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UX-201

Research involving the mechanism underlying rescue of the mutant ΔF508 Cystic Fibrosis Transmembrane Conductance Regulator (CFTR) gene. This mutation causes Cystic Fibrosis by altering protein production and function at the cell membrane. Particularly investigating the ubiquitin pathway and proteasomal degradation that occurs in the mutant ΔF508-CFTR with experimentation involving an E3 ubiquitin-ligase, SYVN1. Small interfering RNA knockdown treatment of SYVN1 monitored the amount of ubiquitin present in the CFTR and mutant ΔF508-CFTR protein. The hypothesis is that a loss of SYVN1 expression interferes with the CFTR ubiquitination allowing the mutant to escape the proteasome and form a partially functioning protein. Through Western Blotting and Live-Cell Surface ELISA pulse-chase experiments, knockdown treatment of SYVN1 indicates reduction in the amount of ΔF508-CFTR ubiquitination. Experiments also detected the treatment increased the trafficking and residence time of ΔF508-CFTR at the membrane to partially rescue function of the mutant.

COASTAL INLETS RESEARCH PROGRAM: TIDAL HARMONIC ANALYSIS WEB TOOL, MY EXPERIENCE WITH THE US ARMY CORPS OF ENGINEERS.

D. Dampier

Computer Science, Game and Virtual World Track

Location: US Army Corps Of Engineers

Project Advisor(s): K. Walker, J. Hollingsworth

The Coastal Inlets Research Program (CIRP) advances the state of knowledge and develops engineering technology for predicting the waves, currents, sediment transport, and morphology change at and around inlets. The research took place in the Information Technology Laboratory at the Engineering Research and Development Center for the US Army Corps of Engineers (ITL, ERDC, USACE respectively). The ITL was tasked to create a web interface and engine to translate data between users and an existing software package programmed using Matlab. A proof of concept application was developed for a specific tool used for analyzing and predicting the tide using Harmonic Analysis of tidal frequencies. This presentation will discuss the process taken to communicate with and replace an outdated software package using inter-operation between C# and Matlab, stateless (RESTful) data serialization and processing, web development using jQuery and ASP.net, and my experience working as a student for the US government.

Poster
UX-202

INTERFEROMETRY FOR NONLINEAR OPTICS

A. Brasington

Physics and Technology

Project Advisor(s): I. Biaggio

Location: Lehigh University, at a Research Experience for Undergrads

Keywords: Nonlinear Optics, Interferometry

Degenerate-four-wave-mixing allows one to investigate the third-order optical nonlinearity of materials, but the intensity of the detected signal only depends on the absolute value of the third-order susceptibility. Since the latter can become complex-valued in the presence of certain processes, such as two photon resonances, it is interesting to develop a way to also measure its phase. This project investigated a design for a nonlinear optical interferometer with better stability than previous designs. The interferometer was constructed, which allowed interferograms to be collected directly from a camera. The position of the interference fringes in the interferogram directly relates to a change in the phase of the third-order susceptibility. The robustness of the setup and its resistance to vibrations was investigated by acquiring nonlinear optical interferograms under different conditions and studying the stability and reproducibility of the phase information extracted from them. Tests showed that both the degenerate four wave mixing setup and the newly constructed interferometer maintained phase stability over a period of a few minutes. As long as interferograms for two different concentrations can be acquired within this period, the new setup should allow for the separate determination of the real and imaginary parts of the third-order polarizability.

Poster
UX-203

GRAPHICAL USER INTERFACE FOR INTERACTIVE VISUAL-IZATION, NAVIGATION, AND VISUO-COGNITIVE DATA COL-LECTION FROM SCREENING MAMMOGRAMS

R. Forsha

Computer Science

Project Advisor(s): G. Tourassi

Location: Oak Ridge National Lab

Keywords: Visualization, Interfacing, Eye tracking

As we see technology increase in sophistication it trends toward losing user friendliness and becomes more difficult to use effectively. User interfaces are relevant in all aspects of industry from Email, videogames, and in this case medical software. Specialized medical professionals spend large portions of their day reviewing radiology results and making diagnosis. To help create accurate results, increase the speed at which diagnosis is achieved, and increase the confidence level of the radiologist we have created an interactive graphical user interface (GUI) to facilitate user-friendly visualization and diagnostic interpretation of screening mammograms. The GUI is intended for laboratory studies for visual and cognitive data collection from radiologists while they perform the diagnostic task. Essential navigation tools to duplicate the functionality of clinical reading stations (i.e., image view scalability, option for single or multi-view presentation) were also implemented. To capture the radiologist's cognitive response, additional reporting tools were implemented to facilitate automated recording of the location and characteristics of suspicious abnormalities. This customized GUI will be tested with the integration of eye tracking software to determine focus points, gaze length and the scan paths the user experiences.

BUILDING LARGE VOLUME DATA BASES USING CROWD SOURCING IN GAMES

R. Forsha

Computer Science

Project Advisor(s): G. Tourassi

Location: Oak Ridge National Lab

Keywords: Visualization, Serious Games, Crowd Sourcing

The purpose of this application is to obtain a crowd-sourced ground truth data set to be used in the study of cancer epidemiology. The data set will be constructed by parsing out key information from online obituaries, articles, and journals that were obtained through web crawling. The information is presented to the user in the application alongside a series of questions that pertain to who the subject is, where the subject spent portions of their life, the time period that was spent in these locations, and what they were doing when they were there. Each question will be generated by extracting four digit dates from the text and submitting it to the user asking to respond with which event took place on that date. These answers will be then combined in a timeline format to form an outlook into an individual's life to better understand cancer epidemiology. For the user, the application is designed to be intuitive and entertaining to promote both interest and purpose.

