

of research, artwork & performances

April 2011



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## **Letter from the President and Provost**

April 2011

Dear Colleagues and Guests,

Welcome to the Brother Joseph W. Stander Symposium, the University of Dayton's annual celebration of academic excellence. This spring event exemplifies our mission to be a "community of learners" here at the University of Dayton. Through exceptional undergraduate and graduate student research, artwork, and performance, the Stander Symposium epitomizes the tradition of Marianist education.

We would like to offer our gratitude to the University's faculty and staff. Your lasting commitment and enthusiasm for success are the building blocks of this annual tradition. The road to student accomplishment is paved through your achievements.

On behalf of the University of Dayton, we thank you for joining us for this year's Stander Symposium, and we wish you an exciting and engaging learning experience.

Sincerely,

Daniel J. Curran, Ph.D.

Daniel J. Curran

President

Joseph E. Saliba, Ph.D.,

Joseph & Saliba

Provost

## **Letter from the Co-Chairs**

April 2011

Dear Members of the UD Community,

We are delighted to officially welcome you to the annual Brother Joseph W. Stander Symposium. The Stander Symposium showcases individual and collaborative undergraduate and graduate research, creative endeavors, and academic achievements. Above all, the Symposium and your participation showcase our shared values as members of the University of Dayton community. This is 22nd year of the Symposium, honoring the late Bro. Joseph W. Stander, S.M., Professor of Mathematics and Provost (1974–1989).

This University-wide celebration of academic excellence exemplifies the Marianist tradition of learning in community. The Symposium's alternate day of learning includes poster sessions, hands-on activities, performances, art exhibits, oral presentations and highlights of capstone course work. The achievements and collaborations on display throughout the Stander Symposium reflect the continuing commitment of students and faculty to this great tradition.

The Stander Symposium would not exist without an extraordinary effort from across the campus community – students, faculty and staff. On behalf of the Stander Symposium Steering Committee, we thank you for your support and participation.

Sincerely,

Kathleen B. Watters, Ph.D. Associate Professor, Communication Department Co-Chair, Stander Symposium

Kakleber Walter

Shown Swavey

Shawn Swavey, Ph.D.
Associate Professor,
Chemistry Department
Co-Chair, Stander Symposium

# About the Stander Symposium



Professor of Mathematics
Provost (1974 - 1989)

Honoring the late Brother Joseph W. Stander, S.M., Professor of Mathematics and Provost (1974-1989), the Stander Symposium celebrates academic excellence, rich collaborations and many forms of intellectual, artistic, and spiritual growth. The career of Brother Joe embodied the spirit of collaboration and the Stander Symposium stands as a continuing tribute to him and all who carry on the Marianist tradition of education through community.

A distinctive spirit permeates student research at the University of Dayton. The faculty and students of the University are determined that "a community of learners" is not a cliche but a realistic goal. Thus the University fosters an atmosphere that nurtures productive collaboration and a shared search for excellence in learning and in research. The Stander Symposium is a day-and-a-half long event, and constitutes the University of Dayton's principal annual celebration of academic excellence. The Symposium features a keynote speaker, poster sessions, hands-on activities, performances, exhibits, oral presentations and highlights of capstone course work.

All students at the university engaging in research, creative endeavors, and other forms of innovative thinking are encouraged to participate in this student research symposium. Student attendees are key members of a critically reflective audience for their peers. Faculty members serve as mentors and leaders for many of these projects and are the driving force behind scholarship in their fields. The efforts of students, faculty, and staff are critical to making this event successful year after year.

## **Acknowledgments**

The Brother Joseph W. Stander Symposium Steering Committee thanks the students, faculty, and staff for their many contributions and university-wide collaboration in the planning of this years' symposium. With over 1,500 presenters, performers, artists, and faculty mentors participating, the Stander Symposium is a lasting tribute to Bro. Joseph Stander and to the Marianist principles of higher education.

For generous support, we specifically owe gratitude to the Office of the President, the Office of the Provost, the Offices of the Deans in the College of Arts and Sciences, School of Business Administration, School of Education & Allied Professions, School of Engineering, Graduate Studies, and University Libraries. We extend this gratitude to the Ryan C. Harris Learning Teaching Center, the University Honors Program, the Research Institute, Enrollment Management, Student Development, Student Government Association, and University Advancement.

In addition to the units represented by the Steering Committee membership, the Committee specially acknowledges the essential and considerable planning and staff assistance received from Kennedy Union, Campus Ministry, Roesch Library, KU Box Office, ArtStreet, Department of Recreational Sports, Department of Visual Arts, Department of Music, Keck Lab, and University of Dayton Information Technology (UDit).

Finally, very special thanks are due to students Brenda Heitkamp and Gerard Gerace for their efforts in developing and creating this year's visual design.

## **Committee Recognition**

#### **Co-Chairs**

Shawn Swavey, Associate Professor, Department of Chemistry Kathleen Watters, Associate Professor, Department of Communication

#### **Steering Committee**

Deborah J. Bickford, Office of the Provost Jayne Brahler, Department of Health & Sport Science Susan Byrnes, ArtStreet Kevin Crane, Office of Leadership Development David Darrow, University Honors Program Brad Duncan, Graduate, Professional, and Continuing Education Rick Ghere, Department of Political Science Pamela Gregg, University of Dayton Research Institute Elizabeth Gustafson, School of Business Administration Kathryn Kinnucan-Welsh, Department of Teacher Education Amy Lopez-Matthews, Student Life & Kennedy Union Mike O'Hare, Department of Physics Frances Pestello, Department of Sociology, Anthropology, & Social Work Patrick Reynolds, Department of Music Sukh Sidhu, Department of Mechanical & Aerospace Engineering Peter Titlebaum, Department of Health & Sport Science Cari Wallace, New Student Programs Kathleen Webb, University Libraries Abby Whaley, Department of Campus Recreation Joel Whitaker, Department of Visual Arts

#### **Celebration of the Arts Committee**

Darrell Anderson, Director, Theatre Program
Paul Benson, Dean College of Arts & Sciences
Susan Byrnes, Director, ArtStreet
Sharon Gratto, Chair, Department of Music
Patrick Reynold, Department of Music
Teri Rizvi, University Communications
Ed Valles, University Advancement
Joel Whitaker, Chair, Department of Visual Arts

## **Graphic Design**

Brenda Heitkamp, Visual Communication Design, Department of Visual Arts '11 Gerard Gerace, Visual Communication Design, Department of Visual Arts '12

#### **Stander Coordinator**

Andrea Meyer Wade

## CALENDAR OF EVENTS

## **Tuesday, April 5**

#### **OPENING MASS**

Immaculate Conception Chapel, 12:05 PM

The liturgical opening of the Stander Symposium. The Symposium is dedicated to the research we do as students and faculty; through it we seek wisdom, which is of God.

**CELEBRATION OF THE ARTS** 

Schuster Center, 8:00 PM

#### **OPENING PERFORMANCE**

An evening of inspiring and entertaining music, theatre, dance and visual art. The event showcases excellence in creativity and performance—all by UD students.

Tuesday, April 12 THE US HOUSE OF REPRESENTATIVES HAS DESIGNATED APRIL 11-15, 2011 AS UNDERGRADUATE RESEARCH WEEK.

#### THE BIG READ PANEL DISCUSSION

KU Ballroom, 7:00-8:30 PM

Be part of Dayton's Big Read Community Reading Project this spring. Read the thought-provoking book The Immortal Life of Henrietta Lacks by Rebecca Skloot and attend a book discussion (listed at www.bigread.org). Then join us at the Stander Symposium for a panel discussion with University of Dayton faculty members who will answer questions about the legal, scientific, and ethical issues which are raised in the book.

RecPlex, 8:00 PM STANDER CUP

Create a six person team and sign-up to participate in the physical and intellectual challenges. Enjoy prizes, pizza, and more!

## Wednesday, April 13

## **DAY AT THE STANDER**

Kennedy Union and Various Campus Locations, 9:00 AM-5:00 PM

For more than 20 years, the Stander Symposium has acted as an annual showcase where both undergraduate and graduate students are invited to showcase their research, creative endeavors and academic achievements. We celebrate the symposium as a day of alternate learning by canceling all regularly scheduled courses and meetings-instead inviting the whole University to engage in conversation, learning and panel discussions-outside of the classroom. A closing reception for all student presenters and faculty advisors will be held at 5 PM in the Rike Center.

**CELEBRATION OF THE ARTS** 

UD Rike Center, 5:00-7:00 PM

## **CLOSING VISUAL ARTS EXHIBITION AND RECEPTION**

The Department of Visual Arts will host an evening of open studios as the closing event to the University's annual Stander Symposium. The evening will feature student exhibitions, art making workshops and the awards ceremony for the annual Horvath Exhibition, a juried exhibition highlighting student artwork. The event is free and open to the public.

# CELEBRATION OF THE ARTS Tuesday, April 5

Schuster Center, Downtwon Dayton

## **Pre-Show Performances & Visual Arts Display**

6:30 PM in the Wintergarden

### Gamelan

Heather MacLachlan, Director

### **Piano Ensemble**

Eric Street, Director

## First Flight Saxophone Quartet

Willie L. Morris, III, Director

## **Early Music Ensemble**

Margaret Erin, Director

## **VISUAL ARTS DISPLAY IN THE WINTERGARDEN**

Zachary Goetz
Laina Grote
Julianne Morgan
Bethany Saum
Matt Szozda
Christine Zuercher

## CELEBRATION OF THE ARTS

## **Tuesday, April 5**

Schuster Center, Downtwon Dayton

**Celebration of the Arts Program** 

8:00 PM in the Mead Theatre

On Vacation from Three Portraits

Richard Bissill

**University of Dayton Horn Choir** 

Richard Chenoweth, Director

Welcome

Joseph Saliba, Provost

Take Flight Robert Wendel

**Symphonic Wind Ensemble** 

Patrick Reynolds, Conductor

Jibrilujä'ä yubäshshiruki Lebanese Maronite Christmas Chant (Sung in Classical Arabic) Music by Wadi' es-Safi arr. Shireen Abu Khader ed. Samia Ghannoum

Michelle Connor, violin
Michael Cerrone, bass
Arabic Pronunciation Assistance:
Tony Saliba, Dean, UD School of Engineering

Chuchumakhala (Choo choo Millipede)

Traditional Sotho Song from South Africa

**World Music Choir** 

Sharon Davis Gratto, Director

Devout - Choreography: Richard F. Mosley, II

Music: Sanctuary, Kurt Carr

Dancers: Megan Archer Kelley Gallaguer Dominque Micken Shola Odumade (community member)

Laura Petrocci Chris Poeschl Jessie Weinmann

## CELEBRATION OF THE ARTS

Tommy McGuffey, piano Charles Oliver, bass Jamil Oliver, drums

**University of Dayton Dance Ensemble** 

Richard F. Mosley, II, Director

**Ebony Heritage Singers** 

Donna M. Cox, Director

*Tonight* Quintet from West Side Story

Music by Leonard Bernstein

(1918-1990)

Lyrics by Stephen Sondheim

Riff: Jarrod Kinkley Bernardo: Benjamin Hughes Tony: Joshua Forman Maria: Stephanie Jabre Anita: Kate Hunt

Gang members of the Jets and Sharks - Opera Workshop Ensemble

Hard Knock Life from Annie

Music by Charles Strouse Lyrics by Martin Charnin

Briana George Laura Carroll Kathleen Palahnuik Katie Ballard Rachel Major Emma Marsden

University of Dayton Opera Workshop

John Benjamin, piano

Minnita Daniel-Cox and Linda J. Snyder, Co-Directors

*Ubi Caritas* (Where there is charity and love, God is there) Triptych: *From Heaven distilled a clemency* 

Ola Gjeilo Tarik O'Regan

University Chorale and University Orchestra

Robert Jones, Conductor

The Schuster Stomp arr. James Leslie

**University of Dayton Drumline** 

James Leslie, Director

### CELEBRATION OF THE ARTS

Corinth (World Premier 2009, Dayton, Ohio) Choreography: Crystal Michelle Costumes: Maurita Elam

Ouartet in C. K. 157: Andante, Presto Wolfgang Amadeus Mozart (1756-1791)

## **Dayton Contemporary Dance Company 2**

Dancers: Amelia Dietz Alexis Evans-Krueger Kirsten Fricke Jessica Horton Oarrianne McClellan

### **UD Grace Note String Quartet**

Michelle Connor, violin Emily Gatlin, violin Christine Colletti, viola Imani Thompson, cello

The Diviners (excerpt) Jim Leonard, Jr.

> C.C. Showers: Alex Chilton Jennie Mae Layman: Grace Stratton

## **University of Dayton Theatre**

Louan Hilty, Director

Chick Corea Spain

Donald Lawrence Stranger

Arr. Bobby Streng

We Declare War **Kurt Carr** Arr. Bobby Streng

> **Dayton Jazz Ensemble** Willie L. Morris, III, Director **Ebony Heritage Singers** Donna M. Cox, Director

## CELEBRATION OF THE ARTS **Wednesday, April 13**

**UD Rike Center** 

## **Celebration of the Arts Closing Visual Arts Exhibition & Reception**

5:00-7:00 PM

The Department of Visual Arts will host an evening of open studios as the closing event to the University's annual Stander Symposium. The evening will feature student exhibitions, art making workshops and the awards ceremony for the annual Horvath Exhibition, a juried exhibition highlighting student artwork. The event is free and open to the public.

Willis 'Bing' Davis will judge the show and announce the award winners during the closing reception.

The Horvath Student Juried Exhibition is an annual juried exhibit, open to students of all majors, that started in 1975. The Horvath Exhibition features UD student work in a variety of media, such as drawings, paintings, photography, design, ceramics and sculpture.

The Horvath Exhibition originally was funded by Josephine Horvath, in memory of her late husband, Bela Horvath, a realist painter and faculty member who came to UD after fleeing Hungary.

## THE BIG READ PANEL DISCUSSION

# The Big Read Big Event at the Stander Symposium

Tuesday, April 12, 2011 7:00-8:30 P.M. Kennedy Union Ballroom



Be part of Dayton's Big Read Community Reading

Project this spring. Read the thought-provoking book *The Immortal Life of Henrietta Lacks* by Rebecca Skloot and attend a book discussion (listed at www. bigread.org). Then join us at the Stander Symposium for a panel discussion with University of Dayton faculty members who will answer questions about the legal, scientific, and ethical issues which are raised in the book. Dr. Mickey McCabe, Vice President for Research and Executive Director of the Research Institute, will serve as moderator.

## The Big Read Panelists are:

**Amy Gullen, M.L.S.,** Assistant Professor, Life and Health Sciences Librarian **Patricia Johnson, Ph.D.,** Alumni Chair in Humanities, Professor of Philosophy **Frances Pestello, Ph.D.,** Professor, Department of Sociology, Anthropology, and Social Work

Vernellia Randall, J.D., Professor of Law

Free copies of the book will be available to UD students, faculty, and staff courtesy of University Libraries. Come in to the first floor reference room to pick one up.

## **MORNING PRESENTATIONS**

## 2011 Civil Engineering Senior Capstone Project: Southwest Campus Expansion

Civil & Environmental Engineering & Engineering Mechanics 8:30 AM-12:30 PM
Oral Presentation, Senior/Capstone Project Kennedy Union - Boll Theatre

Advisor(s): Donald V Chase

Student(s): John P Berger, Zachary J Bornhorst, Scott J Caltabiano, Eric R Kaiser, Louis J Schulte, William C Smith, James R Tibble

This project represents the work of the graduating class from the Civil Engineering Department. The class will be presenting conceptual and design work pertaining to the University of Dayton's recently acquired properties. These properties include the former Frank Z Chevrolet dealership, the former National Cash Register (NCR) headquarters, and previous property acquired from the first NCR purchase that lies along Stewart Street. The work done by the 2011 Capstone Class includes site layout and design of the new student housing and amenities at the former Frank Z Chevrolet Site. This work also includes new site development of the NCR Stewart Street property, which will soon become the new GE EPISCENTER. Lastly, the work will include any building additions made to the former NCR headquarters located at 1700 South Patterson. The presentation will last approximately three hours.

#### Poverty and Racial Segregation in two approaches to public housing

Sociology, Anthropology, and Social Work 9:00 AM-9:30 AM
Oral Presentation, Senior/Capstone Project St. Joseph's Hall - 025
Advisor(s): Patrick G Donnelly, H F Pestello

Student(s): Eleanore L Brown

Research has shown that high-density, high-rise public housing complexes have been a major factor in the concentration of poverty and racial segregation in urban areas. In recent decades, several strategies have been enacted to reduce the concentration of poverty and race that have resulted from public housing. Dispersal of public housing residents into scattered-site units has been one such effort. There is considerable debate, however, on how effective scattered site units have been at deconcentrating poverty and racial density and relocating residents to better quality neighborhoods. This research examines the relationship between scattered-site public housing and its effect on deconcentrating poverty and racial segregation. Data from Metropolitan Louisville, KY are used to investigate poverty levels and racial composition of the census tracts in which the multi-unit large scale housing is located compared with the census tracts in which the scattered-site units are located, to see if there are significant differences in terms of race and income in the two public housing settings.

### Spatially Non-Uniform Blur Analysis Based on Wavelet Transform.

Electrical & Computer Engineering 9:00 AM-9:30 AM
Oral Presentation, Graduate Research Kennedy Union - 207

Advisor(s): Keigo Hirakawa

Student(s): Sathish K Pakala, Yi Zhang

Object motion causes spatially varying blur in an image. Partial blur typically carries useful information about the scene. This information is useful for consumer imaging as well as computer vision. However, spatially varying blur also deteriorates image quality. The goals of our research are finding out this information and making images better. In this research we introduce a novel method for solving this partial blur problem. We define a statistical model of a spatially varying blur image and estimate the local point spread function (PSF) by using a set of methods including double wavelet transform and local autocorrelation. Experimental results demonstrate the effectiveness of the proposed algorithm.

## Abstraction and Minimalism: Selected Works from the Dicke Collection and the Faculty of the Department of Visual Arts, University of Dayton

Visual Arts 9:00 AM-10:00 AM
Oral Presentation, Senior/Capstone Project O'Reilly Hall - Conference Room

Advisor(s): Roger J Crum Student(s): Allison R Shaw

My presentation for the 2011 Stander Symposium discusses an exhibition of abstract and minimalist art from the Dicke Collection and the inclusion of work by faculty artists in the Department of Visual Arts at the University of Dayton. James F. Dicke II is an Ohio art collector and artist who has loaned a number of American works, one being a creation of his own, to be displayed in the spring semester, 2011 in O'Reilly Hall, the administrative center of the College of Arts and Sciences. Several members of the Visual Arts faculty have also contributed personal works as an addition to the exhibition. Each piece of abstraction in this exhibition is unique and tells its own story while contributing to the overall visual impact of the works as a group. My Stander presentation will explore the idea of this exhibition as a reflection of the history of abstraction from the 1950s to the modern moment as well as an invitation for the College to explore the relationship between the visual arts and other disciplines in the arts, humanities, social sciences, and sciences on campus.

#### An Analysis on the Interpretation of Firearm Restrictions in Ohio at the Local and State Level

Criminal Justice Program 9:00 AM-10:00 AM Oral Presentation, Senior/Capstone Project St. Joseph's Hall - 023

Advisor(s): Jefferson L Ingram, Arthur J Jipson

Student(s): Joseph A Dooley

With this project the researcher will examine the differences between Ohio¢??s restrictions on firearms at the local and state level. Firearms for the researchers use would be any kind of weapon that firers a bullet. However, the word firearms will not include black prouder weapons. Depending on what county in Ohio you live in may lead to a restriction to be placed on your firearms. As you are driving from one city to another you may pass through a city with restrictions on firearms and not even know it. This project will attempt to capture the legal differences between local and state laws on firearms and will especially focus on how these restrictions may affect driving through potential communities with restrictions stricter than actual state restrictions. Even though the state of Ohio has no firearm bans; you can still get charge for driving through a local city that has a ban on firearms. Can local firearm laws be stricter than actual state firearm laws? This becomes very important to all firearm owners in the state of Ohio. Every Ohioan who owns a firearm needs to know the laws surrounding firearms at the local and state level for their own protection; therefore, citizens can use this project to educate themselves about this situation. The researcher will conduct Interviews by email with public officials about firearm policies, their local restrictions, and state restrictions; the researcher will email: chiefs of police, Ohio's congress representative, email to Ohio Supreme Court, and email local mayors.

### Envisioning a Sustainable Dayton: Lessons from Austria, Moldova, the Danube Delta and Pittsburgh, PA

Mechanical & Aerospace Engineering 9:00 AM-10:00 AM Kennedy Union - 211 Oral Presentation, Independent Research

Advisor(s): Kevin P Hallinan Student(s): Adam J Ferguson

As Dayton, the United States and the world face new energy and environmental challenges, many cite the advances in sustainability made by European countries as models for the U.S.; yet, such ideas and technologies have so far struggled finding a place here. In this presentation I share my experiences studying sustainability during a U.D. program in Austria, Moldova and Romania and while interning at Sustainable Pittsburgh. This nonprofit organization aims to make Pittsburgh businesses and communities more sustainable by providing solutions that integrate economic prosperity, social equity and environmental quality. My experience in Pittsburgh, an internship made possible by the School of Engineering's Learn, Lead and Serve Fund Grant, includes the implementation of a new Sustainable Business Designation for the downtown districts in Pittsburgh's surrounding boroughs. These experiences combine to offer insights into why sustainability in the U.S. might lag that of Europe and how models from Europe must be adjusted for mainstream America. Finally, I use these lessons to begin thinking about a more sustainable Dayton region, specifically a leading organization for the effort.

#### The Impact of Conceal Carry Permits on Crime

Criminal Justice Program 9:00 AM-10:00 AM Oral Presentation, Senior/Capstone Project St. Joseph's Hall - 023

## **MORNING PRESENTATIONS**

Advisor(s): Jeremy S Forbis, Arthur J Jipson

Student(s): Kevin P O'Bryan

This research project will examine the process by which individuals apply for and obtain conceal carry firearm permits. It will relate to the United States as a whole and will examine the issue from a legal and constitutional perspective. The importance of granting individuals the right to carry firearms will be investigated as part of the cultural foundation of this practice. The project will also attempt to ascertain whether or not the issuance of conceal carry permits has an effect on criminal acts. Possible negative consequences of allowing individuals to conceal and carry firearms will also be recognized and considered.

#### Africa Immersion and the University of Dayton Vision of Excellence

Panel Discussion, Independent Research

9:00 AM-10:30 AM Kennedy Union - 312

Advisor(s): Julius A Amin

Student(s): Frances D Albanese, Jill C Bucaro, Jessica R Hanley, Bernard D Jones, Jon B Warford

During the last decade the University of Dayton has undertaken immersion programs in Africa, and this session places those programs within the broader context of the University's Vision of Excellence Statement and Mission with hopes of showing that immersion is an integrated aspect of UD's education. Participants on the panel use their personal experiences to examine the challenges, promise, and impact of immersion programs on their education at UD, and the new directions created as a result of their participation in immersion programs.

#### Current Topics in Global Governance #1: Human Rights Issues Today

Political Science 9:00 AM-10:30 AM Oral Presentation, Course Project, 11 SP POL 406 01 Marianist Hall Learning Space - 217

Advisor(s): Margaret P Karns

Student(s): Mary E Aggazio, Kathryn A Akin, Kyle P Beatty, William B Blakeley, Sara M Green, McLean I Johnson, Ann C Keefer, Sarah L Pagenstecher, Veronica L Paulson, Andrew J Shaffer, Leeza E Tokar, Michael J Veselik

This session includes papers on a variety of contemporary human rights issues and the challenges for global governance that they pose. Topics include the International Criminal Court and Uganda; human trafficking; UN Peacekeepers and Sexual Violence in the DR Congo; Refugees in the Sudan; child soldiers in Africa; the evolution of the norm of Responsibility to Protect; humanitarian intervention in Haiti; discrimination against women; and organ trafficking. The presentations are based on research projects for POL 406- International Law and Organization.

#### Globalization and Its Discontents

**Economics & Finance** 9:00 AM-5:00 PM Oral Presentation, Senior/Capstone Project Miriam Hall - 109

Advisor(s): Barbara H John

Student(s): John T Allen, Eric M Allison, Anne E Arezina, Paul M Azzi, Nicole F Baeder, Bradley J Baracz, Mallory C Barnes, Melinda N Beauchamp, Andrea M Broge, Kelly L Coakley, Andre B Crawford, Sean M Cunningham, Philip A Deboer, Benjamin J Domyancic, Joseph J Dona

Globalization is a process, arousing passions but also reasoned analysis of its benefits and costs. Detractors cite exacerbations in income gaps; Fans cite improvements in productivity if not standards of living. Economic repercussions aside, globalization is also a process than endangers the sovereignty of nation-states, the organizing premise of the modern political landscape. This series of 63 five minute vignettes will explore the many facets of globalization, pro and con.

### **Visual Identity: Visual Personality in a Distinct Corporate Culture**

Visual Arts 9:00 AM-5:00 PM Visual Arts Exhibition, Senior/Capstone Project Kennedy Union - Torch Lounge Advisor(s): Jayne M Whitaker

Student(s): David K Allison, Collin T Arnold, Matthew J Bidwell, Kaitlin C Burt, Teresa L Craze, Kristen E Dailey, Lucy A Debevec, Kelsey E Fagan, Ashley L Fithen, Chelsea J Gray, Kellaina A Grote, Jerika S Hartley, Brenda M Heitkamp, Judd V Hopkins, Kathleen M Hrova

A corporate identity is the visual identity or personality of a corporation that is designed to meet business objectives. It is most often manifested by way of branding and the use of trademarks and comes into being when there is a common ownership of an organizational philosophy that is manifested in to a distinct corporate culture. Students in the senior level Graphic Design III course were assigned a semester long project where they were required to research, invent, name, and create a trademark (logo, logotype and/or mark) for a hypothetical business. Each of the companies was required to represent a fresh new innovative approach to the production of a qualitative product and/or service. The students were also required to create their fictional company within a well-rooted environmentally conscious and sustainable venue, an approach that would have to be maintained throughout the creation of the identity system. The student projects displayed each reflect a hypothetical company that is entrepreneurial in its approach to product, service and promotion. Each of the visual identity systems demonstrate a student's own developmental research regarding their company product, name, competition, copyright, materials, etc., as well as a sampling of their extensive written and visual development of the company trademark and its coordinating business collateral which together form a visual identity system.

#### Examining Human Rights Violations and The Implications For Women

Political Science

9:30 AM-10:00 AM

Oral Presentation, Course Project, 11\_SP\_POL\_334\_01

St. Joseph's Hall - 013

Advisor(s): Mark Ensalaco

Student(s): Bethanie G Joseph, Katarina A Lucas, Meryl C Makielski, Kristen J Sapyta, Samantha L Tsuleff

The research consists of an executive summary-- giving an overview of the facts, the relevant law and the recommendations already given to address human rights violations affecting women. The factual background information will then allow us to analyze the problem and explain the causes of that particular problem through examination of sources such as NGO and UN reports. These human rights violations will be discussed in the context of international human rights law or international humanitarian law conventions. To conclude, the culmination of our research will be produced in a list of recommendations addressing human rights violations as they relate to women.

#### **Gendered Representations through News Media**

Communication

9:30 AM-10:00 AM

Oral Presentation, Independent Research

Marianist Hall Learning Space - Commons

Advisor(s): Teresa L Thompson

Student(s): Christina M Chaffin

Television and radio news reflect messages about women and men throughout the culture. Using words and phrases, media have a way of persuading viewers and listeners by labeling men and women. By focusing on how news persuades societies with gendered messages, a training kit was created to explain how cultures are impacted by media. The presentation will show how gender is discussed in media and how society reflects those messages.

## New Hardware Design For Projectors That Incorporates Human Visual System

Electrical & Computer Engineering

9:30 AM-10:00 AM

Oral Presentation, Graduate Research

Kennedy Union - 207

Advisor(s): Keigo Hirakawa

Student(s): Mahesh Kumar Singh Thakur

Color video projectors take advantage of the property of the human visual system to blur what it sees over time. A fast moving color wheel, for example, switches colors fast enough for the eye to see. The main problem with the color wheel design is that whenever the projected video has fast movements, our eyes see rainbow artifacts (flickering of colors). The objective of this design is to minimize the error that can be detected by human visual system. The error can be modeled by analyzing the human visual system and reinterpreting that by signal processing theory. When an image or video is projected it mainly has two components, chrominance and luminance. The chrominance is color factor and luminance

## **MORNING PRESENTATIONS**

is brightness factor. By using different tools for signal processing like amplitude modulation, removal of aliasing artifact and modulating chrominance component at high frequency can effectively model what we expect human eye to see. By this analysis, what human visual system sees can be understood as the amplitude modulated chrominance component which is passed through low pass filter. To project an image or video properly, the chrominance component should be modulated at higher frequency. This allowed us to eliminate aliasing. By using these tools the flickering of colors is removed from the projector.

### Say Cheese: The Effect of Dental Appearance on Self Esteem, Sociability, and **Employability**

Sociology, Anthropology, and Social Work Oral Presentation, Senior/Capstone Project

9:30 AM-10:00 AM St. Joseph's Hall - 025

Advisor(s): Shawn A Cassiman, H F Pestello

Student(s): Kathryn M White

Oral health is such a major part of our appearance and many lower income individuals cannot afford adequate care. They therefore encounter trouble when trying to find employment, make friends, or date and they also experience lowered self esteems. Bad oral health deprives people of much needed social capital. The purpose of this study is to determine the effects that poor dental appearance has on an individual's self concept and social functioning. Participants in this study were new patients at a dental clinic that provides oral healthcare to impoverished individuals. Participants completed a survey that measured their perceptions of how dental appearance affects their general self esteem, social interactions, and employment opportunities. Demographic information was also elicited from the survey in an effort to provide the clinic with necessary data for research and funding.

#### AFPAK Strategic Assessment: Evolution of U.S. Strategy and Recommendations for Future **Operations**

Political Science

10:00 AM-10:30 AM Kennedy Union - 211

Oral Presentation, Course Project, 11 SP POL 452 01

Advisor(s): Mark Ensalaco

Student(s): Darlin Blanco-Lozano, Courtney D Harchaoui, Kevin P Kane, Jeffrey B Nagel, James R Saywell,

Andrew S Zemany

As the conflict enters its tenth year, our working group has prepared a comprehensive report on current U.S. counter-insurgency and counterterrorism operations and related non-military nation-building and democracy promotion activities in Afghanistan and Pakistan. In this report, we will draw on a wide range of open sources (e.g., news coverage, official US and NATO documents, congressional testimony, presidential statements and reports of other nongovernmental organizations) in order to provide recommendations relating to the announced drawdown of U.S. combat forces from Afghanistan and future counter-terrorism operations in the region. Specifically, we will: ---Define U.S. national security interests in Afghanistan and Pakistan. ---Review the evolution of U.S. strategy during the Bush administration and the first two years of the Obama administration. --- Assess the current strategy with a view of its effectiveness and the challenges relating to its long-term prospects for success. --- Assess whether U.S. involvement in the AFPAK conflict remains justified in light of the principles of Just War Theory.

#### Clinton Global Initiative University (CGIU): The Future of Student Activism

Fitz Center for Leadership in Community

10:00 AM-10:30 AM LTC - Studio

Oral Presentation, Independent Research

Advisor(s): Donald A Vermillion Student(s): Andrew L Formentini

The Clinton Global Initiative University was created in 2007 by former President Clinton. His goal is to help mobilize college students, professors. administrators and non-profit professionals to discuss solutions and commit to action in the following focus areas: education, environment and climate change, peace and human rights, poverty alleviation, and public health. On behalf of the University of Dayton's Fitz Center for Leadership in Community, I attended the 2010 conference in Miami, Florida. My presentation will focus on my rewarding experience at the conference, my commitment to action in Dayton and how CGIU's mission aligns with UD's motto of "Learn, Lead and Serve".

#### Compositional style changes in four composers.

Music 10:00 AM-10:30 AM Performance, Honors Thesis LTC - TeamSpace

Advisor(s): Paul E Street

Student(s): Eunice O Awonuga

This research was on the compositional style of four composers Johann Sebastian Bach, Wolfgang Amadeus Mozart, Ludwig Van Beethoven and Frederick Chopin using specific piano compositions by these composers. OBJECTIVESThe purpose of this research is to identify the characteristics of the music of these composers that helped to establish or strengthen the foundation of the music period they represent. METHODI studied these compositional styles using a specific music by each composer. RESULTSBach-His music involves layering of two or more voices.—Harmonically interdependent melodies mostly in counterpoint music. —He uses unpredictable leaps intervals.—He employs clear articulated schemes for modulation. Mozart-He uses simple direct melodies.—A significant portion of his music contains a short musical phrase.—He uses alberti bass in a number of his music. Beethoven-He extended musical themes, this was an expansion of the traditional form.—He used forceful and marked rhythmic patterns in most of his compositions.—He created an entirely new expression and feeling with his music. Chopin-He explored the use of the characteristics of folk music styles.—His harmony shows flexibility and freedom of voices.—The texture of his music is mostly melody plus rich and varied accompaniment. CONCLUSION-J. S Bach: He helped to establish the foundation of baroque music, the basso continuo, figured bass, the forward driven melody and terraced dynamics.—W.A Mozart: He used all the forms and styles of the classical period in his compositions at a very high level and expanded the form of piano concertos.—L. V Beethoven: He composed with program titles and themes. He added an additional movement to his sonata, expanded the range of classical music and was a gateway to the romantic music styles.—F. Chopin: He created major innovations to the piano sonata, mazurka, waltz, nocturne, polonaise, etude, impromptu and prelude.

#### **Executive Summary of Human Rights Violations Relevant to Genocide**

Political Science 10:00 AM-10:30 AM Oral Presentation, Course Project, 11\_SP\_POL\_334\_01 St. Joseph's Hall - 013

Advisor(s): Mark Ensalaco

Student(s): Timothy J Finnigan, Theresa M Goodwillie, Kathleen E Jipson

As a working group, we have researched and complied an executive summary of the facts and laws relevant to human rights violations in regards to genocide. Our report will include the history and details associated with the crime of genocide and our informed recommendation for effectively addressing the crime.

### The Mediating Body: Louis-Marie Chauvet and the Depths of Corporality

Religious Studies 10:00 AM-10:30 AM
Oral Presentation, Graduate Research Kennedy Union - 311

Advisor(s): William Portier Student(s): Timothy R Gabrielli

This presentation invites listeners to reflect upon the nature and import of the body. We stand in an age that engenders in us an interesting consideration of bodies. Often a temptation throughout history—from the Gnostics to the Cathars—escaping our bodies has been a real possibility in our contemporary globalized, techno age—from Second Life to Google Earth. Yet, the very same context has led some scholars to emphasize the import of the body as, for example, a foundation for human rights or as an indicator of our evolution into social creatures. Christian theology, because of its emphasis on God made flesh in Christ and on the sacramental character of fleshy things, has a clear stake in the fate of the body. This research, supported by a Graduate School Summer Fellowship, examines Catholic theologian Louis–Marie Chauvet's key category of—corporality—in the context of his sacramental re–reading of Christian existence. For Chauvet, corporality is not limited to our physical bodies, but extends across our entire human existence. Our bodiliness as human beings is so extensive that we are necessarily situated in a culture, in history, and within the entire cosmos. This triple-body constitutes "the law of mediation"—that to live as a human being is necessarily to live without pure transparency. Our knowledge of others, our world, ourselves, and our God is necessarily run through our corporality. Chauvet's relentless emphasis on embodi-

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ment is a helpful clarification and exhortation in our contemporary context. The implications of Chauvet's work expose the impulse to flee the body--"the temptation to immediacy"--as precisely a temptation to flee our humanity, so that insofar as we denigrate or neglect the bodiliness of our existence, we become less human.

#### The Value of Diversity in America and how it Impacts Education

Sociology, Anthropology, and Social Work 10:00 AM-10:30 AM
Oral Presentation, Senior/Capstone Project St. Joseph's Hall - 025

Advisor(s): H F Pestello Student(s): Amy M Mullen

As colleges around America are pushing to increase diversity and diverse interactions on campus, the question of the general value of diversity among Americans is unanswered. It has been shown that diversity in schools can positively effect ones education making their experiences in college more like our pluralistic and diverse world. Still the impact of diversity on the general public is unclear. I wanted to see if people across the country are aware of the importance of diversity and its beneficial effects on education. This research will address this question with data obtained from a study done in 2003, entitled the American Mosaic Survey. The data allows for the exploration of the publics definition of diversity and its value in their lives.

#### Civilian Corrections and Military Corrections: What Can We Learn From Their Processes

Criminal Justice Program

Oral Presentation, Senior/Capstone Project

10:00 AM-11:00 AM

St. Joseph's Hall - 023

Advisor(s): Timothy F Apolito, Arthur J Jipson

Student(s): Lucas D Pace

In the world today, many people try to understand the United States Corrections Program. To some, there are problems within corrections and many questions are asked such as "Why do we allot money to a system that does not aid in the correction of the offender" and "Does this system really work?" On the other hand, there are people that feel it is getting the job done. In a different perspective, the United States Military has a correction system of its own. Utilized to enforce punishments of military offenders, as well as war criminals and those committed of terrorism, military corrections has a different type of system established in order to enforce the punishment bestowed upon the convicted offenders. Using both models, I will look at how both the civilian side and the military side operate in order to discover if one may be able to aid the other by presenting different ideas, theories, and operations. By doing this, possible solutions to problems currently in both system will be presented and can be suggested for further research. Utilizing Reservist soldiers who have served in both military corrections and civilian corrections will prove to be an outstanding source for information.

### Creative, Analytic, and Visual Engagements with Literature: Honors Theses in English

English 10:00 AM-11:00 AM
Oral Presentation, Honors Thesis Kennedy Union - 310

Advisor(s): Sheila H Hughes, Stephen W Wilhoit

Student(s): Sonya L Bilocerkowycz, Brittany A Cook, Joanna M Pfahler

"The Body as a Compass: A Cultural and Psychoanalytic Interpretation of Paule Marshall's Praisesong for the Widow and The Timeless Place, the Chosen People." by Joanna Pfahler (advisor: Sheila Hassell Hughes) argue that the novels represent a connection between the mind's repressed memories and the body's role in recovering those memories. Linking the novels to sources of psychoanalysis, Black feminist theories and literary criticism, I address how African American women may repress aspects of their African heritage because of pressure to conform to middle-class, white standards in the United States." Once I Was Hollow" by Brittany Cook (advisor: Stephen Wilhoit) My hope for this thesis was to create an arena in which visual art and creative writing could be viewed as a unified aesthetic encounter. To couple creative writing with visual art, I paid careful attention to what connotation I intended to convey in each written sentence and then re-created that connotation using visual art. Brought together, my creative writing and visual art present a possible glimpse of what a unified aesthetic encounter can offer. "They Suffer Most': An Examination of Literary Analysis and Creative Fiction" by Sonya Bilocerkowycz (advisor: Stephen Wilhoit) It is a hybrid project consisting primarily of my original creative fiction, literary analysis, and craft criticism. My 14,000 word novella, entitled 'They Suffer Most,' explores themes of religious

belief, disbelief and disease in two characters, a father and his daughter. The literary analysis provides a comparative study of Flannery O'Connor's Wise Blood and Graham Greene's <The End of the Affair>, while tracing the thematic patterns that inform 'They Suffer Most.'

#### Prisionization: A Study of the Problems in Rehabilitation

Criminal Justice Program 10:00 AM-11:00 AM
Oral Presentation, Senior/Capstone Project St. Joseph's Hall - 023

Advisor(s): Dorie M Farrell, Arthur J Jipson

Student(s): Jeffrey T Nicodemus

This project is an examination of the pitfalls of the criminal rehabilitation process in the United States. The goal of which, being to determine logical solutions for recidivism. Research will be composed of literature reviews, interviews, and surveys of individuals connected to the rehabilitation process, aimed at distinguishing the effect of several criminological theories on recidivism.

#### A field electron emission study of carbon nanotubes grown on carbon fabrics

Chemical & Materials Engineering 10:30 AM-11:00 AM
Oral Presentation, Graduate Research Kennedy Union - 207

Advisor(s): Khalid Lafdi Student(s): Lin Ding

It has been shown that carbon nanotube (CNT) arrays exhibit outstanding field emission properties comparing with equivalent metal tips due to their inertness and stability for long-period operation. CNT arrays also offer low threshold voltage for cold field emission, and less power requirement. Multi-walled CNTs were successfully grown on conductive carbon fabrics by chemical vapor deposition (CVD). The enhancement factors of CNT arrays on field emission properties were measured in a high vacuum chamber. The field emission current density dependencies of electric field with and without CNT arrays on carbon fabrics were recorded. We have proved that as the number of CNT increases, the field emission characteristics are also improved. Specifically, the field enhancement factor was 6 times higher with 73% of carbon nanotube coverage.

#### American Street Gangs: Who's Joining and Why?

Sociology, Anthropology, and Social Work
Oral Presentation, Senior/Capstone Project
Advisor(s): Theophile J Majka, H F Pestello

10:30 AM-11:00 AM
St. Joseph's Hall - 025

Student(s): Matthew J Hammer

This research will build on previous research on American street gangs that was completed in 2010. The previous research showed that there were dense areas of street gang related activity in certain large cities. These cities include Los Angeles, Houston, Phoenix and Chicago. Additionally, this research showed a correlation between immigration and gang activity in these cities. The focus of this research will be on how and why this phenomenon happened. By examining case studies on gang activity that have been conducted, the researcher will look for themes and commonalities across the researches. This research seeks to provide an explanation as to why immigrant groups form street gangs. This research will also look a why immigrant youth would join gangs as opposed to more constructive and integrative activities.

# Faith and Reason: The Contemporary Significance of the 1930s Debate Concerning Christian Philosophy

Religious Studies 10:30 AM-11:00 AM
Oral Presentation, Graduate Research Kennedy Union - 311

Advisor(s): William Portier Student(s): Derek C Hatch

As one theologian has noted, the perceived understanding of the relationship between faith and reason is "a theme that has been a staple of Western theology since at least the time of Augustine in the fourth century." Even in the twentieth century, this relationship has proven fruitful for contemporary thinkers as they reflect on the nature of institutions that structure aspects of daily existence (e.g., churches, government, even colleges and universities). Related to the faith/reason question is the relationship between philosophy and faith. That is, in what ways can

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and should faith inform philosophical discourse, and to what extent does faith welcome and even presuppose some elements of philosophical inquiry? In the 1930s, such queries were approached by numerous theologians and philosophers who offered arguments concerning the question of whether Christian philosophy existed, and if so, what constituted its scope. This paper, which is based on a 2010 Summer Research Fellowship, aims to describe the contours of the 1930s debate, identifying the key figures (including but not limited to Emile Brehier, Etienne Gilson, and Maurice Blondel) and the prominent positions emerging from this conversation. Moreover, it will explore the significance of the debate concerning Christian philosophy for contemporary reflection on the relationship between faith and reason.

#### Female Genital Cutting: A Human Rights Issue?

Political Science 10:30 AM-11:00 AM Oral Presentation, Course Project, 11\_SP\_POL\_334\_01 St. Joseph's Hall - 013

Advisor(s): Mark Ensalaco

Student(s): William B Blakeley, Bernadette K Madden, Aaron P Rohrer, Marie C Wetzel

Analyzing the use of female genital cutting, we will identify the different methods and discuss whether it is the right of the family or community to perform the act or if it is a violation of human rights to perform the surgery on a non-consenting girl. To understand the structural problem, we must understand the context of the issue. Opposing sides of the female cutting argument will be considered in the pursuit of understanding this issue in terms of human rights and violations.

#### Is the type too small?: Accessibility in Graphic Design

Visual Arts 10:30 AM-11:00 AM
Oral Presentation, Independent Research LTC - Forum

Advisor(s): Suki Kwon

Student(s): Elizabeth A Kelly, Courtney A Morgan

How often have you found it difficult to read a web page or a brochure? Is the type too small? Are the colors hard to differentiate? For many people this is an every day struggle that is rarely addressed. This is an occurring issue that affects the young, the old, the disabled, and our university. Under Section 508, Federal agencies must make their electronic and information technology accessible to people with disabilities. Join us for a presentation to learn how we can address accessibility issues within our everyday design.

### Operations Management Capstone Projects - Part 1 (of 3)

MIS, OM, & Decision Sciences

10:30 AM-11:30 AM
Oral Presentation, Senior/Capstone Project

Miriam Hall - 104

Advisor(s): Michael F Gorman, John J Kanet

Student(s): Alex M Henderson, Christine E Jasek, Brendan C Lacey, James A Merlo, Anastasia L Nunn, Corinne D O'Grady, Robert P Plucis, Eric J Schroeder, Caitlyn R Sweeney

This is Part 1 of a three part set of presentations highlighting senior OPS student consulting projects with regional industry. Presentations for this part include: 1. Emergency Department Arrival Forecasting at Good Samaritan Hospital (Jasek, Nunn); 2. Leveling and Standardizing the Receiving Process at Delphi Thermal Logistics (Merlo, Sweeney); 3. Make vs. Buy Analysis at Johnson Electric (Lacey, O'Grady, Henderson); 4. Inventory Rationalization at Dayton Power and Light (Plucis, Schroeder).

### O'Reilly Hall: Administrative Center and Art Space

Visual Arts 10:30 AM-11:30 AM
Oral Presentation, Course Project, 11\_SP\_VAH\_490\_06 O'Reilly Hall - Conference Room

Advisor(s): Roger J Crum Student(s): Lawrence A Kraus

O'Reilly Hall is located at the center of UD's campus where it houses the offices of the College of Arts and Sciences as well as the ROTC facilities. In addition to its administrative functions, the building has served on occasion in recent years for the temporary display of art and curated exhibitions. It does so, however, under less than ideal circumstances, for the arrangement of walls, the presence of necessary office furniture and

equipment, and the daily patterns of business were never envisioned as providing the setting for artistic display. My project has been to design speculative modifications to the architecture and interior appointments of the building so that O'Reilly Hall might in theory function more effectively and read more cohesively as a quality architectural space for the display of art as well as for times when there is no art displayed in the structure. In this presentation I will propose two different renovations: a minimalist approach and a maximalist approach to a re-designed O'Reilly Hall as administrative center and art space.

#### The Sophomore Entrepreneurship Experience

Crotty Center for Entrepreneurial Leadership Oral Presentation, Course Project, 11 SP MGT 221 01 10:30 AM-11:30 AM Miriam Hall - 103

Advisor(s): Robert F Chelle

Student(s): Joseph C Clinton, Allison J Coppin, Colleen A Feist, Miles T Grundy, Michael L Hermes, Craig R Houseknecht, Winston E Imwalle, Peter J Schweers, Kelsie E Scudder, Merideth R Snead, Matthew S Walters

The presentation will be by students from the first two courses in the Entrepreneurship curriculum. The Sophomore Entrepreneurship Experience. These two linked courses are designed to immerse Entrepreneurship majors into the dynamics of starting and running a micro-business. They focus on identifying market need, determining the financial viability of a business venture to meet that need, and marshalling resources (among them, sales, marketing, financial, human, technical and motivational) to launch and operate a micro-business. The course is coordinated through the Crotty Center for Entrepreneurial Leadership.In general, these two courses introduce a sophomore majoring in Entrepreneurship to most of the basic functional areas of running a small business through the creation, planning, operating, and closing or harvesting of a micro-business.

#### **TOMS Shoes Market Segmentation**

Management & Marketing Oral Presentation, Senior/Capstone Project 10:30 AM-11:30 AM Miriam Hall - 101

Advisor(s): William F Lewis

Student(s): Alex J Johnson, Julia C Keller, Catherine E Kelly, Brady R McDonough, Travis K Neville

TOMS Shoes Market Segmentation project presents the entire market segmentation process as follows: Market Situation Analysis, including History of Industry, Company, Competition, and Brands, Current industry Sales, Market Shares, and Brands, Current Newsworthy Items, Forecasts for the Industry, Competitors, Company, and Brands, Consumer Market Segmentation Process, Life-Style, Demographics, Geographics, Geodemographics, Behavioral and Product Related Consumer Characteristics, VALS 2, PRIZM Cluster Profiles, PRIZM Life Stage Groups, PRIZM Social Groups, PRIZM Cluster Lifestage Groups and Social Groups, Consumer Benefit Segmentation, Benefits Offered by Brand, Benefits Sought by market Segment, Target Market Discovery Grid, The Benefit Chain, Market Segment Overlap, Product Positioning Perceptual Map, Market Size and Sales Potential, Consumer Decision Process Model, Defining Consumer Problems, Marketing Mix Solutions, and Strategic Growth Opportunity Matrix.

### Current Topics in Global Governance #2: Security, Environmental, and Development Challenges Today

Political Science 10:30 AM-12:00 PM Oral Presentation, Course Project, 11 SP POL 406 01 Marianist Hall Learning Space - 217

Advisor(s): Margaret P Karns

Student(s): Allison R Due, Joseph K Gruber, Anne M Jagielski, McLean I Johnson, Meryl C Makielski, Joseph M McAndrew, Kristen J Sapyta, Lauren A Simcic, Chris W Smith, True C Sulier, Emily Van Leeuwen

This session includes papers on a variety of contemporary security, environmental, and development issues and the challenges for global and regional governance that they pose. Topics include the right to development in Latin America; rising sea levels; AIDS as a threat to security; Transboundary water resource management and conflict resolution; microlending in wartorn countries; failed and failing states; internet governance; European Union enlargement: and Somali piracy. The presentations are based on research projects for POL 406--International Law and Organization.

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## **Dayton's Global Immigrant History**

History 10:30 AM-12:00 PM Oral Presentation, Course Project, 11\_SP\_HST\_378\_H1 Marianist Hall Learning Space - Commons

Advisor(s): Caroline W Merithew

Student(s): Catherine N Bigoness, Stacey A Buckman, Michael J Cermak, Paige N Charbat, Rebecca G Corbin-Gehron, Lindsey E Cummings, Mary E Felton, Ian T Freeman, Lauren R Gallagher, Andrea L Hennel, Molly K Hobbs, Clare O Hubbard, Tyler P Huelsman, Daniel R Hughes, Stephen R Koehler, Aimee M Madliger, Colin T McGrath, Carey E Peters, Katherine B Repic, Megan A Slayback

Immigration history, a subfield of social history, relies on the life stories of individuals who moved across national boundaries to build an accurate historical narrative. In the late twentieth century, a diverse group of immigrants settled in Dayton, Ohio (and its vicinity). Various factors pushed and pulled these immigrants to our community. In this presentation, students focus on Dayton's immigrants by reporting on and analyzing the oral interviews the class conducted of these "settlers" to better understand immigration history and multi ethnic community issues.

#### **Photography Capstone Projects**

Visual Arts 10:30 AM-12:00 PM Oral Presentation, Senior/Capstone Project ArtStreet - Studio B

Advisor(s): Joel A Whitaker

Student(s): Annamarie P Bogusz, Hillary A Cutter, Darcy C Heine, Crista A Kling, Christine D Zuercher

This Stander Symposium presentation is the final part of a capstone course required for all photography majors. This capstone examines the aesthetic, cultural, ethical, and pragmatic issues relating to photography through the production of a portfolio of professional guality photographs that address a self-defined and self-directed project. In addition to the photographic work, assigned readings and related written components associated with these readings, build practical and conceptual skills that contribute to the production of this portfolio and the final oral presentation on the students project.