Work Done by Graduate Students

FAMILY MEDICINE PRACTITIONER'S KNOWLEDGE REGARDING THE QUADRIVALENT HUMAN PAPILLOMAVIRUS VACCINE FOR MALES

A. Tost

Nursing

Project Advisor(s): C. Barrett

Course: NURS 800: Thesis

Keywords: Immunization, Human Papillomavirus, Males, Family Practice

The quadrivalent human papillomavirus (HPV) vaccine has the potential to prevent approximately 7,000 cases of cancer yearly for males caused by HPV types 16 and 18. Over 90% of genital warts are associated with HPV and the quadrivalent HPV vaccine can protect males against the causative organisms, HPV 6 and 11. Despite the recommendation for vaccination of males ages 9-26, by the Advisory Committee on Immunization Practices (ACIP) in 2011, only 1% of males received the three recommended doses. The cause for this low vaccination rate may be multifactorial, however this study explored the knowledge base of family medicine practitioners in Erie County, Pennsylvania regarding the quadrivalent HPV vaccine for males. The theoretical foundation for this study was based on the systems model of preventive care. Family medicine practitioners in Erie County, Pennsylvania were mailed a knowledge-based survey about HPV infections and the HPV vaccine administration for males ages 9-26. The response rate was 44% (n=75) and a chi-square test was utilized to analyze the data. All respondents correctly identified the quadrivalent HPV vaccine as an indicated vaccine for males age 9-26. However, only 55% (n=41) correctly identified the types of HPV-related diseases for which the vaccine is indicated to prevent for males. Knowledge should progress to what HPV diseases the vaccine can prevent and the differences between HPV types. This expansion of knowledge will subsequently enhance the quality of patient education.

Poster
G-300

NURSE'S HESITANCY IN THE USE OF NARCOTICS IN THE TERMINALLY ILL

L. Harrison, M. L. Woods

Nursing

Project Advisor(s): A. McClune

Course: NURS 800 - Thesis

Keywords: Hestancy, Nurses, Narcotics, Terminally Ill, Palliative Care

Providing comfort to terminally ill patients is a primary concern among nursing professionals. Pain management has been recognized as an important nursing intervention in providing comfort but has often been found to be ineffective in terminally ill patients. No studies could be found which explore whether this may be due to nurses' hesitancy to utilize narcotic medications in terminally ill patients. Research will be conducted to determine if nurses hesitate to utilize narcotic medications when providing comfort to terminally ill patients. It will also determine if there is a correlation between the level of education, nursing experience and/or the route of drug administration and nurses' hesitancy to administer narcotics to terminally ill patients. Ruland and Moore's theory of a peaceful death will be used as the theoretical framework upon which research will be based. Data from registered nurses will be collected in hospitals, nursing homes, and outpatient settings in northwestern Pennsylvania utilizing a self-designed survey questionnaire. Data will be analyzed to determine if there is a significant correlation between nurses' perceptions and the use of narcotics for pain management in terminally ill patients. Research of this type will determine why patients are experiencing pain during the dying process. If a significant correlation is found to exist, it will support the need for educational programs to address nurses' fears while still providing effective pain management for terminally ill patients.

Poster G-301

THE RELATIONSHIP BETWEEN LACTATION INFORMATION AND BREASTFEEDING DURATION IN RURAL COMMUNITIES IN NORTHWESTERN PENNSYLVANIA

K. L. Palmer

Nursing

Project Advisor(s): A. McClune

Course: NURS 800 - Thesis

Keywords: Lactation Information, Breastfeeding, Lactation, Rural Communities

Breastfeeding is one of the most effective ways to promote health and provide nutrition for infants. Pennsylvania is far below the national goal for breastfeeding rates at birth and six months, with 70.2% of infants ever being breastfed, and 42.9% of infants continuing to breastfeed at 6 months (Center for Disease Control, 2013). The goal of this study is to determine lactation support in rural counties in northwestern Pennsylvania and the relationship between the information available to new mothers and duration of breastfeeding. This study utilizes both a demographic survey formulated by the researcher, and the Breastfeeding Informational Support Inventory (Semenic, 2005) to survey primiparous mothers at their six week postpartum visit to their provider's office. Albert Bandura's social learning theory is the theoretical framework for the study. The theory stresses the need to identify what learners perceive and how they interpret and respond to social situations. A mother's perception of the support and information received can greatly affect her response to breastfeeding. Data will be analyzed using the appropriate correlation statistics. A significant correlation will be determined by a significance level less than .05 ($p < .05$).

Poster G-302

Other Posters

VISIONS AND REVISIONS: NEW SCHOLARS AND NEW INTER-PRETATIONS

Visions and Revisions is the first undergraduate journal published by the Department of History and Anthropology of Edinboro University of Pennsylvania. Visions and Revisions is the Department's newest effort to encourage undergraduate students to engage in research. The intent of this undergraduate journal is to give aspiring scholars the opportunity to publish work of superior quality.

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Faculty Advisors

* Indicates External Advisor