### **Twenty First Century Music for Saxophone Quartet**

10:30 AM-12:00 PM Performance, Course Project, 11 SP MUS 390 08 Sears Recital Hall

Advisor(s): Willie L Morris

Student(s): Samuel C Day, Kristina L Demichele, Melvin R Files, Lyndsay J Hoying, Robyn L Kammer, Fiona B McGowan, Matthew S Schroeder

The First Flight Saxophone Quartet and the University Saxophone Quarttet will be performing music recently written for the saxophone quartet. This music features the unique sonorities, extended ranges, and one of a kind techniques that are possible only on the saxophone. The compositions were each written rencently and are considered some of the most challenging literature for the saxophone quartet. The First Flight Saxophone Quartet and the University Saxophone Quartet performed some of this music in January at the 2011 International Saxophone Symposium in Washington, DC and again in March at the 2011 North American Saxophone Alliance Region V Conference in Chicago, IL.

#### Defective proventriculus (dve), a new member of DV patterning in the eye.

11:00 AM-11:20 AM Biology Oral Presentation, Graduate Research Kennedy Union - 211

Advisor(s): Amit Singh

Student(s): Oorvashi Roy Gajendranath Puli

Axial patterning is crucial to eye development. During eye development, Dorso-ventral (DV) axis determination is the first lineage restriction event. The early eye primordium begins with the default ventral fate on which the dorsal eye fate is established by expression of GATA-1 transcription factor, pannier (pnr). Loss-of-Function (LOF) of pnr results in dorsal eve enlargements and antennal duplications in adult flies. We found similar phenotypes in LOF of defective proventriculus (dve). dve encodes a homeobox protein which is a target of decapentaplegic (dpp) and

wingless (wg) signaling. The Gain-Of-Function (GOF) of dve results in suppression of Retinal Determination (RD) genes and thereby leads to the loss of eye. Based on our studies we found that Dve plays an important role during eye development. Dve expression domain in the eye imaginal disc localizes to a small region anterior to the Morphogenetic Furrow (MF) on the dorsal eve margin. This expression domain of Dve also overlaps with Wingless (Wq), which is present at the lateral margins of the developing eye disc. Here we present genetic interactions of Dve and Wq and their role during eye development.

#### Are We Teaching Children to Engage in Sexual Behaviour?

Sociology, Anthropology, and Social Work Oral Presentation, Senior/Capstone Project

11:00 AM-11:30 AM St. Joseph's Hall - 025

Advisor(s): H F Pestello

Student(s): Amanda I Cowdrey

Sex education is on the rise in American society. A central question is the effectiveness of teaching children safe and responsible sex practices. The question that goes through everyone's mind is which option to choose; comprehensive sexual education or abstinence only programs. In light of this question, the research that is being done will focus on which program is more effective in getting the message about safe sex across to these children and teenagers. Using survey data, the researcher will examine the effectiveness of sex education programs while looking at the evidence between the two programs and the parental attitudes. This study will provide a better understanding of both sex education programs and their effectiveness.

#### Education, Technology, and Scholarship: From Concept to Study

**Teacher Education** 11:00 AM-11:30 AM Oral Presentation, Graduate Research LTC - TeamSpace

Advisor(s): Joseph L Watras Student(s): Russell A Thomas

A year has passed since I first introduced my dissertation plans at the 2010 Stander Symposium. The presentation entitled: Education, Technology, and Scholarship: Transforming the Practice of Education through Semantics, laid the conceptual groundwork in my efforts to get at the heart of what ails education's struggles with technological advancement. Last year's presentation introduced the dualistic understanding of technology that plaques education, the critical role that scholarship has had in its dissemination, and concluded with a consideration for the development of a supporting study and an interactive, web-based portal environment. This year's presentation will give new light to these earlier considerations, as well as unveil the detailed designs of the previously mentioned study and portal. I look forward to introducing the sequential exploratory mixed methods study that will allow for an initial qualitative examination of the ways in which our most-cited educational scholarship expresses an understanding of technology and the following quantitative analysis of how these views are propagated through reference. In addition to this, I will introduce the Scholartech.org portal environment designed to bring together others who share my interests in better understanding the intersection of education, technology, and scholarship and who wish to discuss them in light of today's rapidly evolving educational technology environment. I cannot satisfactorily express my gratitude to the Stander Symposium for giving me an annual opportunity to introduce and update my studies in this field.

### John Nevin's "Eccentric" Mercersburg Theology: Incarnational Theology in the "New Order of the Ages"

**Religious Studies** 11:00 AM-11:30 AM Oral Presentation, Graduate Research Kennedy Union - 311

Advisor(s): William Portier Student(s): Andrew D Black

John W. Nevin is known to students of American religious history as the primary author of the nineteenth-century "Mercersburg Theology," which historian Sydney Ahlstrom described as the "outstanding example of the 'catholic tendency' in American Protestantism." In recent decades there have been a number of signs of a catholic tendency in segments of both academic and popular Protestant theology. Nevin is therefore a timely subject for historical and constructive theological study. This presentation, based on a chapter from my dissertation, will briefly introduce Nevin

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and place him in the context of the antebellum United States. Next, I will give an overview of the Mercersburg Theology by examining four texts written by Nevin during the 1840s: The Anxious Bench (1843), "Catholic Unity" (1844), Mystical Presence: A Vindication of the Reformed Doctrine of the Lord's Supper (1846) and Antichrist: The Spirit of Sect and Schism (1848). I will describe these texts and give sense of their diachronic development (i.e., how the problem identified in The Anxious Bench led to remedies outlined in subsequent works, and, finally, to the heated polemics of Antichrist). Then, I will clarify the consistent theological principles that can be traced through all these works (i.e., an emphasis on the Incarnation as the fundamental "fact" of Christian faith). The conclusion claims that Nevin and the Mercersburg Theology can be helpfully described as "eccentric." First, Nevin became an eccentric American in the colloquial sense of different or peculiar because he came to hold convictions that seemed dangerous, strange, or absurd to most American Protestants, Second, "eccentricity" says something important about the shape of Nevin's mature theological convictions--i.e., his emphasis on mystical union with the person of Jesus Christ and his stress on the Incarnation as the objective, external center of the Christian life and of human history.

#### Becoming Sustainable at UD: Insights from Environmental Leaders and Interactive Discussion

Religious Studies 11:00 AM-12:00 PM Panel Discussion, Course Project, 11 SP UDI 262 MP Kennedy Union - 331

Advisor(s): Leanne M Jablonski

Student(s): Shelby M Gerl, Brian G Lewis, Kathryn A Moran, Amy K Schultz

Practicing sustainability is very important in today's world, due to issues of global climate change, diminishing fossil fuels, and destruction of precious wild habitats. Alternatives need to be found before all is lost and it is too late to save our resources. Many UD students and facilities have wasteful practices, so our goal is to inform and motivate them to reduce their environmental impact on campus and in the world. In this session, the Exploring Sustainability, Energy and Environment(SEE)mini-course students will present our research on sustainable movements already happening on campus and analyze how we can improve. A panel of campus environmental leaders will participate by sharing what they do and then all will take part in an open dialogue with the audience. We interviewed members of sustainability and environment related organizations on campus and other key environmental leaders including The Rivers Institute, SEE Initiative, student environmental organizations, UD Environmental Sustainability manager, and famous environmentalist journalist Doug Fine. Each gave personal insights on becoming more sustainable including biggest difficulties, priorities and set-backs. They shared views on today's biggest environmental issues and what everyone could do to become more sustainable, and made specific suggestions for the University. We discovered that the largest pollution emission on campus comes from imported electricity and that 72% of all energy expenditures goes to heat water. Students can make large impacts on energy use by unplugging power cords when not in use, setting thermostats lower in the student neighborhood and taking shorter showers. Students need to know that sustainability isn't a fad, and that they can get involved in over ten SEE-related organizations, initiatives and academic programs on campus. Findings will be incorporated into the SEE Initiative and LLC websites and brochures to better inform current and prospective UD students about the need to live sustainably.

### Combating Terrorism Post 9/11: Inefficiencies in Ohio's Revised Code

Criminal Justice Program 11:00 AM-12:00 PM Oral Presentation, Senior/Capstone Project St. Joseph's Hall - 023

Advisor(s): Dorie M Farrell, Arthur J Jipson

Student(s): Sean P Redmond

The United States suffered great tragedy on September 11, 2001. The terrorist attacks that took place that day affected the lives of many Americans near and far from the victims. Since that tragic day, federal, state, and local law enforcement agencies have taken major steps to increase security at our nation's borders. The USA PATRIOT ACT, signed into law by President George W. Bush, in 2001, was the basis for reforming the nation's "War on Terrorism." Ohio was one of the first states in the U.S that used this act and revised their terrorism laws. With the revision of the terrorism laws in Ohio came controversy with their effectiveness. This research project will address the inefficiencies in Ohio's revised terrorism statutes and determine whether or not the increased emphasis on combating terrorism at the state level will help protect the U.S from future acts of terrorism.

#### Giving Birth and Colonization; A Visual Representation.

Visual Arts 11:00 AM-12:00 PM Visual Arts Exhibition, Course Project, 11\_SP\_VAR\_490\_02 ArtStreet - Studio C

Advisor(s) - Mary R Schoenhoff Student(s) - Darlin Blanco-Lozano

This project is an inquiry about the 'concepts' of 'ownership' and 'home' - both figuratively and literally. It stems from my interest in in colonization theory and theÃ? relationships humans develop with land they inhabit, the idea that they are 'natural' citizens of that territory. It is also inspired by the theories of french philosopher Jacques Lacan, who proposed the idea that every human being only feels complete when still attached to mother. Lacan proposed the idea that, after a newborn's umbilical cord is removed, a being might spend the rest of their life trying to fulfill that gap; the lack of completeness. The visual exploration in this project compares images of human-made scars on the physical body and the physical world. I draw parallels between the forms of the scars made on land and those made on the body. Scars represent the usage of an item. They are permanent physical marks, or remnants, that tell stories of the human desire to control and consume those things over which we conceive ownership.

## Life Outside of the University of Dayton Bubble: A Social Justice Living Learning Community Project

English 11:00 AM-12:00 PM
Oral Presentation, Course Project, 11 SP ENG 102 B2 Marianist Hall Learning Space - 218

Advisor(s): Meredith L Doench, William H Johnston, Monalisa M Mullins, Lori G Phillips-Young, Ethan D

Smith, Margaret M Strain, Tereza M Szeghi Dempster Student(s): Laura A Hoffacker, Kyle M Mills, Chris J Sale

Service Saturdays stand for Social, Enriching, Rewarding, Valuable, Inspiring, Community oriented, and Effective. This series of service experiences are coordinated through the University of Dayton Campus Ministry Organization. The Campus Ministry identifies organizations that need manpower assistance in the Greater Metropolitan Dayton area. We worked with St. Vincent DePaul, the Look-at-a-Book organization, Five Rivers MetroParks, and Compassion 1st Giving. The first Saturday we spent with St. Vincent de Paul which is a service organization that provides food and shelter to women and children. We fed a warm meal to around fifty singles and families in need. The Look-at-a-Book organization was an opportunity to sort age-appropriate books for distribution to all ages of emerging readers from babies to adults. The next Saturday we worked with Five Rivers MetroParks planting, weeding, and doing other actives to keep the parks, gardens, and arboretums in Dayton thriving, aesthetically pleasing, and well-kept. Compassion 1st Giving is a service organization that depends on volunteers to help sort through donations from the community of household items, clothing, bedding, personal care items, baby items, and school supplies. These donations go back to families in need in the community. Even though these were very different service learning experiences they were united in the similarity of serving the community and fulfilling the Marianist ideals of lead, learn, and serve. Our actions were influenced by our reading of Plato's The Cave with interest in the betterment of mankind. We also believe that we incorporated John Rawls' idea of social justice and fairness into the performance of our service.

### **Should Plea Bargaining be Abolished?**

Criminal Justice Program 11:00 AM-12:00 PM
Oral Presentation, Senior/Capstone Project St. Joseph's Hall - 023

Advisor(s): Timothy F Apolito, Arthur J Jipson

Student(s): Daniel T Welch

With this project the researcher will examine and analyze the history and process of plea-bargaining in the United States. The researcher will examine the reasons for the use of plea-bargaining as well as its effectiveness. The methodology for this research will be a multi-faceted approach incorporating official United States Sentencing statistics, scholarly articles and law reviews, interviews with several criminal defense attorneys as well as a federal inmate and the former Warren County Sheriff. Overall this project will explain plea-bargaining its effectiveness or ineffectiveness as well as possible options to improve or abolish plea-bargaining.

## **MORNING PRESENTATIONS**

# The Environment of Campus: The Past, Present and Future of Water Management and the University of Dayton

Biology 11:00 AM-12:00 PM Panel Discussion, Course Project, 11\_SP\_ASI\_345\_01 Science Center - 114

Advisor(s): Donald R Geiger, Jeffrey L Kavanaugh

Student(s): Andrew R Kowalski, Madeleine J Mullee, Nicole L Smith, Michael D Voellmecke

The value of water as an economic and environmental asset has become increasingly important throughout the world, specifically in our region and city. The potential outcomes of sustainable and innovative storm water practices would provide major economic, ecological and aesthetic benefits to the University of Dayton and its campus. Using multiple visual techniques, we will present the historical flow of water on campus compared to the current flow. We will address the present approach to water and run-off control, and present a sustainable and innovative vision of water management, citing specific methods and examples for the university's campus. We will also present our simple and practical design for immediate storm water mitigation for use in the Student Neighborhood on the Sustainability Special Interest houses for the 2011-2012 school year. The first half will involve the project presentation and the second half will be a panel discussion and forum involving students, faculty, staff and administrators about the issue of water management on campus.

#### Why Go? Benefits of Cultural Immersion: A Case Study in Zambia

Campus Ministry 11:00 AM-12:00 PM Video Presentation & Discussion, Independent Research Kennedy Union - 312

Advisor(s): Mary C Niebler Student(s): Jessica R Hanley

A cultural immersion trip to Zambia in the summer of 2010 opened my eyes to the numerous benefits of experiencing another culture and awakened my interest in the topic. I decided to use this trip as a case study to define specific benefits of programs like this and ways that educators can maximize these benefits. I created a video of my group's experience in Zambia which describes the culture there and how it affected those of us on the trip. I interviewed each group member and asked why they decided to go and what they learned while in Zambia. In order to support my findings based on the trip I also did research on similar studies. Many of the lessons learned by myself and my group members highlight benefits that are outlined by these studies. My research revealed that study abroad programs resulted in personal, educational and community benefits. As a result of these programs, students who participate have a greater sense of purpose in their lives, are able to thrive in culturally diverse environments, learn better because of hands-on experience, are better at problem-solving and overcoming challenges, and are more socially responsible. The second facet of my research involved understanding how educators can maximize benefits for students on this kind of trip. I concluded that cultural preparation, connection to curriculum, service involvement, and reflection are essential elements in helping students get the most out of their trip. These results can assist educators in arguing for the implementation of immersion trips in their schools as well as encourage students to participate. Although they can be costly, the benefits justify spending the money on immersion trips, and the strategies for maximizing benefits help to increase their worth.

### Role of an E3 ubiquitin ligase in ventral eye development in Drosophila melanogaster.

Biology 11:20 AM-11:40 AM
Oral Presentation, Graduate Research Kennedy Union - 211

Advisor(s): Amit Singh Student(s): Meghana Tare

During early eye development, axial patterning transforms a single sheet of organ primordium cells to a three-dimensional organ by generating Dorsal (D) -Ventral (V), Anterior (A)-Posterior (P) and Proximo (P)-distal (D) axes. Among these, Dorso-Ventral (D-V) axis generation is the first lineage event, which essentially requires a large number of eye specific proteins. Drosophila eye anlagen initiates with a ventral ground state on which the dorsal eye fate is established. Members of the Notch signaling pathway, Lobe (L) and Serrate (Ser), play an important role in ventral eye growth and development. Loss of function of L/Ser results in loss of ventral half of the eye. In a screen performed for the search of genetic modifiers of L, cullin-4 (cul-4) was identified as a suppressor of the L mutant phenotype. cul-4 encodes an E3 ubiquitin ligase - an enzyme that ligates

ubiquitin molecules to the protein targeted for degradation. We are trying to study possible role of cul-4 during the event of axial patterning to promote cell survival. We are studying genetic interactions between L and cul-4 to analyze their effect during eye development. We hypothesize that cul-4 possibly promotes cell survival in the ventral region of eye by targeting Wingless (Wg) for degradation. This study will help in discerning the importance of protein degradation and role of E3 Ubiquitin ligase as a possible axial patterning gene.

## Church and State: The Catholic Church and Abortion Legislation in the United States and Spain

History 11:30 AM-12:00 PM
Oral Presentation, Honors Thesis LTC - Forum

Advisor(s): Michael S Carter Student(s): Aubrey M Hartnett

The relationship between religious groups, specifically the Catholic Church, and civil society has developed in interesting ways in the United States and Spain. With a focus on Massachusetts and AndalucÄa in these two countries, the relationships between the Catholic Church and government are analyzed in terms of history, theology, and politics. In light of recent and standing debates over abortion legislation in each country and the concept of religious freedom, I then propose my position regarding how conversations might continue. Throughout this discussion, concepts and phrases such as 'separation of Church and State' and religious freedom are especially important to challenge assumptions and to move religious and civic conversation forward.

## Liberty, Equality, Fraternity, and Secularism: French Politics and the Ban of Face-Covering Islamic Veils

History 11:30 AM-12:00 PM
Oral Presentation, Honors Thesis Kennedy Union - 207

Advisor(s): Marybeth Carlson Student(s): Maura E Lamendola

In 2009, France made international news for proposing legislation that would outlaw Islamic veils in the public sphere of the French Republic. After a lengthy debate and much international criticism, the decision to prohibit face-covering Islamic veils was passed almost unanimously in the French Senate, and is now codified in French law. Since the start of this very public debate, Belgium, the Netherlands, as well as other areas of Europe, have also made efforts politically to prohibit the veils in public. This thesis topic makes connections with a variety of events from French history related to the recent ban and sentiments surrounding it, an analysis of the political atmosphere during the time of the legislation's passing, and a brief examination of the role that anti-racist and human rights organizations in France have played, based on research completed.

#### **Perception: Suicide Prevention Programs**

Communication 11:30 AM-12:00 PM
Oral Presentation, Independent Research LTC - Studio

Oral Presentation, Independent Research Advisor(s): Anna L Langhorne

Student(s): Amanda W Orr

The goal of this project is to conduct a comparative investigation of college resources, policies, and outreach programs related to suicide prevention. The research would help identify best practices among Ohio universities, compare UD's approach with the best practices, assess UD student awareness and perceptions of current support services, develop recommendations for improvement, and develop message strategies for communication with the university community about these issues.

## Urban Sprawl and Public School Funding in the Dayton Region

Sociology, Anthropology, and Social Work
Oral Presentation, Senior/Capstone Project

11:30 AM-12:00 PM
St. Joseph's Hall - 025

Advisor(s): Jeremy S Forbis, H F Pestello

Student(s): Martin T Duda

## MORNING PRESENTATIONS

Urban sprawl has had a dramatic impact on many American cities. As this phenomenon has evolved throughout the latter half of the 20th century and the beginning of the 21st century, researchers have focused on a number of impacts these urban demographics have produced for communities. The focus of this research is public school funding. One result of "white flight" to the suburbs is a concentration of poverty generally found in the central city from which many suburbanites have moved. When this occurs, property values plummet. Since public schools are mainly funded by the local property taxes, the quality of schools suffers. This research will look at Montgomery County Ohio and the impact demographic changes have on the schools.

#### **Integration Bee Luncheon**

Mathematics 12:00 PM-1:00 PM Luncheon Science Center - Atrium Advisor(s) - Arthur H Busch, Maher B Qumsiyeh

The Mathematics Department will host a pizza lunch in the Science Center Atrium prior to the Integration Bee.

## MORNING POSTERS

## **Arts and Sciences**

### A Drosophila model to study birth defects in eye

Biology Independent Research, Undergraduate Advisor(s) - Madhuri Kango-Singh

Student(s) - Katelin E Hanes, Nanditha A Ranganathan

9:00 AM-10:30 AM Kennedy Union - Ballroom

Micropthalmia and anophthalmia are congenital birth defects which result in severe growth defects in eyes resulting in small eyes or visual field. However, if these defects occur due to defective differentiation of cells under the regulation of eye-specific genes, or due to defects in the regulation of genes responsible for growth of the eye primordium and the production of uncommitted progenitor cells remains unknown. Drosophila melanogaster is a well established model to study human diseases as genes involved in eye development exhibit structurAal and functional similarities from flies to humans. Eye development involves (a) growth of the eye field, and (b) the differentiation of the different cell types. Several genetic pathways are known to be required for the normal differentiation of retinal cell types. In addition, signaling from Dpp and Hh is absolutely essential for the differentiation of photoreceptor cells in a field controlled by EY. These pathways are conserved between flies and humans as are pathways regulating organ size. We propose one aim to study if the generation of uncommitted precursor cells under the regulation of Hippo pathway may play a role in the determination of final eye size. The Hippo pathway is responsible for organ development and size determination. Specifically, we will work to understand how eye size is rectified as well as the mechanism that does this, as well as if the hippo pathway is acting alone or in conjunction with another pathway. These studies will shed light on the role of uncommitted precursor cells in determing the size of the eye field, and contribute to our understanding of early eye development. The results of these studies can be extrapolated to higher vertebrates and used to generate therapeutic or diagnostic tools for early detection of abnormal eve development in children.

## Activation of Hippo controls Dronc levels to regulate caspase-mediated apoptosis in Drosophila.

Biology 9:00 AM-10:30 AM
Graduate Research Kennedy Union - Ballroom

Advisor(s) - Madhuri Kango-Singh

Student(s) - Daniel P McCorry, Nanditha A Ranganathan, MacKenzie M Sullivan, Shilpi Verghese

The Hippo pathway controls organ size by coordinately regulating cell proliferation and cell survival. Multiple mechanisms that ultimately control the nuclear availability of the transcriptional co-activator Yorkie (Yki) regulate Hippo pathway activity. Down-regulation of Hippo signaling leads to overgrowths of tissues due to Yki-mediated activation of target genes. Over-expression of Hippo kinase (or Warts Kinase) leads to activation of the pathway that leads to phosphorylation and cytoplasmic retention of Yki. As a consequence of pathway activation apoptosis is induced in developing tissues. The Drosophila Inhibitor of Apoptosis protein (DIAP1) is a transcriptional target of the Hippo signaling pathway, and a critical regulator of caspase dependent apoptosis pathway. We found that activation of Hippo signaling does not affect DIAP1 expression, suggesting that other alternate mechanisms regulate cell death in response to Hippo activation. Here we present evidence suggesting that cell death induced by Hippo activation depends on the activity of the initiator caspase Dronc (Drosophila Caspase 9 homolog). We show that Hippo mediated cell death requires the activity of pro-apoptotic genes indicating that Hippo acts via the Caspase dependent apoptosis pathway. We demonstrate that Hippo pathway regulates Dronc activity levels to regulate both cell proliferation and cell death. We propose that Dronc is a target of the Hippo signaling pathway that is important for the control of overall organ size, and has implications in other growth regulatory interactions like compensatory proliferation or cell competition.

### Assessing gene flow among fragmented forest patches in an agricultural landscape

Biology 9:00 AM-10:30 AM
Graduate Research
Advisor(s) - Carissa M Krane, Patrick K Williams

Student(s) - Elizabeth A Rhoads

Habitat fragmentation accompanies habitat loss that occurs in such a way that patches of original habitat remain. Patches are separated by an intervening landuse matrix that is generally not supportive of species inhabiting patches. If patch species cannot migrate across the intervening matrix, restricted gene flow among patch populations may result in decreased genetic diversity. Populations isolated in patches may have reduced fitness and increased risk of local extinction. This project utilized a genetic marker to study the effect of forest fragmentation in rural western Ohio on the population structure of a woodland amphibian, the small-mouthed salamander (Ambystoma texanum). It was hypothesized that salamanders were not migrating between a series of forest patches; and that subsequently populations in different forest patches would show genetic differentiation and small populations would have decreased genetic diversity. Tail tissue was collected from 20 individuals each from eight pools in Hardin County, Ohio. Three pools occur in the same forest; the other five are in separate forests at distances away from this main forest (200m to 20km). Genomic DNA was extracted and purified from salamander tissue. Eight microsatellite loci were amplified by PCR and genotyped for allele size. Pairwise FST values indicate that the more isolated populations are significantly differentiated from other populations in this study, and geographically close populations show little genetic differentiation. The isolated populations also have higher inbreeding coefficients and a greater number of private alleles. These results indicate that gene flow among populations in spatially distant forest patches is not occurring. The genetic diversity of small-mouthed salamanders is likely dependent on their spatial proximity to other populations, which is often impaired by forest fragmentation in this region.

#### Defective proventriculus (dve), a new member of DV patterning in the eye.

Biology 9:00 AM-10:30 AM Graduate Research Kennedy Union - Ballroom

Advisor(s) - Amit Singh

Student(s) - Oorvashi Roy G Puli, Lindsey A Salchli, Erika L Wittkorn

Axial patterning is crucial to eye development. During eye development, Dorso-ventral (DV) axis determination is the first lineage restriction event. The early eye primordium begins with the default ventral fate on which the dorsal eye fate is established by expression of GATA-1 transcription factor, pannier (pnr). Loss-of-Function (LOF) of pnr results in dorsal eye enlargements and antennal duplications in adult flies. We found similar phenotypes in LOF of defective proventriculus (dve). dve encodes a homeobox protein which is a target of decapentaplegic (dpp) and wingless (wg) signaling. The Gain-Of-Function (GOF) of dve results in suppression of Retinal Determination (RD) genes and thereby leads to the loss of eye. Based on our studies we found that Dve plays an important role during eye development. Dve expression domain in the eye imaginal disc localizes to a small region anterior to the Morphogenetic Furrow (MF) on the dorsal eye margin. This expression domain of Dve also overlaps with Wingless (Wg), which is present at the lateral margins of the developing eye disc. Here we present genetic interactions of Dve and Wg and their role during eye development.

## Differential Toxicity of Silver and Titanium Dioxide Nanoparticles on Drosophila melanogaster

Biology 9:00 AM-10:30 AM Independent Research, Graduate Kennedy Union - Ballroom Advisor(s) - Mark G Nielsen

Student(s) - Caitlin B Cipolla-Mcculloch, Kyle R Murphy, Ryan T Posgai

Silver and titanium dioxide nanoparticles are known to induce biochemical markers ofoxidative stress in vitro. Here we test whether this causes in vivo effects on development, reproductive effort, and viability in Drosophila melanogaster. Ingestion of nanotitaniumdioxide during the larval stage of the life cycle showed no effects on viability ordevelopment, up to doses of 200ug/mL. Conversely, ingestion of nanosilver had major, dose-dependent effects on viability, developmental rate, epidermal phenotype, andreproductive effort. Uncoated silver particles had 25% greater toxicity than the same sizepolysaccharide-coated particles, and 10nm silver particles showed 95% greater toxicitythan equivalently coated 60nm particles. Lower doses of nanosilver were sufficient todisrupt reproduction compared to viability; reproductive EC50 (a concentration that results in 50% the reproductive effort of control lines) for uncoated 60nm silver was15ug/mL, less than half of LC50. To test if these effects of nanosilver ingestion arecaused by oxidative stress, we attempted to reverse them through diet supplementationwith anti-oxidants. Larvae growing on nanosilver supplemented with vitamin C showeda greater than twofold increase in viability compared to flies reared on nanosilver alone, and a 7-fold increase in reproductive effort. Vitamin C also rescued cuticular and pigmentation defects in nanosilver-fed flies, indicating that the life his-

## **MORNING POSTERS**

tory effects of nanosilver ingestion result from oxidative stress. The lack of 1:1 correspondence between biochemical and life history nanoparticle toxicity strongly indicates a need forchronic life history toxicity studies focused on the relationship between in vitro and invivo effects of oxidative stress.

## Effects of Silver Nanoparticles on Mouse Embryonic Stem Cells Pluripotency and Differentiation Potential

Biology 9:00 AM-10:30 AM
Graduate Research Kennedy Union - Ballroom
Advisor(s) - Yiling Hong
Student(s) - Pavan Rajanahalli.K

Silver nanoparticles have an interesting surface chemistry and unique plasmonic properties. They are used in a wide variety of applications ranging from consumer products like socks, medical dressing, computer chips and it is also shown to have antimicrobial, anti bacterial activity and wound healing. Silver nanoparticle toxicity studies have been limited to date which needs to be critically addressed due to its wide applications. 10 nm coated (polysaccharide) and uncoatedsilver nanoparticles were used to test its cytotoxic effects on mouse embryonic stem (mES) cells. mES cells and embryoid bodies were treated with two concentrations: 5 ug/ml and 50 ug/ml and exposed for 24, 48 and 72 hours. Phase contrast images show that cell death occurs in a time and a concentration dependant manner. Alkaline phosphatase (AP) staining shows mES cells retain AP activity even at higher concentrations of silver nanoparticles. Due to increased cell death, there is a progressive increase in Annexin V and Propidium lodide. Oct4, Nanog and Sox2 undergo posttranslational modifications in mES cells and embryoid bodies show increased Oct4 and Nanog expression suggesting that the differentiation potential of embryoid bodies is inhibited by silver nanoparticles. Differentiation of embryoid bodies into all the three embryonic germ layers with specified growth factors were also inhibited when compared to the control. Our results suggest that silver nanoparticles inhibit mES and EB differentiation and have an impact on stem cell factors stability.

## Five Year Monitoring Program to Assess Development of Wetland Mitigation Sites at Hobart Urban Nature Preserve

Biology 9:00 AM-10:30 AM Independent Research, Undergraduate Kennedy Union - Ballroom Advisor(s) - Jeffrey L Kavanaugh
Student(s) - Ryan M Andrews, Megan P Kennedy

Miami County Park District was granted an isolated wetland permit by the Ohio EPA to allow impacts to wetlands while constructing Hobart Urban Nature Preserve. Following construction, a minimum of 1.34 acres of wetland was required by the permit to mitigate the effects of building. A five-year monitoring program was set in place to observe the development of the wetlands. Vegetation Index of Biotic (VIBI) and Floristic Quality Assessment Index (FQAI) were used to evaluate the progress of the two wetlands that were installed. After five years, all requirements of the permit have been met so our recommendation to the Ohio EPA is that no further mitigation of the site is necessary.

## Functional Analysis of Compensatory Responses Induced in Tumors Caused by Loss of Scribble

Biology 9:00 AM-10:30 AM Independent Research, Undergraduate Kennedy Union - Ballroom Advisor(s) - Madhuri Kango-Singh

Student(s) - Alyssa C Lesko

The Hippo pathway has recently been identified to regulate the proliferation and survival of cells. Scribble is a tumor suppressor gene that is involved in cell polarity. There is evidence that cell death induction in the scribble mutant cells is correlated to an increase in Jun N-terminal Kinase (JNK) signaling due to activation of compensatory proliferation. Compensatory proliferation refers to a mechanism that replaces dying cells through stimulation of proliferation. Many distinct compensatory mechanisms are now known that involve the action of caspases, mitogens and cell signaling pathways. Our preliminary data shows that the cell death induced in cells mutant for the scribble gene is correlated with the activation of the Hippo pathway. We also found that the apical caspase Dronc is a target of Hippo signaling because Hippo pathway needs to keep

Dronc activity under control in order to control tissue size. Dronc is known to co-ordinate cell death and compensatory proliferation through the Jun N-terminal kinase and p53. Thus, we want to explore compensatory responses involving the Hippo and JNK signaling pathways using the well-established model of scribble mediated tumor growth and progression. Our goal is to study functional interactions between Hippo and Scribble pathway components. We plan to investigate the correlation of several phosphorylated proteins that belong to the JNK and Hpo pathway, to the loss of scribble in Western blot experiments. We made protein extracts from wild type Canton S flies, and scribble mutant flies (scrib2, and ird15/scrib2). These proteins were tested for increased levels of phosphorylated-Jun kinase (p-Jun), phosphorylated-Stat5 (p-Stat5), phosphorylated-Yap (pYAP), and phosphorylated-Yki (p-Yki). Our findings from these studies will be presented.

#### Influence of Diet on the Growth and Survival of the Green Bottle Fly, Lucilia sericata

Biology 9:00 AM-10:30 AM Independent Research, Graduate Kennedy Union - Ballroom Advisor(s) - Karolyn M Hansen
Student(s) - Allissa M Blystone, Gregory M Gottschlich

The beneficial role of a diet consisting of sugar and protein sources in conferring sustained longevity and fecundity in Lucilia sericata blowflies has been established. However, the influence of diet composition on feeding preference, growth, and longevity in male versus female flies has not been reported. The primary purpose of this study is to determine if diet affects growth, morphometric parameters, and lifespan of male versus female flies. Flies were separated by sex and assigned to one of two diet groups: diet #1 consisted of a 1:1 honey:water mixture, diet #2 consisted of a 1:1 protein:honey-water mixture. Both groups were cultured under controlled conditions of light, ambient temperature, and feeding administration methods. Select phenotypic traits (morphology and lifespan) were recorded. Morphometrics, including wing length, wing width, thoracic length, abdominal width, abdominal length and weight, were recorded on a subset of each of the males and females for each of the two feeding regimes every 5 days for the duration of the experiment. Survival (lifespan) and growth (morphometry) were enhanced in both sexes that received the protein:honey diet. This investigation demonstrates that both males and females need protein for optimal survival; the data, however, indicate that there is a sex-specific response to nutrient utilization. Based on morphometric findings, it is postulated that females utilize the protein-enhanced food to modulate gonadal development in preparation for reproduction. These results have forensic significance and provide evidence to support the hypothesis that it is the female flies that are attracted to decomposing material (food) while the males are primarily attracted to the females.

## Linkages Between Terrestrial and Aquatic Communities: The Invasive Shrub Lonicera maackii Influences Ecosystem Processes and Macroinvertebrate Colonization

Biology 9:00 AM-10:30 AM
Graduate Research Kennedy Union - Ballroom

Advisor(s) - Mark E Benbow, Ryan W McEwan

Student(s) - Rachel E Barker

Lonicera maackii, a non-indigenous riparian invader, may have significant impacts on ecosystem processes of Midwestern headwater streams. We investigated linkages between this terrestrial invader and the macroinvertebrate community structure of the aquatic system through a leaf-pack breakdown experiment including invasive, native and mixed leaf packs during the 2009-2010 winter season. Leaf pack loss and macroinvertebrate colonization was assessed over 53 days in three streams. Stream sites were locally located in Bellbrook-Sugarcreek and Centerville-Washington Park districts and had similar macroinvertebrate taxa, riffle habitats, and their riparian zones were dominated by L. maackii. Invasive leaf pack breakdown rates were up to 3-5 times faster compared to native and mix treatments depending on the stream. Chironomidae, Simuliidae, and Collembola had greater densities within invasive treatments in contrast to other leaf packs, but dominance was dependent on stream and date. Oligocheata were the only taxon that had dominated mix leaf packs. Collector-gatherers dominated the macroinvertebrate community within all treatments at all stream sites throughout the experiment. Filter feeder co-dominated within invasive leaf packs at day 7 and native leaf packs at day 14 within Possum Run and Fecher Stream respectively. Collector-gatherers, filter feeders and scraper-grazers also co-dominated the macroinvertebrate community within native leaf packs at day 53 within Black Oak Stream. These results demonstrate L. maackii leaves significantly breakdown more rapidly compared to native leaves and also influence macroinvertebrate densities and functional feeding group colonization and

## **MORNING POSTERS**

dominance. These findings support the hypothesis that L. maackii can have direct impacts on stream biological communities mediated through organic matter resources and processes.

#### Oct-4 Over Expression in Cultured Newt Iris Pigmented Epithelial Cells

Biology 9:00 AM-10:30 AM
Graduate Research Kennedy Union - Ballroom

Advisor(s) - Panagiotis A Tsonis Student(s) - Rital B Bhavsar

Lens regeneration in Newt is achieved by the process of transdifferentiation of iris pigment epithelial cells (PECs) to lens cells. The pigmented epithelial cells dedifferentiate (lose their identity), proliferate and redifferentiate to form the lost lens tissue. In mammals, induced pluripotent stem cells have been generated in vitro by reprogramming of differentiated cells using stem cell factors such as Oct4, Sox-2, c-myc and Klf4. Past research has shown that stem cell factors Sox-2, c-myc and Klf4 are expressed during lens regeneration in newt but oct-4 expression is absent. The goal of the proposed research is to over express the oct-4 gene in the newt PECs and determine if such cells can attain multipotency. This study mainly focused on standardizing optimum conditions for over expression of oct-4 in cultured pigmented epithelial cells. The PECs were isolated from the newt eye and cultured in vitro. The cultured cells were transfected with vector pCS2+ oct-4 using different transfection methods such as chemical based and nucleofection. Highest efficiency was observed for chemical based lipofectamine method with PECs cultured in vitro for 2 weeks.

#### **Oocyte Quality and Zona Pellucida Morphology**

Biology 9:00 AM-10:30 AM
Graduate Research Kennedy Union - Ballroom

Advisor(s) - Shirley J Wright Student(s) - Matthew O Lunn

The zona pellucida (ZP) is a thin mesh-like barrier that surrounds the mammalian oocyte (egg) and is the initial site for sperm-egg binding. The ZP is also necessary for proper oocyte development and prevents premature implantation into the uterine wall after fertilization. In the canine (Canis familiaris), we have previously observed the ZP using scanning electron microscopy and identified four distinct phenotypes. These four morphologies were independent of donor characteristics such as: breed, size, age and maturity. The four morphologies were also independent of oocyte characteristics such as oocyte maturity and health (living or dead). The objective of this study was to determine if good quality oocytes which are >100 µm with 2-3 surrounding cumulus layers and a dark lipid filled ooplasm have a different ZP appearance than poor quality oocytes which have incomplete cumulus layers and a heterogeneous lipid filled ooplasm. The oocytes were separated into good and poor quality categories and then stripped of cumulus cells, dehydrated, critical point dried, sputter coated and then viewed by scanning electron microscopy and categorized into the four ZP types: Type I, smooth ZP with no or few small (0.5 µm) pores; Type II, fenestrated ZP with regularly spaced pores; and Type III, rough and uneven ZP with irregular hollows and pores that were filled with stringy filaments. It was found that good quality oocytes had ZP Types II-IV, whereas poor quality oocytes had ZP Types I-III with most of the oocytes (78.9%) having Type II ZP. This suggests that oocytes with Type II ZP (and possibly Type I and III) are starting to deteriorate and would not be good oocytes for in vitro fertilization. This research was funded in part by a Graduate Student Summer Fellowship.

### Role of an E3 ubiquitin ligase in ventral eye development

Biology 9:00 AM-10:30 AM
Graduate Research Kennedy Union - Ballroom

Advisor(s) - Madhuri Kango-Singh, Amit Singh Student(s) - Jacob J Farber, Meghana Tare

During early eye development, axial patterning transforms a single sheet of organ primordium cells to a three-dimensional organ by generating Dorsal (D) -Ventral (V), Anterior (A)-Posterior (P) and Proximo (P)-distal (D) axes. Among these, Dorso-Ventral (D-V) axis generation is the first lineage event, which essentially requires a large number of eye specific proteins. Drosophila eye anlagen initiates with a ventral ground state on which the dorsal eye fate is established. Members of the Notch signaling pathway, Lobe (L) and Serrate (Ser), play an important role in ventral eye

growth and development. Loss of function of L/Ser results in loss of ventral half of the eye. In a screen performed for the search of genetic modifiers of L, cullin-4 (cul-4) was identified as a suppressor of the L mutant phenotype. cul-4 encodes an E3 ubiquitin ligase – an enzyme that ligates ubiquitin molecules to the protein targeted for degradation. We are trying to study possible role of cul-4 during the event of axial patterning to promote cell survival. We are studying genetic interactions between L and cul-4 to analyze their effect during eye development. We hypothesize that cul-4 possibly promotes cell survival in the ventral region of eye by targeting Wingless (Wg) for degradation. This study will help in discerning the importance of protein degradation and role of E3 Ubiquitin ligase as a possible axial patterning gene.

#### Role of Lobe in the Retinal Determination Gene Network in Drosophila

Biology 9:00 AM-10:30 AM Independent Research, Undergraduate Kennedy Union - Ballroom Advisor(s) - Madhuri Kango-Singh, Amit Singh

The Drosophila gene eyeless (ey) is the master control gene that controls eye morphogenesis and belongs to a category of genes referred to as retinal determination (RD) genes. Loss-of-function mutations result in reduction or absence of eye structures whereas targeted expression of ey complementary DNA in various imaginal discs of Drosophila results in ectopic eye formation on the wings, the legs, and the antennae (Halder et al., 1995). Another Drosophila gene, Lobe (L), is involved in the eye development. L is required for the ventral eye growth and development. Ventral is the default state of early eye. Loss of L results in the loss of eye field. The mutant phenotype of L as well the RD genes are similar. Loss-of-function of L or RD genes results in the loss of the eye field. Therefore, it is important to understand the role of L in eye development. Here we intend to address: (1) Does L interact with the key components of the RD gene network to direct ectopic eye formation? (2) Is L function essential for eyeless activity? What is the relationship between ey and L gene activity? Is L gene required by by ey to form ectopic eyes? Is L required for eyeless activity to form ectopic eyes in some tissues, but dispensable in others? Based on our preliminary data, we will present a model for the interaction of L with the RD genes

## The mutational and molecular paths underlying the repeated evolution of a cis-regulatory element generating morphological diversity

Biology 9:00 AM-10:30 AM
Graduate Research Kennedy Union - Ballroom

Advisor(s) - Thomas M Williams

Student(s) - Shimpi Bedi

Student(s) - Kristen A Davis, William A Rogers, Joseph R Salomone, David J Tacy

A central goal of evolutionary developmental biology is to elucidate the gradual progression of mutational steps by which development, and thereby traits evolve. Much of organismal development is wired in the genome as vast regulatory networks that turn genes on and off at the proper time and place. Empirical and theoretical studies implicate mutations in cis-regulatory element (CRE) sequences, which control gene expression, as a prominent route by which development evolves. However, few studies have determined both the mutational (the identity of the evolutionarily relevant mutations) and molecular (biochemical property altered) basis of CRE evolution. Hence, this type of evolutionary path remains poorly understood. One excellent model trait to study CRE evolution is the diverse abdominal pigmentation patterns exhibited by species of the Drosophilinae subfamily. These patterns have evolved by modifications to a well-characterized gene regulatory network. Male-specific sexually dimorphic pigmentation of Drosophila melanogaster is a particularly tractable trait controlled by the Bric-a-brac (Bab) transcription factor proteins. Previously, we identified a CRE controlling sexually dimorphic Bab expression, and elucidated how it functions and evolved in one lineage. Here we show that alterations in this CRE contribute to pigmentation variation within a species and furthermore differences in orthologous dimorphic elements similarly correlates to pigmentation differences between closely-related species. Using ancestral reconstruction methods, we determined the sequence and gene regulatory activity of the dimorphic element possessed by various ancestors at key phylogenetic nodes. Moreover, here we present data that has begun to trace the mutational and molecular mechanistic path by which descendant CREs with distinct activities evolved.

## MORNING POSTERS

## Aromatic Boronic Acids as Flame Retardants for Polyurethane Foams: Design and Synthesis

Chemistry 9:00 AM-10:30 AM
Graduate Research Kennedy Union - Ballroom

Advisor(s) - Vladimir A Benin, Alexander B Morgan

Student(s) - Sravanthi Durganala

We have prepared new terephthalic acids with one or two boronic acid groups, designed as monomers/additives with flame-retardant properties. The syntheses can be accomplished following one of two routes: 1) Via the preparation and use of Grignard reagents or, 2) Via transition metal-catalyzed coupling reactions. A key intermediate compound within the second route, dimethyl 2-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl) terephthalate, was studied in detail, using X-ray structural analysis. Initial flame retardant studies show that both structures have the potential to be effective flame retardants, as evidenced by pyrolysis combustion flow calorimetry (PCFC) studies.

#### Conductivity of Amphiphile Solutions at Less Than Critical Micelle Concentrations

Chemistry 9:00 AM-10:30 AM Independent Research, Undergraduate Kennedy Union - Ballroom Advisor(s) - Robert G Keil

Student(s) - Michael W Manhart

The self-assembly of amphiphiles in aqueous solution to form micelles is well-known. The focus of our research was to investigate the aggregate structures formed within aqueous solutions at concentrations well below those required to form micelles, perhaps at concentrations where the onset of lipid raft formation commences. We limited our study to a concentration range from 0.10-1.7mM, sufficiently dilute so that strong electrolyte theory would apply and still sufficiently concentrated so that surface excess concentrations would be negligible. We used solution conductivity as a physical indicator of solution structural changes. We will report the results of these solution conductivity studies. Our results show that aggregates of amphiphiles form at concentrations as small as 0.1mM. Interpretations of Kohlrausch plots suggest polyanions are formed at these most dilute concentrations. The conductivity studies lead to the conclusion that the charge of the polyanion is dependent upon temperature, concentration, and the aliphatic chain length of the amphiphile. From the results, solution structures will be proposed. The conductance data will be discussed in terms of Debye-Huckel-Onsager theory.

## Photochemical Degradation of b-Carotene in Carbon Tetrachloride and Hexane: Kinetics and Identification of Reaction Products

Chemistry 9:00 AM-10:30 AM
Graduate Research Kennedy Union - Ballroom

Advisor(s) - David W Johnson, Mark B Masthay

Student(s) - Yuan Zhao

The kinetics of photochemical reactions of  $\tilde{l}^2$ -carotene was studied in hexane, carbon tetrachloride and percentages of carbon tetrachloride in hexane below 5%. At low percentages of carbon tetrachloride, the reaction is first order in both carbon tetrachloride and  $\tilde{l}^2$ -carotene. The activation energy of the reactions at temperatures around 25oC was found to be positive but very small. The kinetics from photochemical experiments using UV irradiation are compared with similar experiments conducted with two-photon laser irradiation. The photochemical results are also compared with thermal degradation experiments conducted at temperatures between 250 and 350oC.In addition to the kinetic results, some products of the reaction have been identified by nuclear magnetic resonance spectroscopy. It is interesting to note that under thermal conditions, retinal and retinol are identified as products. Under UV irradiation, there are no identifiable products that contain double bonds.

## Physical interactions between PriA and PriB drive DNA replication restart in Neisseria gonorrhoeae

Chemistry 9:00 AM-10:30 AM
Graduate Research Kennedy Union - Ballroom

Advisor(s) - Matthew E Lopper Student(s) - Cui Feng

Student(s) - Philip Pfeiffer

DNA replication restart pathways enable bacterial cells to reinitiate DNA replication when replication has been disrupted due to encounters with DNA damage, thereby allowing complete and faithful duplication of the cell's genetic information. Neisseria gonorrhoeae is a bacterium that is highly adapted to survive oxidative damage to its DNA incurred by attack from immune cells in infected individuals, suggesting that DNA replication restart pathways might play a critical role in Neisseria gonorrhoeae pathogenicity. The bacterial helicase, PriA, is a key primosome protein that plays essential roles in DNA replication restart pathways. However, little is known of the mechanism by which PriA performs these roles in Neisseria gonorrhoeae. We performed equilibrium DNA binding assays and DNA unwinding assays to provide insight into the mechanisms by which PriA functions in DNA replication restart pathways. We report that DNA binding by PriA is strongly dependent on the structure of the DNA. DNA substrates that resemble a DNA replication fork with a three-way branch are bound with higher affinity than partial duplex structures or single-stranded DNA. PriA-catalyzed DNA unwinding is also DNA structure-specific, and PriA-catalyzed unwinding decreases upon increasing the length of the duplex DNA, indicating that PriA is a low-processivity helicase. Another primosome protein, PriB, strongly stimulates the helicase activity of PriA, and this activity might facilitate reloading of the replication machinery by PriA at repaired replication forks. Stimulation of PriA by PriB appears to occur through a mechanism that is distinct from that used by the well-studied E. coli promosome proteins.

#### A Hierarchical Genetic Algorithm Implementation of Generating an Euler Tour

Computer Science 9:00 AM-10:30 AM Independent Research, Graduate Kennedy Union - Ballroom Advisor(s) - Jennifer Seitzer Student(s) - Yuan Wei

We present an implementation of generating an Euler Tour by applying a hierarchical genetic algorithm. The representation of Euler Tour is a graph, which is an adjacency matrix. We use genetic algorithm idea as the optimization method to generate an Euler Tour graph. Since the major properties of an Euler Tour are: 1. every vertex has an even number degrees, and 2. the graph is strongly connected, we consider separating the work into these two parts, and apply classic genetic algorithm on each of them. We call the vertex level as atomic level and the graph level as systemic level, which is our hierarchical structure. We run them sequentially with information exchange: Each of them has their own evolutionary process and fitness evaluation function to achieve their own goal. After one level evolutionary process runs a period of time, current information is passed to another level and process starts based on the given information. The Euler Tour graph can be found by running the entire hierarchical system in a proper time period, which depends on the given size of the graph.

## A System for Determining the Statistical Significance of the Frequency of Short DNA Motif Matches in a Genome

Computer Science 9:00 AM-10:30 AM
Graduate Research Kennedy Union - Ballroom
Advisor(s) - Jennifer Seitzer

A problem in biology arises in the evaluation of statistical significance of the observed frequency of candidate transcription factor binding site matches (To) in a genome. This is because possible overlaps in the genome render the usual chi-square test unsuitable. In this study, we develop generalized models for evaluating the expectation and variance of T over a variety of probability spaces of randomly occurring sequences of elements (or symbols), which can then be used to perform a Z test. In addition, a software toolset in Java was developed to implement basic tools for manipulating molecular sequences along with code for implementing the statistical tools for each of the probability models considered. These Sequence tools are then included in a proposed design to develop a workbench to discover sequence motifs in a genome.

### Copy-Cat Agents: Teacher-Student interactions using autonomous agents

Computer Science 9:00 AM-10:30 AM Independent Research, Graduate Kennedy Union - Ballroom Advisor(s) - Jennifer Seitzer

Student(s) - Xin Huang

In this paper, we develop a teacher-class perceive-decide-act cycle where a yoga teacher agent does a move, and the student agent follows or copies it. The proposed method is a perceive-decide-act cycle as following: 1.teacher agent decides movement; 2.teacher act (do a movement); 3.teacher tell the environment the movement it did; 4.student agent perceives from the environment (what the teacher did) through a percept; 5.student agent does that movement; 6.student tells the environment what movement it did (it may not be the same one); 7.teacher checks with the environment if the student did the right movement; 8.environment sends the movement student actually did; 9.teacher verbally tells the student "Yes -- good job" OR "No- that's not quite it..." If it's no, the teacher is going to act the movement again. In multi-agents programming, Al designers have long considered the agents that can perceive and make their own decides. Like in soccer game, every player in the team is an independent agent that can perceive and make decisions by themselves. In this paper, the teacher is an agent that can decide and act and perceive what the student do, however, the student agent only can do what it is told to. It is a copy agent. Copy cat agents are philosophically pertinent to women because often times, rather than participating in the cognitive cycle of perceive-decide-act, we bypass an intelligent choice and just do what we are told. It is easy and fast by copying and helps us reach what we want, or we may ask is it really what I want?

#### **Mobile Mumbling: Improving Voice to Text Correction for Android Devices**

Computer Science 9:00 AM-10:30 AM Graduate Research Kennedy Union - Ballroom

Advisor(s) - Dale E Courte, Shamachary Sathish, Jennifer Seitzer

Student(s) - Thomas R Boehnlein

In this work I study and implement natural language processing by extending the work of disambiguation using NLP methods to improve speech recognition by mobile devices. My implementation consists of three parts: a language pattern graph, a language parsing tree and an evaluation function. The goal of the system is to improve voice to text transcription accuracy by processing the series of possible solutions retrieved from Google's transcription service available on the Android OS mobile platform for smartphones and tablets. The text is transformed into a series of data structures that are organized through a dynamic weighted graph to extract language patterns between what was actually said by the user and what the transcription service provides as a solution. The weights are used to measure the strength of the patterns that evolve. In addition, the results are augmented to include possible punctuation points so that the sentences can be parsed and syntactically analyzed. This also adds the benefit of automatically inserting punctuation into the sentence to make voice to text transcription a more natural process in comparison to current method of dictating punctuation marks. Finally, the evaluation function processes all of the results from the graph traversal and parsing analysis to provide a ranking to the user. The user will then select the highest ranking choice and manually correct it if desired. The final correct solution is then fed back into the system to improve the accuracy of the next transcription.

#### The Wired Ceiling of Computer Science: Incites from a Non CPS Major

Computer Science 9:00 AM-10:30 AM Independent Research, Undergraduate Kennedy Union - Ballroom Advisor(s) - Jennifer Seitzer
Student(s) - Rebecca J Land

In 2008, only 18% of college students graduating with computer science degrees were women [nytimes 08]. I am a female non-computer science major doing research that explores why many intelligent young women are not interested in computing as a career. During our studies we tracked observations that gave us pause and ideas as to some possible reasons for this dearth of female computer science students. There seems to be a profound force that is setting women back technologically. It's a subtle technological chasm, a "wired ceiling" as it were. We cannot blame ourselves -- yet we cannot really blame anyone else. Who do we blame? Who or what do we change? Where do we start? As we attempt to answer these questions, we contend that this wired ceiling is endemic to our society, education system, and programming environments. As a society, we use technology as a tool to help us think: that is, to remember, to organize, to calculate and visualize, among other cerebral tasks. Because males predominantly are the designers of these "thinking devices", they implicitly address and use thought processes that may be fostered by the male brain -- for this is what feels most effective to the designing males. This perpetuates a limiting, exclusionary cycle. In our study, I am learning how to write computer programs while documenting my reactions. We have chosen the programming language of Alice, which is a wonderful initial environment to start programming. Even so, due to subtle gender influences, we have found several possible improvements that might help

Alice become more gender-friendly to the female neophyte. In this work, we consider gender-related insights from sociology, psychology, and physiology and make connections to theirapplicability to the use and creation of technology as well as their possible roots in the wired ceiling.

#### Using a Genetic Algorithm to Evolve a D\* Search Heuristic

Computer Science 9:00 AM-10:30 AM Independent Research, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Jennifer Seitzer

Student(s) - Andrew W Giese

Evolutionary computation (EC) is the sub-discipline of artificial intelligence that iteratively derives solutions using techniques from genetics. In this work, we present a genetic algorithm that evolves a heuristic static evaluation function (SEF) function to be used in a real-time search navigation scheme of an autonomous agent. This coupling of algorithmic techniques (GAs with real time search by autonomous agents) makes for interesting formalistic and implementation challenges. Genetic evolution implies the need for a fitness function to guide a convergence in the solution being created. Thus, as part of this work, we present a fitness function that dictates the efficacy of a generated static evaluation function. In this work, we present algorithmic and formalistic designs, implementation details, and performance results of this multi-layered software endeavor

## A Numerical Study of In Vitro Inhibition of Mutation of Cancer Cells Using Two Different Methods

Mathematics 9:00 AM-10:30 AM Independent Research, Graduate Kennedy Union - Ballroom

Advisor(s) - Muhammad Usman

Student(s) - Giacomo Flora

The growth of in-vitro cancer cells has been studied using two numerical methods: the Predictor-Corrector and the Operator Splitting method. The mathematical model developed by Dey (2000) is used, which consists of three reaction-diffusion equations representing in vitro interaction between two drugs, one which inhibits the proliferation of the cancer cells and the other which destroy these cells. The solutions resulting from the application of the two methods are in excellent agreement. In addition stability analyses of model and diffusion free case have been performed.

### **Decompositions of Complete Graphs into Cycles and Stars**

Mathematics 9:00 AM-10:30 AM Independent Research, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Atif A Abueida

Student(s) - Chester E Lian

A G-decomposition of a graph H is a partition of the edges of H into copies of the graph G. We study the  $\{C,S\}$ -decomposition of the complete graph on n vertices, where C is the cycle on m vertices, and S is the star on m+1 vertices.

## Estimation Methods for Missing Data Points in 2<sup>k</sup> Factorial Designs.

Mathematics 9:00 AM-10:30 AM Graduate Research Kennedy Union - Ballroom

Advisor(s) - Maher B Qumsiyeh Student(s) - Kraig A Kirchner

Because each effect is dependent on every observation, missing observations in factorial designs can drastically alter effects. Such experimental biases can be detected by examining half-normal plots of effects. The inactive absolute effects in these plots should approximately point toward the origin. If this isnâ??t the case, analysis of original experiment needs to be employed to determine which observation is causing bias. Once missing observation is determined, estimation methods will need to be used to restore orthogonal structure to the design. After estimation, the half-normal plot of newly calculated effects needs to be examined again. If insignificant absolute effects approximately point to the origin, then bias has been removed from the experiment. If not, a new estimation method should be introduced. In my research, I have examined current, popular estimations methods, and I have attempted to introduce new estimation methods of my own.

## MORNING POSTERS

#### Periodic Solutions of Neutral Delay Integral Equations of Advanced Type

Mathematics 9:00 AM-10:30 AM
Graduate Research Kennedy Union - Ballroom

Advisor(s) - Muhammad N Islam Student(s) - Nasrin Sultana

We study the existence of continuous periodic solutions of a neutral delay integral equation of advanced type. In the analysis we employ three fixed point theorems: Banach, Krasnosel'skii, and Krasnosel'skii-Schaefer. Krasnosel'skii-Schaefer fixed point theorem requires an a priori bound on all solutions. We employ a Liapunov type method to obtain such bound.

#### Music as a Tactic in Video Games

Music 9:00 AM-10:30 AM Independent Research Kennedy Union - Ballroom

Advisor(s) - Samuel N Dorf Student(s) - David P Quinn

Just as in film, music in video games has an impact on how people experience and engage with media. A video game's music score can enhance or destroy an atmosphere. In this regard, composers of video game soundtracks are extremely careful to enhance a gamer's perception of a game through the soundtrack. However, in multiplayer online gaming in first-person shooter games, music is usually absent. Without the music, the participants can better communicate with each other. This project will examine the effect of music on gamers in this environment. It will explore different kinds of musics effect on the gaming community and will be able to observe whether or not certain kinds of music will enhance or hinder a gamer's performance.

## The Effect of Pre-Meal, Vocal Re-Creative Music Therapy on the Nutritional Intake of Residents with Alzheimer's Disease and Related Dementias: A Randomised Trial

Music 9:00 AM-10:30 AM Independent Research, Undergraduate Kennedy Union - Ballroom

Independent Research, Undergraduate Advisor(s) - Susan C Gardstrom Student(s) - Megan J Brewer

Singing has been credited with a variety of physical, mental, and social health benefits. As music therapists, we use singing regularly in our work with residents who have Alzheimer's disease and related dementias (ADRD), and we have noted often these benefits and their carry over into subsequent activities, such as mealtime. This led us to question whether singing might be efficacious in combating the malnutrition that is a characteristic of mid- to late-stage dementia. In this pilot study, we engaged eight residents with ADRD in singing just prior to lunch. We tracked their nutritional intake during treatment and compared this to a baseline period. We also compared average intake during treatment to average intake of a matched control group. No significant differences were found between average consumption during baseline and treatment conditions for either group. Neither were significant differences apparent between treatment and control group consumption. However, results must be interpreted with caution due to deficits in data and other confounding variables. These variables are identified and the need for further inquiry substantiated.

## The Case for Sustainable Land Management: An Argument for Implementation of an Arboretum and Prairie

Philosophy 9:00 AM-10:30 AM
Course Project, 10 FA SEE 401 H1, Undergraduate Kennedy Union - Ballroom

Course Project, 10\_FA\_SEE\_401\_H1, Undergraduate Advisor(s) - Daniel C Fouke, Sukhjinder S Sidhu

Student(s) - Christopher A Brackman, Michael D Voellmecke

The goal of this research project was to explore the potential benefits of implementing alternative land management practices at the grounds of the former National Cash Register (NCR) property, now known as 1700 S. Patterson, that was purchased by the University of Dayton in 2009. The group, consisting of students from UD's SEE 401 Sustainability Project on Campus course, considered two specific land use types, an arboretum and a prairie, and considered the positive effects and ecosystem services associated with these such as carbon sequestration, minimization of inputs, and improved water quality. Other benefits of the proposed projects also include restored environmental services, an increase in biodiversity, and an aesthetically pleasing recreation area for UD students and staff to enjoy. The research, methods and findings of the group are presented in order to present an argument to the University in favor of considering alternative land management practices.

## Charge Mobility Measurements in DNA Biopolymers Using the Laser-Induced Photoconduction Time-of-Flight Technique

Physics 9:00 AM-10:30 AM Independent Research, Undergraduate Kennedy Union - Ballroom Advisor(s) - Perry P Yaney
Student(s) - Timothy T Gorman

The electrical conductivity and dielectric properties of DNA biopolymer thin films are being studied for application to the development of new electronic materials. The conductivity depends on the mobility and the number density of the charge carriers. Test devices for mobility studies were fabricated wherein a quartz slide coated with electrically conducting, optically transmitting indium tin oxide (ITO) electrode was coated with the DNA film followed by a gold electrode on the DNA. With a dc voltage applied to the electrodes, a photoconduction current transient was recorded on a digital oscilloscope when a 10-ns, 266-nm laser pulse was incident on the ITO. This signal is due to the charge injected at the interface of the ITO and DNA films. By changing the polarity of the applied voltage, electron and hole mobilities can be measured. The observed photoconductive response curves had various shapes that characterized the propagation of the charge cloud towards the gold electrode, which typically ended in an exponential decay. Only hole mobilities were observed consistently with values between 6E-6 to 7E-5 cm2/V-s. Time-of-flight measurements were performed at different electric fields to determine the dependence of charge mobility on electric field.

#### **First Glance at Nonlinear Optics**

Physics 9:00 AM-10:30 AM Independent Research, Undergraduate Kennedy Union - Ballroom Advisor(s) - Peter E Powers
Student(s) - Zi Ouyang

In this experiment, a Ti:sapphire laser that generates ultrashort pulses of light, 100 femtoseconds, was used to generate broad-bandwidth light called continuum generation. The mechanism for continuum generation is a nonlinear optics interaction. This interaction is strongly intensity and length dependent. I used optical fibers to obtain long interaction lengths and high intensities. I will present the results of continuum generation obtained using optical fibers of different lengths.

### THz waveguide modelling

Physics 9:00 AM-10:30 AM
Graduate Research
Advisor(s) - Peter E Powers
Student(s) - Chen Ye

The technique for THz generation relies on difference frequency generation (DFG) between two narrow line-width lasers, which results in narrow line-width THz radiation. DFG is based on two sources that are mixed in the nonlinear crystal. DFG efficiency is dependant on the product of intensities of the two input lasers. Due to THz conversion efficiency is still low and the THz is high loss in the free space and high absorption in the water, we try modeling the THz field in a waveguide that can increase the efficiency by using nsec pulses with high peak-powers. This approach has a larger bandwidth when compared to continuous wave mixing, but the transform limit of nsec lasers is still relatively narrow, on the order of 1 GHz. Most spectral features found in either atmospheric gas phase samples or solid or liquid samples are much broader than 1 GHz. The modeling of the DFG THz generation in a waveguide for different waveguide structures using experimentally determined THz indices of refraction, which is new

## **MORNING POSTERS**

in the THz domain. This rich physical properties and information are contained in this terahertz range, which can lead to great variety of applications including imaging, spectroscopy and medical diagnosis. Then, we gave a short review of four different techniques of THz generation, named photoconducting dipole antenna, photomixing, optical rectification and four-wave mixing in air plasma. This thesis is focused on THz generation via optical rectification. Our approach to the design is through a numerical simulation of the THz interaction. We consider a design assuming a quasi-phase matched GaP core and a cladding using a silicon nanocomposite.

## Emotional Dysregulation and Borderline Personality Disorder: Explaining the Link Between Secondary Psychopathy and Alexithymia

Psychology 9:00 AM-10:30 AM
Graduate Research Kennedy Union - Ballroom
Advisor(s) - Catherine L Zois
Student(s) - Leigh E Ridings

While researchers have studied psychopathy and alexithymia for decades, research identifying and explaining the overlap between the two disorders is in its infancy. One study by Lander, Zois, & Porroco (2011) revealed a significant positive correlation between secondary psychopathy and alexithymia, but not primary psychopathy and alexithymia; other studies reveal similar findings (Kroner & Forth, 1995; Louth, Hare, & Linden, 1998). Little is known about what accounts for this differential association between alexithymia and primary versus secondary psychopathy. Both alexithymia (Webb & McMurran, 2008) and secondary psychopathy (Blackburn, 1996) have been linked to Borderline Personality Disorder (BPD) which is characterized by severe interpersonal disruptions and problems in regulating emotions (Kehrer & Linehan, 1996). The current study sought to determine if the relationship between secondary psychopathy and alexithymia diminishes when BPD and emotional dysregulation are statistically controlled. Further, this study investigated whether emotional regulation processes introduced by Gross (1998) such as reappraisal and suppression are differentially related to alexithymia, secondary psychopathy, and BPD. A sample of 100 undergraduates enrolled in Introduction to Psychology courses at UD completed a questionnaire packet consisting of the Levenson Self Report Psychopathy Scale (LSRP; Levenson, Kiehl, & Fitzpatrick, 1995), Toronto Alexithymia Scale (TAS-20; Taylor, 1992), Coolidge Axis II Inventory (CATI; Coolidge, 1984), Emotion Regulation Questionnaire (ERQ; Gross & John, 2003), Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004), and Balanced Inventory of Desirable Responding (BIDR; Paulhus, 1984). Hypotheses were: (1)BPD and emotional dysregulation would partially explain the relationship between secondary psychopathy and alexithymia; (2)BPD, alexithymia, and secondary psychopathy would be negatively correlated with cognitive reappraisal, while primary psychopathy would not be significantly correlated to cognitive reappraisal; and (3)expressive suppression would be positively correlated with alexithymia, negatively correlated with primary psychopathy and secondary psychopathy, and there would be no relationship between expressive suppression and BPD.

#### Relationship between Attachment and Depression; Mediating Factors

Psychology 9:00 AM-10:30 AM
Graduate Research
Advisor(s) - Lee J Dixon
Student(s) - Kate C Hibbard

The current investigation examines various factors that affect one's likelihood to forgive his or her romantic partner. Research has shown that there are associations between attachment styles, empathy, rumination, and trait forgiveness (Burnett et al., 2009). We predict that one's attachment style will be associated with one's current level of empathy and ruminating behaviors, which, in turn, will be associated with one's likelihood to forgive his or her partner for the specific transgression. Additionally, only one research study has investigated and shown that withholding forgiveness is associated with reduced martial satisfaction, which, in turn, is associated with increased levels of depression (Dixon et al., 2007). It is hypothesized that relationship satisfaction will mediate the relationship between forgiveness and depression in individuals who are in a romantic relationship, but not married. Additionally, we predict that while controlling for one's tendency to forgive, not forgiving a specific transgression will lead to lower satisfaction in one's relationship with one's partner, which in turn will lead to higher levels of depression. Participants (N=120) are required to currently be in a romantic relationship. Analyses will be completed using the Bootstrapping approach (Preacher & Hayes, 2008). Bootstrapping is a computationally intensive method that involves repeatedly sampling from the data set and estimating the indirect effect in each re-sampled data set (Preacher & Hayes, 2008). It is our hope that the findings of the current study will significantly add to the growing re-

search evaluating the importance of how a person's attachment style is linked to a person's empathy for their partner along with their ruminating behaviors about their partner's transgression, and how these factors are linked to their levels of forgiveness. We also hope to add to the research examining the implications of not forgiving on a person's satisfaction within their relationship, and subsequently their well-being.

#### Victor White and Carl Jung: Two Views on the Problem of Evil

**Religious Studies** 9:00 AM-10:30 AM **Graduate Research** Kennedy Union - Ballroom

Advisor(s) - Sandra A Yocum Student(s) - Matthew G Minix

In the late 1940 and early 1950s, Fr. Victor White, OP became a strong proponent of Jungian Psychology and eventually became a personal friend of Carl Jung himself. Nevertheless, the relationship between the two men eventually became strained due initially to their different understandings of the nature of evil that eventually turned into an argument over the nature of God Himself. Although Carl Jung always insisted that his science was empirical, based on experience in a way that would be termed "phenomenological" today, he eventually began to assert his understanding of the nature of evil in a way that was clearly metaphysical rather than "neutral." As a result, Victor White, who was steeped in the Catholic tradition and who always insisted that he had been able appreciate Jung's views through that tradition, found himself at odds with Jung on the way that evil should be understood. For White, evil was a privation of the good, rather than a power in itself. For Jung, evil was a presence and power that negatively affected a persons life; it was the opposite of good rather than merely its absence. This difference led to a different notion of God as well, for Jung's God necessarily contained within himself an "evil aspect" whereas White's Catholic notion of God was necessarily the fullness of all that can be called Good. Their theological disagreements suggest the limits to which Jungian psychology can be incorporated into Catholic thought.

## **Business Administration**

#### Creating Alpha using Valuation-Based Portfolios: An Empirical Analysis 2008-2010

**Economics & Finance** 9:00 AM-10:30 AM Course Project, 11\_SP\_FIN\_498\_P1, Undergraduate Kennedy Union - Ballroom Advisor(s) - Robert D Dean, John E Rapp Student(s) - Richard B Tokheim

Risk and return models in finance are generally categorized four different ways: 1) the capital asset pricing model (CAPM) which is a single factor model that relates market returns to individual stock returns, 2) the arbitrage pricing model (APT) which assumes there is more than one common factor affecting risk and return, 3) the multifactor model which considers key macro economic factors (e.g., interest rates, money supply, gross domestic product, etc) as the determinants of the stock returns, 4) Proxy or regression models that focus on stock specific fundamental factors like price to book (P/B), price to earnings (P/E), and price to cash flow (P/CF) as the major influences on stock risk and return. In this study, I plan to focus on fundamental factors but using an entirely different modeling process. My approach, will be to establish model portfolios with individual stock weights (i.e the percent of investment dollars assigned to a stock) based on a combination of the fundamental factors P/B, P/E, and P/CF. The hypothesis to be tested is that by giving higher weight to stocks with lower P/B, P/E, and P/CF ratios, overall portfolio returns will significantly improve over a traditional market weighted portfolios. The period under analysis is 3-31-09 to 12-31-10. Each portfolio will be rebalanced yearly to determine if periodic rebalancing improves portfolio returns. Portfolio returns will be compared to market weighted portfolio returns for each model portfolio as well as to S+P returns.

#### Developing Concentrated Portfolios of S&P 500 Stocks Based on Growth and Return Metrics for 2008-2010

**Economics & Finance** Course Project, 11 SP FIN 498 P1, Undergraduate Kennedy Union - Ballroom Advisor(s) - Robert D Dean, John E Rapp Student(s) - Alexandra S Lopresti

MORNING POSTERS

Two important determinants of price appreciation in common stocks are growth and profitability. Using several stock screening and filtering processes based on growth and profitability metrics, this study evaluates the relative importance of growth and profitability in portfolio returns for concentrated portfolios (50 stocks or less) of S&P 500 stocks. The period under analysis is 2008 â?? 2010 which includes a major decline and rebound in the stock market. Portfolio weights assigned to each stock in the portfolios based on different growth (e.g. earnings and revenue) and profitability (e.g. return on equity and return on capital) measures will be used to determine their relative importance in creating above market portfolio returns.

#### Do Dividends Matter?

**Economics & Finance** Independent Research, Undergraduate Advisor(s) - Robert D Dean, John E Rapp Student(s) - Gregory J Castell

9:00 AM-10:30 AM Kennedy Union - Ballroom

The purpose of this study is to determine if a portfolio of stocks focused on dividends can create alpha (i.e. excess returns) in both declining and rising stock markets. At the margin, I have assumed the critical factors in determining alpha are dividend yield, dividend growth, and dividend payout ratio. To test the hypothesis that one or a combination of the above dividend factors can contribute to a portfolio's alpha. I will develop a portfolio that has these general parameters: [1] the stocks in the portfolio will have Price to Earnings Ratios below the market, [2] their expected growth rate in earnings is greater than the market, and [3] the return on invested capital will be higher than the market. The stocks in the portfolio will be weighted respectively by their dividend yield, dividend growth rate, and dividend payout ratio for the periods 2008-2010, allowing for yearly rebalancing. The portfolio returns will be compared to the S&P 500 market returns over the same time periods to determine if alpha was created.

#### **Does Quality Matter?**

**Economics & Finance** Independent Research, Undergraduate Advisor(s) - Robert D Dean, John E Rapp Student(s) - Joseph J Capka

9:00 AM-10:30 AM Kennedy Union - Ballroom

Does Quality Matter? A number of studies have been conducted on the "quality of stocks," especially large capitalized stocks. Standard & Poors has actually developed criteria that differentiates stocks by quality. From their perspective, quality is a function of earnings and dividend growth and the stability of earnings and dividend payouts over time. Academic studies have also concluded that quality stocks outperform during declining markets but during market upswings, less than quality stocks outperform. In this study, I propose to test two additional determinants of quality: 1. Return on Equity (ROE) 2. Return on Assets (ROA). I plan to establish two portfolios of S&P 500 stocks: (1) Stocks with a quality ranking of "A-" or higher (S&P Quality Ranking) and (2)stocks with a quality ranking of "B-" or lower (S&P Quality Ranking). Both portfolios will be evaluated performance wise during the highly volatile market of 2008-2010, with rebalancing on a yearly basis. Portfolio weightings will be determined by 1. ROE and 2. ROA to determine at the margin if ROE and ROA add alpha to the portfolio performance.

### Establishing the Relationship Between Economic Indicators and S&P500 Sectors: A Correllation/Regression Analysis: 2009-2011

**Economics & Finance** 9:00 AM-10:30 AM Independent Research, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Robert D Dean, John E Rapp

Student(s) - Alexander J Dejulius, J Ross Hallman, Erica M Kleinman, Mark W McCausland, Marco A Vargas

Many investment managers use a "top down" approach in determining which stock sectors they want to overweight in their portfolios. One of the challenges to this type of approach is the difficulty in determining the linkage, and hence the impact, between economic trends and stock sectors. In this study, we use correlation analysis to establish the linkage between key indicators of economic activity and S&P500 stock sector returns. For those indicators having a high correlation with a stock sector (or sectors), we establish regression equations that identify the functional relationship between the indicator(s) and the sector(s) return(s). Forecasting results are provided for the first three months of 2011.

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9:00 AM-10:30 AM

#### **Modeling Excess Returns And Price Performance for UD Flyer Fund Stocks**

Economics & Finance 9:00 AM-10:30 AM Independent Research, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Robert D Dean, John E Rapp

Student(s) - Adeline M Bodart, Patrisha M Castrataro, Ryan D Hunn, Catherine M Moerman, Kevin P Schrik, Jessica Thomas, Aj P Ziegler

A stocks portfolio's performance is often measured in terms of risk adjusted alpha i.e. the portfolio's excess returns over the market relative to the standard deviation of the returns. This particular measure, often referred to as the Information Ratio, can be applied as well to the individual stocks. In this study, we test the hypothesis that the short term price performance of individual stocks within the UD Flyer Fund Portfolio is positively related to their long term information ratios. That is, as the information ratio increases, so will the short term price performance. We also plan to investigate the relationship between short term changes in their Information Ratio and short term price performance. We expect price performance to also be positively related to short term increases in the information ratio. Information ratios are calculated for all stocks in the UD Flyer Fund over the period 2009-2010. Information ratios are also calculated for the six month and last three month period of the second half of 2010. Using regression analysis, all three sets of Information Ratios are related to price performance in the first three months of 2011.

#### Seeking Alpha in a Socially Responsible Investment Portfolio

Economics & Finance 9:00 AM-10:30 AM Independent Research, Undergraduate Kennedy Union - Ballroom Advisor(s) - John E Rapp

Student(s) - Alexander J Ohlemacher

This committee conducted a study to investigate the field of socially responsible investing in an effort to demonstrate that it can be profitable relative to the S&P 500 stock index. Throughout the 2007-08 academic year, the research team developed a stock screening process that was used to identify socially responsible companies. Companies are scrutinized not only by what they do, but are also measured against socially responsible metrics such as management integrity, environmental impact, and ethics. Throughout the past three academic years, the research team weighted the S&P 500's ten sectors according to their economic outlooks and continued to monitor their \$1,000,000 portfolio. The fund has consistently generated a positive alpha and the team remains extremely optimistic on realizing large profits on a long-term basis.

#### Weighting S&P 500 Sectors: A Relative Valuation Approach

Economics & Finance 9:00 AM-10:30 AM Independent Research, Undergraduate Kennedy Union - Ballroom Advisor(s) - Robert D Dean, John E Rapp

Advisor(s) Hobert D Dearly sorting Happ

Student(s) - Matthew J Buse, Catherine G Camerota, Michael R Groff, Tyler C Hujik

Investment managers who use a "top down" approach to portfolio construction must first identify which S&P 500 sectors they plan to overweight, equalweight, or underweight. In this study, we develop a weighting system based on relative valuation of sector fundamentals. These fundamentals, category wise, include (1) sector valuation, (2) revenue and earnings growth, and (3) profitability. We have assumed that a sector's overall weight in a portfolio increases if it is undervalued relative to the market. A sector also gets a higher weight if its earnings and revenue growth are greater than the market and its return on equity is greater than the market. We tested the relative valuation model on the 10 S&P 500 sectors starting in 2010 and running through the first quarter of 2011. A hypothetical investment of \$1,000,000 is allocated to the 10 sectors based on the weights derived from the relative valuation model. Performance of the valuation weighted sectors is compared to the market for the period 1/1/2010 through 3/31/2011.

## MORNING POSTERS

## **Engineering**

## A New Method of Generating Electricity Using Pseudomonas aeruginosa in a Microbial Fuel Cell

Chemical & Materials Engineering

9:00 AM-10:30 AM Kennedy Union - Ballroom

Graduate Research

Advisor(s) - Donald A Comfort, John Rowe, Andrew M Sarangan

Student(s) - Timothy J Gorey, Piyush J Shah, Hao Wang

A New Method of Generating Electricity Using Pseudomonas aeruginosa in a Microbial Fuel CellHao Wang, Piyush Shah, Tim Gorey, Andrew Sarangan, John Rowe, Donald ComfortAbstractAmong many new energy sources which have potential to replace fossil fuel, microbial fuel cell (MFC) is one option that has reduced environmental impact compared to other sources while generating electricity. The chief difficulty for MFC becoming a reliable energy source is low power generation. Studies on means of increasing the power density of microbial fuel cells using P. aeruginosa had been performed to evaluate the effect that various electron donors have on production. A two-chamber MFC system was utilized to for these studies and the MFC utilized an anode of flat carbon cloth (surface area 5 cm2), and cathode of platinum foil (4.75 cm2). The power density of MFC with 1% glucose as substrates was 44 mW/m2 with current of 0.23-0.24 mA and potential of 0.05-0.09 V. The glucose concentration dependent on current response was observed until saturation at 2% glucose. Alternate electron donors were tested, including formate, acetate, cellobiose, and succinate. Only the succinate could be utilized by P. aeruginosa to produce electrical power. The power density of MFC with 1% succinate was 47 mW/m2 with current of 0.16-0.17 mA and potential of 0.07-0.14 V. Future experiments plan to investigate the effect of pH value of medium on power density.

#### **Aligned Carbon Nanotubes to reduce Contact Thermal Impedance**

Chemical & Materials Engineering 9:00 AM-10:30 AM
Graduate Research Kennedy Union - Ballroom

Advisor(s) - Khalid Lafdi

Student(s) - Muhammad O Memon

Heat dissipation is the most critical problem that limits the performance, power, reliability and further miniaturization of microelectronics. As surfaces are never perfectly flat, the interface comprises point contacts at asperities and air pockets. Some heat is conducted through the physical contact points, but much more is transmitted through the air gaps. Since air is a poor conductor of heat, it should be replaced by a more conductive material to increase the joint conductivity and thus improve heat flow across the thermal interface. Carbon nanotubes (CNT) with their light weight and high thermal conductivity value have the potential to be used as thermal interface material. CNTs can play a significant role in reducing the thermal resistance by lowering the micro-gaps at the same time providing a high thermal conductivity path through them. The focus of this study is first, to study the effect of thermal contact resistance on heat transfer capability of high thermal conductivity materials and second is to demonstrate the effectiveness of CNT as thermal interface materials.

## Biochemical characterization of hyperthermophilic enzymes involved in cellulose processing

Chemical & Materials Engineering Independent Research, Undergraduate Advisor(s) - Donald A Comfort Student(s) - Zied Gaieb 9:00 AM-10:30 AM Kennedy Union - Ballroom

With the increased global demand for alternative energy, there is the potential for the development of biofuels from highly available cellulose biomass. To date, use of cellulosic feed stocks for biofuels has been limited by low processing efficiency and high costs. This can be overcome through the discovery and utilization of enzymes that efficiently degrade cellulose into monosaccharides for fermentation. One potential source of these enzymes is the hyperthermophilic microorganism Caldicellulosiruptor saccharolyticus, which is known to metabolize a large variety of carbohydrates. Genes were identified within the sequenced genome of C. saccharolyticus through bioinformatic techniques and cloned in expres-

sion vectors for heterologous recombinant protein expression. One of the enzymes of interest, Csac 2409, a B-xylosidase, has been characterized in our lab and four additional enzymes (Csac\_1089, Csac\_2405, Csac\_2408, and Csac\_2409) are currently being biochemically characterized. This work will present the status of biochemical studies on these enzymes.

#### Carbon Engineered Scaffolds May Provide an Optimum Balance of A Biologic and Mechanical Properties for Use in Tendon Repair Surgery

Chemical & Materials Engineering 9:00 AM-10:30 AM Graduate Research Kennedy Union - Ballroom

Advisor(s) - Robert M Joseph, Khalid Lafdi, Panagiotis A Tsonis

Student(s) - Jarema S Czarnecki

Tissue derived scaffolds lack a balance of mechanical strength and bioconductivity needed to span tendon deficits in surgery. Carbon engineered scaffolds were examined as an optimum mechanical and biologic alternative to tissue derived scaffolds. Properties of engineered carbon scaffolds (n=10) were compared to control samples of the dermal derived scaffold Graft Jacket (n=10). Scaffold porosity and tension failure were characterized with a Scanco MicroCT35 (7um/slice) and Mechanical Tester System (rate: 25.4mm/min). Bioconductivity was measured by fibroblast adhesion, morphology and actin organization on scaffolds invitro using metamorph software and fluorescence microscopy of Rhodamine (actin) and DAPI (nuclei) labeled cells. Statistical significances were analyzed by one-way ANOVA and the post-hoc Tukey-Kramer multiple comparison test with statistical significance assessed at p < 0.05. Load failure of carbon fabric at 55% porosity (56 + / - 3.8 N) and 70% porosity (26 + / - 3.8N) was comparable to control (35% porosity). Carbon fabric and carbon veil had significantly greater elastic moduli (p = 0.0001 and p = 0.0003) and maximum stress (p = 0.0001 and p = 0.0001) compared to control. The morphology and actin organization of fibroblast adhesion to fabric closely resembled adhesion to Graft Jacket's vascular surface while adhesion to carbon veil closely resembled Graft Jacket's dermal surface. Cell adhesion was quantitatively similar among scaffolds. Carbon's high moduli, high maximum stress and fibroblast conductivity suggest that carbon engineered scaffolds may provide a balance of biomechanical and bioconductive properties suitable for use in tendon repair surgery.

#### Single Wall Carbon Nanotube Chirality Enrichment Using DNA

Chemical & Materials Engineering 9:00 AM-10:30 AM **Graduate Research** Kennedy Union - Ballroom

Advisor(s) - Charles E Browning, Donald A Comfort

Student(s) - Colin L Hisey, Hadil R Issa

Due to their novel structure and properties, carbon nanotubes have been one of the main focuses in nanotechnology research over the past few decades. In particular, their mechanical and electrical properties, along with their extreme aspect ratio indicate their potential in nanoelectromechanical applications. In order to be realistically used in electrical applications, single wall nanotubes (SWNTs) must be purified with respect to chirality to up to 99.9999% homogeneity in order to exhibit predictable and uniform properties. However, while their methods of synthesis, properties, and methods of characterization have been extensively studied, an efficient method for separating single wall carbon nanotubes with respect to their chirality has not yet been fully developed. Due to a unique groove-binding and wrapping mechanism, DNA exhibits the ability to mediate SWNT separation. In this project, various aspects of using DNA as a chirality enrichment medium are explored in order to increase the separation efficiency, including using different types of genomic and synthetic DNA to explore the separation dependence on specific DNA sequences as well as using different types of bulk SWNT samples in order to examine the effects of their electronic structure on their enrichment potential. These results are verified and quantified using fluorescence, Raman, and optical spectroscopy. Once the enrichment process has been completed, the electronic nature of the purified single wall nanotubes is quantified by assembling field effect transistors using dielectrophoresis.

#### Detection of Bacteriophages Using Absorbance, Bioluminescence, and Fluorescence Tests

Civil & Environmental Engineering & Engineering Mechanics 9:00 AM-10:30 AM Graduate Research Kennedy Union - Ballroom

Advisor(s) - Denise G Taylor Student(s) - Lindsey M Staley MORNING POSTERS

The activated sludge treatment process is a common method employed by municipal and industrial wastewater treatment plants. It employs biological decomposition to treat and reduce the biochemical oxygen demand (BOD) of wastewater. Normal operation of the activated sludge process results in a floc-forming bacterial mixture, which dominates the population, is responsible for oxidation of organic materials, and settles rapidly. However, filamentous bacteria can cause sludge bulking and foaming, which interferes with the compaction and settling of flocs. A common method to control sludge bulking is adding a chemical such as chlorine to the activated sludge basin, which kills not only the problematic bacteria, but also the essential floc-forming bacteria. Bacteriophages (phages) are viruses that only infect bacteria. It is hypothesized that phages of filamentous bacteria can be added to the activated sludge basin to control sludge bulking, rather than a chemical. Due to the unique morphology of filamentous bacteria, traditional methods such as the plate method do not work well to detect phage infection. The purpose of this project was to detect infection of bacteria by phages using absorbance, bioluminescence, and fluorescence broth tests. E. coli and T2 phage was first used to establish a model of the bacteria-phage relationship using absorbance, bioluminescence, and fluorescence tests. All three broth methods show evidence of phage infection in T2 and E. coli mixtures. Following this, phages were isolated from different activated sludge systems. These phages were applied to E. coli and S. natans, an example of filamentous bacteria found in activated sludge bulking problems. Their growth patterns were observed using the above mentioned tests. E. coli showed infection patterns, but S. natans test sets were highly variable.

#### **Evaluating Traffic Safety Behaviors of College Students**

Civil & Environmental Engineering & Engineering Mechanics Graduate Research Kennedy Union - Ballroom

Advisor(s) - Deogratias Eustace

Student(s) - Sowjanya V Ponnada

AbstractThis paper explores the traffic safety behavior of 18-24 yr old college students who annually experience alcohol-related deaths, injuries and other health problems. In addition, college studentâ??s perceived causes related to smoking and not following safety measures while driving and their opinions on how to reduce the accidents were included. A sample of 107 college students who had enrolled as a full time undergraduate student at university of Dayton participated in the questionnaire survey that assessed their demographic characteristics, drinking-driving, precautionary measures to avoid injuries, being involved in crashes as a driver and being involved in crashes when riding in a vehicle driven by someone, smoking and drinking behavior. The majority of the students reported that they never drink alcohol while driving by themselves. In contrast, the same students reported that they had been driven by an intoxicated driver and almost one-third of the students reported that they smoke or consume alcohol. Age, gender and level in school, type of vehicle may play part in the evaluation of drinking - driving behavior, smoking-drinking and being involved in a crash. According to this study alcohol-related, driving-risk behaviors among college students become worse at the age of 21. There is a need to investigate further the relationship between the students who consume alcohol while driving themselves and being ride by an intoxicated driver, major reasons to involve in a crash.

#### Design of Multi-resonator Based Zero-powered Wireless Sensors and Double Laver Inductors

**Electrical & Computer Engineering Graduate Research** Advisor(s) - Guru Subramanyam Student(s) - Yi Xu

9:00 AM-10:30 AM Kennedy Union - Ballroom

9:00 AM-10:30 AM

A triple spiral slot resonator has been designed and simulated in the research project. The resonator is designed for a zero-power wireless sensor similar to a passive RFID system. The designed resonator has -20dB power loss at 8GHz resonance point and a very narrow bandwidth. Electromagnetic (EM) structure of the spiral slot resonator was analyzed using AWR design tool. The electrical model of designed EM structure was also obtained in order to compare the measurement data with the simulation results. The designed model and simulation results will be shown and compared in the poster. In order to understand and study the coupling effect of the slot spiral resonator, several double layer inductors is designed and tested. Electrical model is designed for different inductors. The correlation between inductance value and conductor dimensions will be shown in the poster.

#### Kinematics of a Industrial Manipulator "Motoman IA20"

Electrical & Computer Engineering 9:00 AM-10:30 AM Graduate Research Kennedy Union - Ballroom

Advisor(s) - Raul E Ordonez

Student(s) - Sravankumargoud Cherlapally

Kinematics is the study of motion without regard to the forces which cause it. Within kinematics one studies the position, velocity and acceleration, and all higher order derivatives of the position variables. The kinematics of manipulators involves the study of the geometric and time based properties of the motion, and in particular how the various links move with respect to one another and with time. Robot kinematics are mainly of the following two types: Forward kinematics (FK) and Inverse kinematics (IK). Forward kinematics is also known as direct kinematics. Forward kinematics is the computation of the position and orientation of robot's end effector as a function of its joint angles. It is widely used in robotics, computer games and animation. Forward kinematics are computed using Denavit and Hartenberg table. The reverse process of forward kinematics is known as inverse kinematics. In in-verse kinematics, the position of the point in work volume is given and we have to calculate the angle of each joint. Analytical and numerical methods (function approximation using a Radial Basis Function (RBF) Artifcial Neural Network (ANN)) are used to solve the Inverse kinematics. Kinematics of Motman's IA20 robot are Computed using above described methods. IA20 robot features a revolutionary 7-axis actuator-driven design that enables amazing freedom of movement, coupled with the ability to maneuver in very tight areas. IA20 robot has a 20 kg (44.1 lb) payload, a 1,598 mm (62.9") vertical reach, and a repeatability of Ā?±0.1 mm (0.004").

#### Ortho to 3D

Electrical & Computer Engineering Independent Research, Undergraduate Advisor(s) - Guru Subramanyam Student(s) - Michael A Rucci 9:00 AM-10:30 AM

Kennedy Union - Ballroom

The major idea behind the project was to generate a three dimensional model through the orthographic images of the desired object. There were three main images used in this process: the top view, side view, and front view. Two major methods were used to obtain the proper output. The second method was more advanced then the first and thus improved the overall quality of the three dimensional object. Once the object was created, progress was continued to create a CNC machine which would carve out the object.

### **Position-Adaptive Multiplatform Control for RF Measurement Applications**

Electrical & Computer Engineering 9:00 AM-10:30 AM Graduate Research Kennedy Union - Ballroom

Advisor(s) - Raul E Ordonez Student(s) - Huthaifa A Alissa

The main objective of this study is to develop a new method by designing a mobile radar sensor networks to make the radar arrays use of advanced self-organizing control methods such as extremum seeking control allowing the rapid design of reconfigurable mobile radar arrays. Moreover, this research area focusing on the Position-Adaptive Direction Finding (PADF) area based on RF-scattering. This project is a collaborative effort between AFRL and UDRI. It involves the further development of PADF techniques and systems, based on results obtained during Summer 2010 at the AFRL RF Systems Integration Lab, located in IDCAST. These initial results involve the development of both hardware and software for RF signal localization via multi-sensor collaboration, but are limited to mainly static platforms. The significance of this research comes from several aspects including the potential of reduction in cost compared to single antenna, the flexibility of a reconfigurable radar array depending on many environmental variations, the merging of two very different engineering fields (control and radar), and the robustness against jamming and physical attack. capabilities in challenging environments. This research will make difference to the Air Force Applications.

## Signal Quality Based Comparison Of Dem And Beet Linearization Techniques For Flash Analog-To-Digital Converters

Electrical & Computer Engineering Graduate Research 9:00 AM-10:30 AM Kennedy Union - Ballroom

## **MORNING POSTERS**

Advisor(s) - Eric J Balster, Frank A Scarpino Student(s) - Christopher D McGuinness

Data converter linearization has been a subject of some interest for most of the past decade. New methods of linearizing analog-to-digital converters (ADC) continue to be developed. Various linearization methods are available but their comparative strengths and weaknesses are not easily recognizable, making it somewhat difficult to determine which compensator would provide maximum benefit for a specific device. This paper provides a performance comparison of two promising real-time linearization methods for flash ADCs: the in-device DEM method, and the peripherally-implemented BEET method. SFDR is used as the primary performance metric with SINAD, ENOB, and THD as secondary metrics. It is found that BEET is the superior compensator for devices with INL values larger than 0.25 LSB and DNL values larger than 0.25 LSB. DEM is the better-performing compensator for devices with INL/DNL values below the BEET-preferred region.

#### The Properties of Resonant Test Structure With DNA Silk Polymer

Electrical & Computer Engineering 9:00 AM-10:30 AM
Graduate Research Kennedy Union - Ballroom
Advisor(s) - Guru Subramanyam
Student(s) - Chenhao Zhang

This paper will report results from the the research program conducted during the summer 2010. The main goal is to fabricate and test the newly designed microwave resonant test structures with DNA and Silk Bio-polymers. Concurrently, experimental data from the resonant test structures was gathered, analyzed, and compared with the simulation results. Two kinds of bio-polymer based resonant test structures were tested, one is DNA with 2% doped Manganese, and the other is silk polymer with unknown dielectric constant. The data analysis allowed us to determine the relative permittivity of silk polymer and the voltage dependent dielectric tunability of these devices. The testing procedures for the test structures will be elaborated and the properties of bio-polymer resonant test structures will be presented in this report.

#### **Unbounded Learning of Maneuvers**

Electrical & Computer Engineering Graduate Research Advisor(s) - Raul E Ordonez Student(s) - Alan L Jennings 9:00 AM-10:30 AM Kennedy Union - Ballroom

Trajectory generation is difficult requiring calculus of variations to obtain optimal results. Solving the associated integral equations is often intractable for complex systems. The traditional solution is to discretize time and perform the optimization on the finite points; however this limits accuracy. High dimension searches on physical systems (opposed to simulated system) are typically intractable due to the number of experiments required. This work presents methods for extending low dimensions searches to higher dimension space without introducing error, determining when physical or simulated tests should be done and organizing maneuvers by a scalar output. Splines of a lower dimension exist on a manifold in higher dimensions when the lower dimension knots are a subset of the higher dimension knots. This property is used to extend all previous physical tests to the higher dimension, so that only the new dimension is novel. If the surrogate function has insufficient support, then physical tests will be done. For a single objective, existing methods would be more efficient; but this method optimizes over a range of desired maneuvers and neighboring points provide additional support. The novelty of this method is that it offers the potential for unbounded scaling of the input parameterization allowing for progressively refined motions.

#### **Coherent Imaging**

Electro Optics Graduate Program Independent Research, Undergraduate Advisor(s) - Joseph W Haus Student(s) - Christopher J Bushmeyer, Benjamin R Dapore 9:00 AM-10:30 AM Kennedy Union - Ballroom

We describe an experiment in which a coherent laser illuminates objects and the complex field reflected off the objects is measured by an interferometric process on a two-dimensional detector array. Themeasured complex field can be digitally processed to form images of each of the objects. We discuss additional applications afforded by coherent imaging not possible with conventional imaging.

#### Flattop focusing with Full Poincare Beams under low numerical aperture illumination

Electro Optics Graduate Program 9:00 AM-10:30 AM **Graduate Research** Kennedy Union - Ballroom

Advisor(s) - Qiwen Zhan Student(s) - Wen Cheng

In this project, we propose and experimentally demonstrate the generation of second-order full Poincare beams and its applications in two-dimensional flattop beam shaping with spatially variant polarization under low numerical aperture focusing condition. High quality flattop profiles with steep edge roll-off can be obtained with this technique. The experiment results also demonstrate that flattop profile can be maintained for different input beam sizes by conveniently rotating a half-wave plate.

#### Generation of Cylindrical Polarization with Concentric Metallic Rings Fabricated on Optical Fiber End.

**Electro Optics Graduate Program** 9:00 AM-10:30 AM **Graduate Research** Kennedy Union - Ballroom

Advisor(s) - Oiwen Zhan

Student(s) - Wei Han

In this paper, we experimentally demonstrate the generation of cylindrical polarization using concentric metallic rings directly fabricated on the core region of optical fiber. A polarization map is generated from the measurements and azimuthal polarization has been observed. Laser beams with cylindrical polarization symmetry have drawn a lot of attention recently due to their potential applications ranging from microscopy. lithography, focus and beam shaping to optical trapping, etc. It has been shown that circular polarization can be decomposed into radial and azimuthal components superimposed with spiral phase wavefront, i.e., E RHC= $P(r)(e x-je y) = \frac{2}{3} = \frac{$ lows us to generate cylindrical vector polarization by selectively suppressing one of the components. In this work we demonstrate the generation of cylindrical polarization using subwavelength con-centric metallic gratings directly fabricated on the fiber end. The sample is fabricated with focused ion beam milling (FIB) on gold film deposited onto the fiber end with e-beam evaporation. By introducing circularly polarized beam as the input and careful alignment, we are able to observe the donut-shaped output. Intensity patterns are recorded after a linear polarizer with different orientations with a Spiricon camera. The polarization map overlapped with total field intensity shows an azimuthal polarization of the generated beam. Such a fiber end device will enable us to develop all-fiber fiber laser that is capable of producing cylindrically polarization output modes.

### High performance anti-reflection coatings using porous spiral nano-rods

Electro Optics Graduate Program 9:00 AM-10:30 AM **Graduate Research** Kennedy Union - Ballroom Advisor(s) - Andrew M Sarangan

Student(s) - Jian Gao

As the earth is warming up in recent years, global weather faces great challenges. Solar cell technology, recognized as one of the most important clean energy sources for the future, has been used and developed in a wide area of the world. Conventional AR coating of the solar cell panels has certain limitations for the wavelengths and directions of the sun light. By using multi-layer structure of the porous nano rods thin films we can achieve high energy absorption efficiency with broad-band and omni-directional characteristics. This technique will greatly help in the development of solar cell technology.

### **Optical Trapping Using Cylindrical Vector Beam**

Electro Optics Graduate Program 9:00 AM-10:30 AM Graduate Research Kennedy Union - Ballroom

## **MORNING POSTERS**

Advisor(s) - Qiwen Zhan Student(s) - Chenchen Wan

An optical tweezers is a scientific instrument that uses a focused laser beam to provide an attractive or repulsive force (typically on the order of piconewtons), to physically hold and move microscopic dielectric objects. Metallic particles are generally considered difficult to trap due to strong scattering and absorption forces. As one class of spatially variant polarization, cylindrical vector beams are the axially symmetric beam solution to the full vector electromagnetic wave equation. Radially polarized beam could reduce the traditional radiation pressure force along z direction so that 3-D stable trapping could be possible. However, recent study shows that another kind of scattering force, curl force, is still very high and destroys the stable 3-D trapping. My objective of this summer research is to try to engineer the trapping field by applying different pupil functions to reduce this curl force and meanwhile remain the stability of trapping.

### Towards Lithographic Patterning of Nanostructured Thin Films: Effects of CO2 Critical **Point Drying after Liquid Exposure**

Electro Optics Graduate Program 9:00 AM-10:30 AM **Graduate Research** Kennedy Union - Ballroom Advisor(s) - Andrew M Sarangan Student(s) - Zhi Wu

It is known that exposing structured thin films (STF) grown using oblique angle deposition to liquids such as DI water permanently deforms the physical structure of the thin films and alters their properties. This is a severe limitation of STFs because the films cannot be patterned into useful devices using conventional wet lithographic processes. In this work, we have utilized a CO2 critical point drying technique that maintains the film structure even after prolonged liquid exposure. The technique is commonly used in MEMS devices to mitigate stiction issues in suspended layers. We have examined the effects of different solvents, and critical point drying. This technique is a critical step that will allow conventional wet lithographic patterning and etching processes including selective reactive ion etching and other conventional fabrication processes to be applied to STF's for applications such as bio-chem sensing and fuel cells.

#### **Low Cost Instrumentation Amplifier**

9:00 AM-10:30 AM **Engineering Technology** Independent Research, Undergraduate Kennedy Union - Ballroom Advisor(s) - David H Myszka, Scott J Schneider

Student(s) - Daniel E Steigerwald

Sensors used in electromechanical systems, such as a manufacturing assembly robot or a WII game controller, typically produce low voltage signals. These signals should be filtered and amplified prior to using the sensor information. Commercial instrumentation signal conditioners can cost several hundreds to thousands of dollars. Faculty and students in Mechanical and Electronic Engineering Technology have collaborated on the design of a low cost instrumentation amplifier for load cells and strain gages. The amplifier will perform similar to a commercial signal conditioner at a significantly lower cost. Phase II prototypes have been assembled and their performance has been evaluated. This poster will review the signal conditioner design and present its performance data. Once these amplifiers are produced, students can more effectively use strain and load sensors, with available software, to accurately measure mechanical properties and create reliable feedback systems.

#### An Examination of Variations in the Methods Used for Balance Testing and their Effects on **Postural Sway Measurements**

Mechanical & Aerospace Engineering 9:00 AM-10:30 AM Independent Research, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Kimberly E Bigelow

Student(s) - Christopher A Denzinger, Alexander P Jules, Deborah M Kinor, Erin E Sutton

In a method known as posturography, a force plate is used to quantify static human balance. It has demonstrated potential to play a large role in identifying vestibular and balance problems, as well as the detection of neurological disorders, high risk of falls, and susceptibility to sports

related injuries. However, when posturography incorporating the use of a force plate is used in the clinical field, there are procedural variations which can lead to inconsistencies in data. Previous efforts to standardize posturography methods have focused on explicit variations in testing such as foot placement, number and duration of trials, and postural measures reported. Although these findings were a step toward reducing the more obvious variations in testing procedure, little information exists on the more implicit variations that occur within the clinical setting. While there are numerous variations in procedural testing methods between clinics, this study examined three seemingly important variables that had not previously received significant attention: time on the balance plate before trial initiation, presence or absence of a visual fixation point, and condition of subject talking during the test. For this study, approximately 20 young subjects each performed eight randomized trials while standing on a force plate with eyes open to test the effects of each of these variables. A testing matrix was used to ensure that these trials covered all possible combinations of variables and their respective levels (present/absent). Measures of postural sway were calculated for each trial. Statistical analysis was conducted to identify the impacts of these variables on the postural sway measures, in hopes of creating standard methods by which to test human balance.

#### **Comparison of Ignition Delay Times for Bio-Jet Fuels**

Mechanical & Aerospace Engineering Graduate Research Advisor(s) - Sukhjinder S Sidhu Student(s) - Giacomo Flora 9:00 AM-10:30 AM Kennedy Union - Ballroom

In this study, the ignition delay times for processed bio-jet fuels were measured behind reflected shock waves under high pressures and fuel lean conditions. The University of Dayton Research Institute (UDRI) Shock Tube facility was used to obtain the current data set. The experimental conditions covered a temperature range of approximately 1000-1600 K, at a pressure of about 18 atm, and at an equivalence ratio of 0.5, using Argon as the diluent. The results show an indiscernible difference between ignition delay times of standard military jet fuel (JP-8) and the alternate jet fuels. In addition, ignition delay times of selected surrogates for jet fuels were also investigate under similar conditions.

## Hybrid Geothermal Heat Pump Systems: Using Nocturnal & Seasonal Heat Rejection with Radiators

Mechanical & Aerospace Engineering Graduate Research Advisor(s) - Andrew D Chiasson Student(s) - Jarret Q Kelley 9:00 AM-10:30 AM Kennedy Union - Ballroom

Geothermal heat exchangers are a technology notorious for reducing energy by lowering heating and air-conditioning loads in buildings. By using the ground as a heat sink or source, heat pumps are able to operate more efficiently than traditional air source heat pumps due to a smaller temperature delta. The ground, however, is not an infinite heat sink or source so unbalanced building loads can cause the temperature of it to change over time. This research focuses on cooling dominated buildings, where heat is rejected from the building to the ground. Over time, this causes the ground temperature to increase. As this ground temperatures rise occurs, the efficiencies of the heat pump decrease and the life of the system is reduced. A hybrid geothermal system incorporates a supplemental component to handle a portion of the ground thermal load so that it is balanced on an annual basis. The purpose of this research is to determine the effectiveness of unglazed solar panels in radiating heat out of the system to provide balanced ground loads in cooling dominated climates. TRNSYS is used to determine the feasibility of this setup, and TRNOPT is used to determine the optimum number of panels and boreholes.

### The Use of Fractal Dynamics to Identify Balance and Gait Differences in Multiple Sclerosis

Mechanical & Aerospace Engineering 9:00 AM-10:30 AM
Graduate Research Kennedy Union - Ballroom

Advisor(s) - Kimberly E Bigelow Student(s) - Daniel J Petit

Multiple sclerosis (MS) is a progressively debilitating disease that affects a significant number of individuals in the United States and throughout the world. As a result of its debilitative nature, an individual's ability to maintain normal function of balance and gait gradually deteriorate over

time. A challenge for researchers is quantitatively measuring these gradual changes and often subtle differences between normal and impaired subjects as well as within the impaired subject populations. The primary purpose of this research is to investigate the subtle differences in how individuals with MS walk and maintain balance compared to a healthy population through the use of a recently established analysis method, called fractal dynamics, which has been shown to be more sensitive to small changes in the repetitive nature of a continuous stream of data. A fractal dynamics analysis has not been conducted on an MS population; however it has been used in other neurodegenerative diseases such as Parkinson's disease, Huntington's disease, and Amyotrophic Lateral Sclerosis. Knowing how this analysis performs compared to more traditional ways of looking at data can allow researchers to look at MS in a new light. Accurately identifying subtle differences or changes in the disease could allow for more precise treatment regimens (which areas of performance to target), when to switch treatments, assist in earlier diagnosis, or to more reliably track disease progression. Specifically, the research seeks to understand if a fractal analysis, when used in MS populations, can identify statistically significant (p<0.05) differences between MS and healthy subjects in parameters measuring gait and balance. Moreover, I seek to show that a fractal analysis is better at detecting differences between the two groups as opposed to more traditional analysis techniques which commonly evaluate maximums, minimums, or means of center of pressure balance data and joint angle data for walking.

## **Education and Allied Professions**

#### **Teacher Knowledge of Traumatic Brain Injury**

Counselor Education & Human Services 9:00 AM-10:30 AM Graduate Research Kennedy Union - Ballroom

Advisor(s) - Susan C Davies Student(s) - Alexandra E Walk

This survey examines teacher knowledge of Traumatic Brain Injury (TBI). Previous research has indicated teachers lack adequate knowledge of TBI. Also, students with TBI often go without special education services as a result of under-identification of TBI as a disability category within schools. The present survey examines teachers?? knowledge, skills, and training related to TBI. Participant responses are expected to reveal that teachers are only somewhat knowledgeable about TBI, and have received little to no formal training regarding TBI.

#### TRAUMATIC BRAIN INJURY: THE EFFICACY OF A TARGETED TRAINING IN OHIO

Counselor Education & Human Services 9:00 AM-10:30 AM Graduate Research Kennedy Union - Ballroom

Advisor(s) - Susan C Davies Student(s) - Ashlyn M Ray

Abstract: Traumatic Brain Injury: Efficacy of a Training Program in OhioDespite increased prevalence of TBI, educators continue to be inadequately trained to serve students with traumatic brain injuries. School psychologists attending this presentation will learn about important characteristics and deficits that occur after a TBI, and the efficacy of a half-day TBI workshop in increasing knowledge and skills of attendees. This presentation will encourage school psychologists to consider their own level of skills and knowledge related to TBI and perhaps to consider professional development opportunities.

### **ASTP: The Perception Changing Sanction**

Health and Sport Science 9:00 AM-10:30 AM Independent Research, Undergraduate Kennedy Union - Ballroom Advisor(s) - Janine T Baer

Student(s) - Megan L Wolferding

Alcohol Skills Training Program (ASTP) is a course given by the Alcohol and Other Drugs branch of the University of Dayton's Community Wellness Department. ASTP is facilitated by knowledgeable teachers to University of Dayton students who have been sanctioned for alcohol related issues on campus. The purpose of this study is to examine the impact of this course on college student's views of alcohol. It was hypothesized that after completing two sessions of this course, there would be a positive attitude change regarding the students outlook on the course, alcohol consumption, or both. The data collected is taken from both males and females who responded to pre and post surveys before and after the course for a

period of four months. The self-report surveys allowed students to honestly answer the questions in order to determine any attitude changes in response to increased alcohol awareness.

#### **Hazing Policies and Prevention in High School Athletics**

Health and Sport Science 9:00 AM-10:30 AM Independent Research, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Corinne M Daprano, Peter J Titlebaum

Student(s) - Craig J Blike

Hazing Policies and Prevention in High School AthleticsCraig Blike, Dr. Corinne M. Daprano, & Dr. Peter J. TitlebaumA content analysis of Ohio high school hazing policies was conducted to determine how hazing is defined, the processes for reporting and dealing with these incidents, as well as sanctions imposed on those participating in these incidents. Although there has been an increase in awareness regarding hazing there have been numerous hazing incidents at all levels of sport in the past several years. This poster presentation will explore the State of Ohio's hazing statute and present results of our content analysis.

#### Lottery Pick: A Step by Step Guide to Earning the Graduate Assistantship of Your Choice

Health and Sport Science 9:00 AM-10:30 AM
Graduate Research Kennedy Union - Ballroom

Advisor(s) - Peter J Titlebaum

Student(s) - Mark A Hoying, Kelly A Kwiatkowski

Every spring, thousands of students compete for hundreds of graduate assistantships in the field of University Recreation. The positions that are sought after are as different as the resumes of the students competing to be the top choice of the respective hiring committees. A content analysis of over graduate assistant 200 position descriptions posted in the spring of 2010 produced a number of telling statistics. The information pulled from those statistics point to a level of inconsistency in regards to what the field of University Recreation is requiring of its graduate assistants as well as the manner in which these positions descriptions are presented. Furthermore, the inconsistencies are sending mixed signals to the very students being recruited into those positions. Would be candidates find themselves underprepared for positions in which they seem to meet all of the listed requirements. Conclusions from this analysis should prove valuable to both the professionals in the field that are hiring graduate assistants as well as the undergraduate students that are working to build a resume to become a number one draft pick.

#### The Effects of Age, Sex, Heat Stress, and Finish Time on Pacing in the Marathon

Health and Sport Science 9:00 AM-10:30 AM
Graduate Research Kennedy Union - Ballroom
Advisor(s) - Paul M Vanderburgh

Student(s) - Paul M Vanderburg
Student(s) - Nicholas W Trubee

Research has suggested that faster, women, and older runners are more likely to run at a consistent pace during marathon races. Additionally, evidence of running in cooler temperatures has shown to produce steady pacing by participants. Therefore, the purpose of this study was to determine the simultaneous influences of age, sex, heat stress and finish time on marathon pacing. Pacing was defined as the mean velocity of the last 12.2 kilometers divided by the mean velocity of the first 30 kilometers. A pacing index closer to 1.0 indicates better pacing, while an index closer to 0.0 represents less consistent pacing. Subjects included 20,054 men and 12,067 women runners from the 2007 and 2009 Chicago marathons. The course was a 42.2 kilometer loop with pace markers and digital clocks set at every mile and 5 kilometer. Each 5 kilometer split time was measured via an electronic chip worn on the participants' shoe. The average ambient temperatures during the 2007 and 2009 marathons were 26.67 degrees Celsius and 2.77 degrees Celsius, respectively. The cooler 2009 marathon denoted near ideal temperature for steady pacing whereas the heat stressed milieu during the 2007 marathon suggested the element of hyperthermia, a condition known to cause significant variations in running velocity. Multiple regression analysis indicated that age, sex, heat stress, and overall finish time (p<0.01 for each) were simultaneous independent elements of pacing. In cooler conditions, women and faster runners displayed the most efficient pacing, suggesting that cooler temperatures offered an enhanced platform for more consistent pacing. Hot conditions affected the pacing abilities of older, slower, and male runners

## MORNING POSTERS

more so than younger, faster, and female runners. Coaches and runners can use these findings to improve the likelihood for more optimal pacing. KEYWORDS: Ambient Temperature, Velocity, Split time, Pace index

#### **Image Change Through Corporate Programs**

Teacher Education 9:00 AM-10:30 AM Graduate Research Kennedy Union - Ballroom Advisor(s) - Joseph L Watras

Student(s) - Kaori Takano

This research examines the attitude changes of Japanese elementary school teachers toward companies that provided lessons in their class-room. There had been no history of corporate involvement in public education until the last decade. A series of national policy changes gradually opened the door to the private sector. Thirty five elementary school teachers, 17 males and 18 females, were interviewed through email. Teachers described their previous images of the business world as "Profit making only" or "No association with schools." A shift in their attitudes occurred primarily around the year 2005. Less than half the teachers positively changed their images of the business world, however, two thirds of them positively changed their images of a particular company after they experienced its corporate program in their classroom.



## MORNING POSTERS

## **Arts and Sciences**

### Developmental Characterization of Ectopic Eye Formation as a Function of PAX-6 Gene in **Drosophila Eye**

Biology Honors Thesis, Undergraduate Advisor(s) - Amit Singh Student(s) - Christopher A Johns

11:00 AM-12:30 PM

Kennedy Union - Ballroom

Drosophila Eyeless gene (ey) is considered the master regulator of eye. Increasing levels of ey gene expression leads to the production of ectopic eyes on the thorax, wings, orlegs. Ey, required for eye field determination, needs to be degraded when differentiation begins in the eye. However, the exact mechanism involved in this ey protein degradation has not yet been determined. We hypothesize that the ey gene must be phosphorylatedprior to degradation to allow for differentiation to take place. Here we test this hypothesis using a gain-of-function approach where we compare ectopic eye formation capacity of a full-length ey protein to various truncated versions of ey. Our data suggests that C-terminal domain harboring four putative phosphorylation sites is crucial for ectopic eye formation function of ey. Each phosphorylation site has been tested to understand specificinvolvement in the mechanism responsible for degradation of ey protein prior to eye differentiation.

#### Effects of chemical and mechanical changes on aquaporin 1 expression in human venous and arterial endothelial cells

Biology Honors Thesis, Undergraduate Advisor(s) - Carissa M Krane Student(s) - Ellen M Van Derburgh

11:00 AM-12:30 PM

Kennedy Union - Ballroom

Coronary artery bypass graft surgery (CABG) is a procedure done for patients suffering from coronary heart disease (CHD). The two most common grafts for CABG surgery are the human saphenous vein (HSV) and the internal mammary artery (IMA). The patency rate for the HSV is lower than the IMA after ten years due to cell proliferation and blood vessel wall thickening, which eventually occludes blood flow. It is thought that the reason the HSV triggers cell proliferation is due to environmental differences in p02 and shear stress conditions that occur in the venous versus arterial environments. One potential sensor for changes in p02 and shear stress conditions is a water channel protein, aquaporin 1 (AQP1) expressed in the membrane of endothelial cells. AQP1 expression responds to changes in shear stress and osmotic pressure, therefore studying its expression patterns in venous and arterial endothelium could explain the high HSV graft occlusion rates. It is hypothesized that AOP1 expression. measured under the same shear stress conditions, will significantly differ between arterial and venous endothelium. The proposed experiments are designed the assess the effects of p02 and shear stress on AQP1 expression in human venous and arterial endothelial cells, as it relates to differences in vein and arterial graft failure in CABG patients. In this experiment, human abdominal aortic and umbilical vein endothelial cells will be grown in culture under static and shear stress conditions. AQP1 expression in the venous and arterial endothelial samples will be quantified by Western blotting and immunocytochemistry. A comparison of AOP1 expression in venous and arterial endothelium under both conditions may provide information important in discerning the reasons for high HSV. Future research could examine ways to control AQP1 expression, so as to possibly increase HSV graft patency.

### Functional Characterization of Defective Proventriculus, a new member of the dorsoventral patterning pathway

Biology Honors Thesis, Undergraduate Advisor(s) - Amit Singh Student(s) - Michaela A Minichello

11:00 AM-12:30 PM

Kennedy Union - Ballroom

Axial patterning is crucial to the formation of organs in many organisms. In Drosophila dorso-ventral (DV) patterning is the earliest patterning event that occurs in the eye. Retinaldetermination (RD) genes are required for the specification and differentiation of the Drosophila eye field.

Defective proventriculus (dve) is a new member of the axial (DV) patterninggene cascade in the eye. In order to gain a better understanding of the underpinnings of eye development, the interactions between dve and retinal determination genes were investigated. Through gain of function experiments we have found that when dve has increased expression, the retinal determination genes have a decrease in expression. When retinal determination genes were expressed in the dve expression domain, we see an increase in the dorsal margin of the eye and ectopic eye formation. These results lead us to suggest that dve is at the top of the hierarchy of eye formation in drosophila.

#### Growth rates of the blowfly, Lucilia sericata, on different bovine body tissues

Biology 11:00 AM-12:30 PM Senior/Capstone Project, Graduate Kennedy Union - Ballroom

Advisor(s) - Mark E Benbow

Student(s) - Andrew J Lewis, Carolyn T Teter

Forensic entomology can often make estimates of a postmortem interval by collecting blow fly larvae from a corpse and using development rates from laboratory rearing experiments. Lucilia sericata are specifically studied because they typically are the first insect to reach the body after death. Their development at the time of collection can indicate how long a body has been dead and where the wounds, if any, were inflicted. This study compares the growth rates of the blowfly Lucilia sericata on four different bovine body tissues, testing the hypothesis that blowfly larval development would be affected by tissue type. A small portion of cow heart, tongue, spleen and liver were used for each trial. One blowfly larvae was placed in a cup with the respective tissue, and the cups were placed in a randomized block design. As the flies were reared, the mortality rates were significantly higher on the spleen and tongue tissue compared to the heart and liver. Growth rates were also higher in the heart and liver tissue. Feeding for larvae on the heart and liver tissue took place before the tongue and spleen. The larvae were 1.5 mm longer on the liver than the tongue and spleen, and 0.5 mm longer on the liver than the heart. These data suggest that liver and heart are the best tissues to rear blowflies during forensic entomology experiments. Most importantly, forensic entomologists need to be conscientious when collecting samples as to where the larvae were collected from the body and the development of the larvae after collection.

#### Localization of Various Glycoproteins in the Canine Zona Pellucida

Biology 11:00 AM-12:30 PM Honors Thesis, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Shirley J Wright Student(s) - Eileen C Kennedy

The zona pellucida is a glycoprotein layer surrounding the oocyte that plays a significant role in fertilization. It is the site to which the sperm binds to the oocyte to produce an embryo, the earliest stage of a new life. Some cases of human infertility have been linked to the zona pellucida. Thus understanding zona pellucida structure and function is critical to combat infertility. Phylogenetic analysis has shown that the zona pellucida in canines is composed of three different glycoproteins: ZP2, ZP3, and ZP4. Previous studies in our laboratory have shown that the canine zona pellucida is a porous meshwork. The objective of this study was to determine the location and spatial arrangement of the zona pellucida proteins in the zona pellucida meshwork. We will present the results from our research that coupled confocal fluorescence microscopy with immunofluorescence analysis using antibodies to zona pellucida proteins. The results of this study can be applied to help better understand the interaction between the sperm and the oocyte during fertilization. In addition, it will allow comparative studies of zona pellucida structure by providing new data on the canine zona pellucida. This is important because structural differences in the zona pellucida may lead to functional differences between species. The comparative studies will allow discovery of critical components in the mechanism of fertilization.

### Oyster Hemocyte Crystal Deposition for Development of Biocompatible Implant Coatings

Biology 11:00 AM-12:30 PM
Honors Thesis, Undergraduate Kennedy Union - Ballroom
Advisor(s) - Karolyn M Hansen

Student(s) - Emily A Untener

## **MORNING POSTERS**

The Eastern oyster, Crassostrea virginica, produces calcium carbonate shells and is able to re-grow the edge of the shell if notched or damaged. One proposed mechanism of repair involves calcium crystal-containing oyster blood cells (hemocytes) that migrate to the site of injury and provide resources for shell repair. Oyster shells are a composite organic matrix/mineral ceramic material that has high resistance to fracture, increased flexural strength, is non-immunogenic, and is produced under ambient conditions. The use of oyster-derived material for biomedical implant coatings could provide a better implant:tissue interface and reduce the incidence of implant failure at that interface. In this study I examined the role of oyster hemocytes in shell wound repair, determined the biocompatibility of hemocytes with biomedical implant materials (titanium, stainless steel), and characterized the calcium mineral in hemocytes. Oyster shell repair is visible within 12-24 hours post-damage and the repair material becomes increasingly mineralized over time. Circulating hemocytes extracted from damaged oysters contained calcite nuclei, the specific calcium carbonate polymorph that composes the oyster shell. Extracted oyster hemocytes were readily cultured on biomedical implant materials (titanium and stainless steel) for several days with no evident toxicity, and evidence of nanoscale mineral growth was determined using scanning electron microscopy (SEM). Use of this biomaterial for biomedical implant and other coatings may lead to the development of green' technology since production of this composite ceramic material is done under environmentally friendly conditions compared to current ceramic coatings technology.

#### The Effect of Silver Nanoparticles on Mouse Embryonic Stem Cell Gene Expression

Biology 11:00 AM-12:30 PM Honors Thesis, Undergraduate Kennedy Union - Ballroom Advisor(s) - Yiling Hong

Student(s) - Megan R Falter

Nanotechnology has numerous potential for commercial and biomedical applications. Their effects on stem cell gene expression are still largely unknown. My research consisted of treating mouse embryonic stem cells with varying concentrations of silver nanoparticles. Through the microscopy observation, the results indicate that nanoparticles induce stem cell apoptosis. Furthermore, western blotting analysis results indicate that silver nanoparticles have an effect on stem cell gene expression. The research has implications in consumer safety as silver nanoparticles are being used in an increasing number of commercial products.

## The effect of stream diversions on upstream and downstream Trichoptera and Chironomidae populations in the West Maui Mountains, Hawaii

Biology 11:00 AM-12:30 PM
Senior/Capstone Project, Undergraduate Kennedy Union - Ballroom
Advisor(s) - Albert J Burky
Student(s) - Jack C Farrelly

Many tropical island streams around the world are being depleted by man-made dams and diversions. A number of streams on the Hawaiian Islands have been diverted for human use. Our objective was to evaluate the impact of stream diversions among 4 watersheds of the West Maui Mountains on riffle Trichoptera (Hydroptila and Cheumatopsyche) and Chironomidae populations upstream and downstream of the diversions by comparing species population body size and standing stock biomass. Within a 100 m reach upstream and downstream of the highest elevation diversion in each stream, benthic invertebrates were collected using a modified surber sampling technique in 6 randomly selected 0.0625 m^2 cells. Samples were sorted; organisms were identified to the highest taxonomic level and were measured using a Nikon microscope and ImageJ. Trichoptera were measured at the widest part of their abdomens and the body length was measured for the Chironomidae. Published ash-free dry mass equations were used to calculate standing stock biomass for each macroinvertebrate population in each site. A two-way ANOVA was conducted comparing the biomass and body size of the different watersheds above and below the diversions. Understanding the effects of diversions on biomass production is crucial to policy decisions for regulation of freshwater streams of the Hawaiian Islands.

## The Isolation and Transfection of Feline Gastrointestinal Tissue Used to Study the Efficacy of Probiotics

Biology 11:00 AM-12:30 PM Honors Thesis, Undergraduate Kennedy Union - Ballroom Advisor(s) - Robert J Kearns

Student(s) - Teresa S Finnegan

The primary aims of this study were to isolate and characterize portions of the feline ileum, jejunum and duodenum, and then perform adherence assays to determine the effects of various strains of beneficial bacteria on intestinal function. The overall goal was to develop an in vitro model of the feline gastrointestinal tract so that the mechanisms of infectious disease could be better understood. By doing so, various strains of probiotics may be added to companion pet food to prevent such infection from taking place.

#### The Role of Galectin-3 in Melanization

Biology Honors Thesis, Undergraduate Advisor(s) - Robert J Kearns Student(s) - Allison L Chalupa

Student(s) - Jane M Neiheisel

11:00 AM-12:30 PM

Kennedy Union - Ballroom

Galectin-3 is a family member of the carbohydrate binding proteins universally expressed by many cell types and exhibits multiple cellular functions. We demonstrate that melanocytes express Galectin-3 at 30 kDa and is predominantly localized to the cell body peripherally along the Golgi zone. In this cellular area, Galectin-3 co-localizes with melanosome destined cargo, specifically tyrosinase and tyrosinase-related protein-1. In melanocytes cultured from patients with forms of Hermansky-Pudlak syndrome containing defects in trafficking steps governed by BLOC-2 (HPS5), BLOC-3 (HPS1) and adaptin-3 (HPS2), Galectin-3 expression mimicked the defective expression of the tyrosinase cargo in dendrites of HPS-5 melanocytes, but was not abnormally expressed in HPS1 or HPS2 melanocytes. In addition, Galectin-3 co-localized predominantly with the HPS-5 component of BLOC-2 in normal human melanocytes. This data indicates that Galectin-3 is a regulatory component in melanin synthesis putatively functioning as a participant in the cargo trafficking pathway governed by BLOC-2.

# Understanding how mutations in the tumor-suppressor gene, scribble, interact with JNK- and Hippo- cell signaling pathways to induce metastatic proliferation and cancer progression.

Biology 11:00 AM-12:30 PM
Honors Thesis, Undergraduate Kennedy Union - Ballroom
Advisor(s) - Madhuri Kango-Singh

Cell proliferation and cell death are tightly regulated in both pre- and post-natal life of an individual. Defects in the regulation of these important processes are causal to developmental anomalies/defects. For example, defects in regulation of cell death is linked to several degenerative disorders like Alzheimer's, Parkinson's, ALS, muscular dystrophies, and tumor progression and malignancy. My long term goal is to understand the molecular mechanisms underlying tumor progression and metastasis. To do so, we have developed a simple experimental model system in Drosophila to test our hypotheses. The goal of this project is to understand how defective apoptosis mechanisms controlled by JNK- and Hippo signaling pathways contribute to tumor progression. We will study the tumors induced by loss of tumor suppressor gene scribble. Preliminary data suggests that scribble mutant cells induce proliferation in the surrounding normal cells and are themselves prone to apoptosis. However, if apoptosis is impaired in scribble mutant cells, they acquire incredible growth characteristics causing large tumors that metastasize. The mechanisms regulating apoptosis and the specific changes that lead to tumor progression in scribble mutant cells remain poorly understood. Based on our preliminary data we hypothesize that scribble mutant cells suppress apoptotic-mechanisms to induce tumor progression and metastasis. We propose two specific aims to test this hypothesis, Aim1. Test if HIPPO and JNK interact in a linear fashion and whether HIPPO acts upstream or downstream of JNK., and Aim 2: Test to see if scribble requires JNK and/or HIPPO to induce metastatic cell proliferation.

#### Unraveling the Cell Death Mechanism of Alzheimer's Disease

Biology 11:00 AM-12:30 PM Honors Thesis, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Amit Singh

Student(s) - Jaison J Nainaparampil

# **MORNING POSTERS**

Alzheimer's Disease (AD), the most common cause of dementia, agonizes citizens across the nation. Commonly seen in the elderly population, AD challenges patients with tasks that we take for granted: remembering, reasoning, learning and imagining. The destruction of these everyday abilities stems from the destruction of brain cells. Trying to understand exactly how these cells die, researchers ask questions such as: "What proteins are involved? and "How do the proteins communicate to eventually cause neurodegeneration?. This particular study utilizes the Drosophila melanogaster - the common fruit fly to answer these questions. It incorporates a gene known to create amyloid plaques as well as genes from the caspase-dependent and caspase-independent cell death pathways. Amyloid plaques are hypothesized to induce AD symptoms, and, with their over expression in the fruit fly eye, we are able to test and examine the effects of caspase-dependent inhibitor puc. Individually, these two inhibitors are able to partially restore the Alzheimer's phenotype. Together, they provide a strong rescue. These results indicate that the caspase-dependent and caspase-independent pathways do play a role in AD neurodegeneration.

# Vanadium (IV)/Ruthenium (II)/Cobalt (II) Complexes as Photosensitizer for Melanoma Cancer treatment

Biology 11:00 AM-12:30 PM
Senior/Capstone Project, Undergraduate Kennedy Union - Ballroom
Advisor(s) - Yiling Hong
Student(s) - Patrick R Doyle

Melanoma is one of the most common and dangerous types of skin cancer. Every year there are 62,480 new cases in the United States and 8,420 deaths due to melanoma. Currently the most common methods for treating cancer include surgery, radiotherapy, and chemotherapy. All of these have drawbacks. Specifically radiotherapy and chemotherapy are very broadly toxic and kill many more cells than simply the targeted cancer cells. Photodynamic therapy (PDT) as a chemotherapeutic treatment uses a light activated photosensitizer (PS) to initiate cell death through the production of reactive oxygen species (ROS). Developing molecules capable of acting both as a photosensitizer is critical for PDT. In this study we test the Vanadium (IV)/Ruthenium (II)/Cobalt (II) Complexes as photosensitizer to treat melanoma cells. The result indicated that these complexes lead to apoptosis of the melanoma cells more than normal skin fibroblast cells. The complexes could be the promising photosensitizer.

# Investigation of Small Ring Carbamates and Thioncarbamates and Analysis of Moringa oleifera extract

Chemistry 11:00 AM-12:30 PM
Honors Thesis, Undergraduate Kennedy Union - Ballroom
Advisor(s) - Vladimir A Benin
Student(s) - Katherine M Cobb

The Moringa oleifera tree is an entirely edible plant shown to have many nutritional and medicinal benefits native to India and East African nations. A deeper understanding of the nature of this so-called Â?miracle treeÂ? and synthesis of similar compounds has great potential for improving health in impoverished nations, and its chemical composition and uses are worth exploring further. The first part of this project involves an exploration of routes towards the synthesis of analogs of a suggested structure of an antibiotic compound found in extracts of Moringa oleifera: methyl-1,3-oxazetidine-2-thione and its oxygen analog 3-methyl-1,3-oxazetidine-2-one. Synthetic techniques have been moderately successful in yielding the desired product. The second part of the project involves further analysis of Moringa root extracts through soxlet and liquid-solid extraction. NMR spectrobioscopy was used to evaluate the progress in synthetic reactions and in the separation of individual components of the root extracts.

## **Metalloporphyrins as DNA Binding Agents**

Student(s) - Dale F Wilson

Chemistry 11:00 AM-12:30 PM
Honors Thesis, Undergraduate Kennedy Union - Ballroom
Advisor(s) - Shawn M Swavey

The porphyrin, cis-5,10-(4-pyridyl)-15,20-(4-hyrdoxy-3-methoxyphenyl)porphyrin was synthesized. Coordination of two [Ru(bipy)2Cl]+ moieties (where bipy =  $2,2\tilde{A}c\hat{A}?\hat{A}$ ?-bipyridine) to the pyridyl nitrogens of the porphyrin gives the target complex. The porphyrin was characterized by

UV/vis spectroscopy and cyclic voltametry. The ruthenium (II) porphyrin showed an intense Soret band in the visible region of the spectra as well as several Q bands. An intense  $\tilde{A}$ ? $\tilde{A}$ ? $\tilde{A}$ ?\* transition due to the pyridyl nitrogen groups of the ruthenium complex occurred to the left of the Soret band. DNA titrations were used in conjunction with spectrophotometric methods to examine through what mode this metalloporphyrin binds to DNA. The porphyrin exhibited a binding constant of 7.6 x 10 $^{5}$  M $^{-1}$  indicating intercalation of the complex into DNA.

# Spectroscopic and Gravimetric Characterization of the Photoproducts of B-carotene Generated in Carbon Tetrachloride Solvent

Chemistry 11:00 AM-12:30 PM
Senior/Capstone Project, Undergraduate Kennedy Union - Ballroom
Advisor(s) - David W Johnson, Mark B Masthay
Student(s) - Timothy C Sack

B-Carotene (BC; see Fig. 1) acts as an antioxidant and an optical filter in biological systems. More specifically, it absorbs blue light, thereby helping protect the retina from its harmful photoxidative effects. It also acts as a singlet oxygen and free radical quencher in the photsynthetic systems of plants. Orange solutions of BC in chloromethane solvents rapidly photodegrade upon irradiation with ultraviolet light and upon irradiation with intense green, 532 nm laser pulses via one-photon and two-photon photoinduced electron transfer (PET) processes, respectively (see Fig. 2). The resulting colorless photoproducts which absorb in the ultraviolet (UV; lambda < 400 nm) range, result from addition across or cleavage of one of the eleven C=C bonds in the carotenoid conjugation pathway, resulting in shorter conjugation pathways containing six or fewer C=C bonds. Furthermore these photoproducts are expected to contain both oxygen via [2+2] and/or [2+4] cycloaddition across C=C bonds (resulting in dioxetanes which subsequently cleave to yield aldehydes) and chlorine (via the addition of chloroalkyl and chlorine radicals and/or chloride ions across the double bonds of BC and its radical cation BC+). The individual BC photoproducts, which appear to be large in number, are difficult to separate chromatographically and are not easily amenable to conventional chromatographic and spectroscopic methods such as GCMS and HPLC. This is particularly true of the chlorinated products, which appear to be completely absent from GCMS spectra, presumably because they adhere quite strongly to the GC columns. The objective of the proposed research, then, is to use gravimetric analysis and energy dispersive X-ray fluorescence spectroscopy (EDAX) to confirm the presence of chlorine in the photoproduct mixture (to partially confirm the PET mechanism showed in Fig. 2) as well as the presence of oxygen (to confirm the [2+2] and/or [2+4] cycloaddition mechanism with subsequent cleavage).

# Synthesis and Characterization of Polymer Electrolyte Material for High Temperature Fuel Cells

Chemistry 11:00 AM-12:30 PM
Honors Thesis, Undergraduate Kennedy Union - Ballroom
Advisor(s) - Vladimir A Benin
Student(s) - Kaitlin M Fries

2-phospho poly benzobis imidazole (PPBI) polymer was successfully synthesized by direct polymerization, using the monomer 2-phosphonoter-ephthalic acid and 3,3-diaminobenzidine tetrahydrochloride. Techniques employed to confirm the chemical structure of both the monomer and polymer included melting point and nuclear magnetic resonance. The thermal properties of the polymer were characterized by Thermogravimetric analysis. In the future, this membrane has the potential to be used as the polymer electrolytic material material for fuel cell applications.

## Stratified Percepts and Enhancing the Perceive-Decide-Act Cycle

Student(s) - James A Benze

Computer Science 11:00 AM-12:30 PM Honors Thesis, Undergraduate Kennedy Union - Ballroom Advisor(s) - Jennifer Seitzer

An autonomous agent is any intelligent entity that engages in a perceive-decide-act cycle of interaction with its environment. In this paper we present a formalism using a stratified percept chain that renders an augmented interactive cycle. In particular, we identify two kinds of agents: a "lead" agent, who gains the percepts directly from the environment, and a "follow" agent, who gains its percepts from the lead agent (as well as the environment). In this work, the lead agent procures percepts from the environment, makes decisions based on this input, and passes these

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new orders in the form of secondary percepts onto the "follow". We exemplify this formalism in the application area of robotic dancing using models programmed in Alice, a programming IDE/language that facilitates the creation and visualization of autonomous agents. Additionally, a system of stratified percepts was developed using two Bluetooth-enabled Board of Education Robots which were programmed to play "Follow-the-leader."

#### **Experiences of Incarcerated Women**

English 11:00 AM-12:30 PM
Senior/Capstone Project, Undergraduate Kennedy Union - Ballroom
Advisor(s) - Sheila H Hughes
Student(s) - Denise C Brown

Incarcerated women in the United States are frequently marginalized and overlooked members of society. Research will include how gender, race, class, ethnicity and sexual orientation, form interlocking systems that perpetuate the oppression of women serving time in the prison system. These experiences, expressed in their own words, along with academic research, establishes a foundation for bringing them to the forefront.

#### Gender Issues and the Collective Experience of Women in the Sport of Boxing

English 11:00 AM-12:30 PM
Senior/Capstone Project, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Sheila H Hughes Student(s) - Katherine A Will

The experience of female boxers is analyzed as it is recorded in various forms of life writing including memoirs, documentaries, and interviews. The portrayal of female boxers in media images is also studied. Gender issues, including gender surveillance and emphasized femininity, are uncovered by the collective experience of female boxers and are examined in the context of social construction feminism.

#### The Evolving Role of Women in the Army in the Post-9/11 World

English 11:00 AM-12:30 PM
Senior/Capstone Project, Undergraduate Advisor(s) - Sheila H Hughes
Student(s) - Emily B Buckley

My senior capstone project will examine how the role of women in the United States Army has evolved following the terrorist attacks of September 11th, 2001. I will examine how the current wars in Iraq and Afghanistan have reshaped the expectations of female soldiers, with a specific focus on the ban currently in place that prevents women from directly serving in combat units. I will interview female ROTC cadets in order to gain deeper insight into how combat restrictions and their existence as a minority within our battalion and the greater Army affects their beliefs about themselves, their peers, and their career goals within the military. Throughout the project, I will share my experiences and observations as both a soldier and a feminist.

## The History and Implementation of Take Back the Night

English 11:00 AM-12:30 PM Senior/Capstone Project, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Sheila H Hughes Student(s) - Ann M Buscemi

The event of Take Back the Night can mean something different to all those who have heard of or been part of it. The purpose of this project is to explore the history of the event at the University of Dayton as well as the organization that is Take Back the Night. The inclusion of women's stories often plays a large part in the event and the importance of this will be explored.

#### The Medicalization of Women's Bodies

English 11:00 AM-12:30 PM

Senior/Capstone Project, Undergraduate Advisor(s) - Sheila H Hughes Student(s) - Brittney A Cordes

Kennedy Union - Ballroom

I will be researching and examining the medicalization of women and their bodies. Particularly I will be exploring the realm of reproductive organs and the potential positives and negatives of child birth specially women with pre-existing illnesses. I plan to gain a better understanding of how when feel when being examined and how they respond to the medical terminology that is constantly thrown at them from medical professionals. I will be interviewing two women who have pre-existing illnesses who have been through child birth and other illnesses involving their reproductive organs. My poster would consist of snippets of interviews and images displaying the emotions and procedures women go through during gynecological examinations. I will be doing phone interviews and I will take photos of doctor's offices and the tools used in examinations.

#### Women and Mental Health Institutions

English Senior/Capstone Project, Undergraduate Advisor(s) - Sheila H Hughes

Kennedy Union - Ballroom

11:00 AM-12:30 PM

Student(s) - Tasha R Funkhouser

A feminist look into women patients in mental health institutions. This will include factual based information along with the exploration of women's life writing from women who have been patients in these institutions.

#### **Geochemical Analysis of East Humboldt Gneiss Complex**

Geology Senior/Capstone Project, Undergraduate Advisor(s) - Allen J McGrew Student(s) - Jared E Stoffel

11:00 AM-12:30 PM Kennedy Union - Ballroom

The East Humboldt Range of Northeast Nevada (Elko County) exposes the oldest gneiss complex in Nevada, with the parent rock of the gneiss dated between 2550 and 1800 million years. Not only are these the oldest rocks in Nevada, but they are the western-most exposures of Precambrian basement rock in the US. As such, these rocks provide a glimpse into the long term evolution of the North American continental crust, even before it was North America as we know it. These rocks were subsequently metamorphosed and partially melted approximately 70-90 million years ago after being tectonically buried to a depth of at least 32 km in the crust at temperatures approaching 800 degrees C, according to previous studies. This study applies geochemical data to constrain melting processes and determine the origin of the melt, which previously has received little attention. Using a sample set that includes a relatively homogeneous and unmelted granitic gneiss that represents a possible parent rock composition as well as three gneiss samples showing varying degrees of partial melting, geochemical analyses were conducted to determine and compare major and trace element signatures of coexisting leucosome (inferred melt) and the melanosome (host rock). Preliminary results suggest that the melts were at least in part internally derived, but possibly with a significant external contribution, as well. The major element data also constrains the nature of the source rock for the melt, indicating a sedimentary origin based on the peraluminous composition of the samples.

## Graptolite Biogeography: Using Paleo-GIS to Examine the Evolutionary Dynamics of Early **Paleozoic Zooplankton**

Geology Independent Research, Undergraduate Advisor(s) - Daniel Goldman, Shuang-Ye Wu Student(s) - Catherine E Johnson

11:00 AM-12:30 PM Kennedy Union - Ballroom

The relationships between geographic range and evolutionary dynamics, particularly taxonomic duration, have been analyzed for many fossil

groups, mostly with benthic lifestyles. The exceptionally well controlled species longevities documented for planktonic graptolite species (in addition to their abundant distribution and well sampled fossil record) make them ideal fossils for testing hypotheses regarding the relationship of geographic range to taxonomic duration. Using the Mitchell et al. (2007) Diplograptoidea phylogeny as the basis for our study, we coded 85

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graptolite species for presence-absence at 30 Middle and Late Ordovician localities around the world, as well as for their sub-clade membership and biotope association. For each species we obtained a stratigraphic duration in millions of years from a CONOP9-generated range chart and timescale (Sadler et al., 2010), and calculated a geographic range in km using Paleo-GIS software (Scotese, 2004, 2006). Sub-clade associations included climacograptid, dicranograptid, diplograptid, eoglyptograptid, lasiograptid, normalograptid, and undulograptid. Biotope assignments were to cosmopolitan epipelagic (CE), cosmopolitan mesopelagic (CM), and endemic cratonic (CrE). We then tested for correlations between stratigraphic duration and geographic range among all the Diplograptoidea, as well as among groups defined by sub-clade membership and biotope association. Using Pearson's correlation, stratigraphic duration and geographic range were significantly correlated (r = 0.546, p = 0.000) for all Diplograptoidea. Within biotopes, members of the CE and CM biotope exhibited a significant correlation between range and duration (r = 0.611, p = 0.000 and r = 0.470, p = 0.003, respectively). Among the Diplograptoidea sub-clades, diplograptids and normalograptids had significant range/duration correlations using Pearson's correlation (r = 0.805, p = 0.000; and r = 0.771, p = 0.002, respectively). Future studies will examine the effects of sampling and fossil recovery biases on the likelihood of a taxon actually occurring at a particular locality and time but being coded as absent.

#### Hydrogeologic Investigations at the Silver Lake Wetland Site

Independent Research, Undergraduate Advisor(s) - Richard A Bendula, Allen J McGrew Student(s) - Bradley T Hanson

11:00 AM-12:30 PM Kennedy Union - Ballroom

A water quality study will be conducted to determine the general water quality of surface and ground water flowing into and out of the Silver Lake wetland site, located in western Miami County, Ohio. The study will also assess the effectiveness of the constructed wetland site in treating nitrogen based fertilizers that are washed into the wetland from adjacent farms and residences. Treatment would occur through the natural processes of denitrification and ammonification. Water samples will be collected from ten sites: Seven shallow monitoring wells, a pond, and from the surface water flowing into and out of the wetland site. The water samples will be collected as soon as possible after fertilizer application in the spring, and again in September, of 2011. The pH, temperature, specific conductance, oxidation reduction potential (ORP), and total dissolved solids of the samples will be determined in the field using a Myron Multimeter. Concentrations of nitrate and ammonia from the ten sites will be analyzed at Belmonte Labs, while several locations will be selected for field analysis using a photometer. Additionally, samples from five of the sites will be analyzed for arsenic at the laboratory to determine if arsenic is being mobilized from the surrounding soils. Commonly, wetlands promote an anoxic environment in shallow ground water systems due to the decay of plants and animals. Under these conditions, ground water in anoxic environments will have negative values of ORP, and if arsenic is present in the soils it will go into solution in the shallow ground water system (Bendula and Khoury 1998). Rich Bendula, Chris Khourey. "Arsenic: Its Occurrence in Water Wells in Ohio." Drinking and Ground Water News Spring 1998: 1. Miriam Reinhardt, Beat Muller, Rene Gachter, Bernard Wehrli. "Nitrogen Removal in a Small Constructed Wetland." Environmental Science Technology (2006): 3313-3319.

#### Ohio Forest Cover: Using Geographical Information Systems to Temporally Assess Forest **Cover and Possible Demographic Linkages**

Over the past two decades, forest fragmentation has become a serious concern in the areas of conservation and restoration ecology. Forest frag-

mentation is a process that occurs at the landscape scale and has been shown to decrease species populations and their gene flow. The term forest

fragmentation refers not only to the size of a forest patch but also its spatial orientation, for example its shape complexity and amount of edge. The dependence of forest fragmentation on spatial location and orientation at the landscape scale made it the perfect candidate to be analyzed

using Geographical Information Systems (GIS). The objectives of this study were (1) to analyze and assess forest cover in Ohio between 1992 and

2001 to determine how forest cover has changed over time as well as (2) to develop a spatial regression model that may demonstrate how certain

demographic data influences the state's forest cover using GIS. Land use raster data from United States Geographical Survey was reclassified and

Geology Senior/Capstone Project, Undergraduate Advisor(s) - Shuang-Ye Wu Student(s) - Amy M Hruska

11:00 AM-12:30 PM Kennedy Union - Ballroom

resampled to create a variety of indices to assess forest fragmentation throughout the state. Then the total forest cover in Ohio was compared to a variety of demographic variables using Ordinary Least Squares Regression models. Overall, forest cover decreased in Ohio between 1992 and 2001. There was a temporal increase in the forest edge ratio and shape complexity indices, which demonstrated that some effects of fragmentation had increased. Additionally, temporal increases in the proportion of forests, their area weighted patch size and connectivity indices demonstrated that other effects of fragmentation had decreased. An explanatory regression model using demographic variables was unable to be developed to explain the amount of forest cover in Ohio, suggesting that population demographics in Ohio are not a driving force behind the change in Ohio's forest cover.

# Case Studies: The Linguistic Impact of Short-Term Studies Abroad/Casos de estudio: el impacto linguistico de estudio en el extranjero de corta duración

Languages 11:00 AM-12:30 PM Honors Thesis, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Isabel J Espinoza

Student(s) - Christopher J Lemon

This study analyzes several linguistic changes in the speech and writing of three undergraduate Spanish students during a short-term study abroad in the areas of pronunciation of Spanish oclusive consonants--/p/, /t/, /k/, /b/, /d/, /g/--, use of clitic pronouns, use of qualitative adjectives, length and complexity of discourse, and global language proficiency. To determine the accuracy and frecuency of use in these categories, transcriptions and recordings of interviews following the structure of the ACTFL OPI and written exams following the structure of the ACTFL WPT were analyzed. The results imply that the short-term study abroad had a minor effect on the language proficiency of the participants. KEYWORDS: study abroad, short-term study abroad, Spanish as L2, pronunciation, clitic pronouns, adjectives, discourse, ACTFL Oral Proficiency Interview (OPI), ACTFL Writing Proficiency Test (WPT), methodology of a qualitative study. [ESPANOL] En esta investigacion se presentan varios analisis de los cambios en la suficiencia linguistica de tres estudiantes universitarios de espanol en un estudio de corta duracion en el extranjero en las areas de pronunciacion de sonidos oclusivos del espanol--/p/, /t/, /k/, /b/, /d/, /g/--, el uso de pronombres clíticos, el uso de adjetivos calificativos, la longitud y complejidad del discurso y suficiencia linguistica global. Para determinar la precision y frecuencia del uso en estas categorias, se analizaron transcripciones y grabaciones de entrevistas orales siguiendo la estructura de la OPI de ACTFL y examenes escritos siguiendo la estructura del WPT de ACTFL. Se llego a la conclusion de que una estadia en un pais extranjero de corta duracion tiene un impacto menor en la suficiencia linguistica de los participantes. PALABRAS CLAVES: estudios en el extranjero, estudios de corto plazo, espanol como L2, pronunciacion, pronombres cliticos, adjetivos, discurso, discurso, da linevestigacion cualitativa.

## **Coarser Pathwise-Connected Topologies of Metric Spaces**

Mathematics 11:00 AM-12:30 PM Honors Thesis, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Lynne C Yengulalp Student(s) - Joshua S Cain

A metric space is defined as a set of mathematical objects along with a distance function. Recent research has been concerned with determining whether or not the topology induced by a metric can be condensed in such a way that the resulting space is connected; however, not all of these results hold when applied to a search for pathwise-connectivity, a stronger condition than connectivity. This paper examines and provides proofs for which results about generalize to pathwise-connectivity and which do not, with a focus on direct sums, compact spaces, and subsets of pathwise-connected spaces.

# **Maximizing Social Welfare in a Stackelberg Duopoly Game**

Mathematics 11:00 AM-12:30 PM
Honors Thesis, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Arthur H Busch

Student(s) - Yi Zhao

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A market in which duopoly competition exists is one in which there are two entrepreneurs and each considers its rival's possession of economic influence when planning its own market action. Toshihiro Matsumura (2003) explores a Stackelberg game in which a welfare maximizing public firm competes with a profit driven foreign private firm and uses a Cournot game as a comparison for the Stackelberg conditions. Matsumura found that the public firm prefers to lead and the private firm prefers to follow when the demand is linear, which is a stable equilibrium condition. They also concluded that the public firm always chooses to lead given a concave demand function and the result above is valid for demand functions that are sufficiently close to a linear demand function. We extend Matsumura's Stackelberg mixed duopoly models by testing demand functions of various concavities. When we use the same model for convex demand functions, Matsumura's techniques derive disparate results—the stability of equilibrium no longer holds. Instead, it is dubious whether the public and private firms would prefer to lead or to follow. We deduced possible results using a variety of hypothesized convex demand functions. In the case that a convex demand curve is close enough to a linear function, all of our examples tested show the existence of an equilibrium where private firm leads and public firm follows. In other cases, both firms prefer to follow, which is not a stable situation.

#### The Moral Gap: A Search for Moral Consistency

Philosophy
Honors Thesis, Undergraduate
Advisor(s) - John J Bauer, Peggy J DesAutels
Student(s) - Matthew E Graci

It appears as though people are not the best judgers of character, including ethical theorists. Observers can come to wrong conclusions because people do not act in such a robust, consistent, and universal way society tends to believe. Thus, my thesis is concerned with how a person comes to act in a situation. If an observer judges the actor wrongly, then he or she prescribes an inadequate ethical system. Effective systems need a more mature and comprehensive understanding of the person in the situation. However, moral reasoning, alone, has a small relationship in producing moral action. The virtuous person needs more than a traditional moral understanding because there are many more factors that motivate moral action than previous observations described. An ethical system needs to expand its horizons by acknowledging the power of systems and situational forces. The cultivation of virtue lies in the person perceiving the world in a more morally complex manner. The new ideological outlook the mature agent must have includes an awareness of one's conditional expression of inner qualities (based on perceived situational factors) and the knowledge to utilize seemingly amoral factors and pro-social behaviors to become a more morally consistent person.

# A study of the impact of Al-content on the transport properties of AlGaN/GaN heterostructures

Physics 11:00 AM-12:30 PM
Honors Thesis, Undergraduate Kennedy Union - Ballroom
Advisor(s) - Said Elhamri

Student(s) - Michelle R Tomczyk

The nitride family and its heterostructures are important to the future of semiconductor development due to their short-wavelength and highpower, high-frequency applications. Though gallium nitride (GaN) based devices are already available commercially, much more work is needed to fully exploit the full potential of GaN-based structures. A key area of focus is how the growth parameters impact the performance of devices based on these materials. This project focuses on the impact of Al- content in the AlGaN/GaN heterostructure on three transport parameters: resistivity, carrier density, and mobility. The Hall effect and resistivity, which are commonly employed techniques in semiconductor research, are the primary characterization methods used in this study. To do these measurements, the Van der Pauw geometry is used due to its convenience. The first 8 configurations in the Van der Pauw method are used to determine the sheet resistivity, while the second 8 configurations are performed in the presence of a magnetic field to determine the Hall voltage of the sample, from which the carrier density can be calculated. Once the resistivity and carrier density are determined, the mobility can be calculated. The samples used in this study consisted of an AlGaN/GaN heterostructure grown on a sapphire substrate with three different aluminum mole fractions. At low temperatures, both the carrier density and mobility were relatively insensitive to the temperature, which indicates the presence of a good quality two-dimensional electron gas at the AlGaN/GaN interface. At low temperatures, it was found that with increasing aluminum content, the carrier density increased while the mobility decreased. This finding is in

agreement with published work for samples with comparable carrier densities. To minimize the degradation of the mobility, the next step in this research is to investigate the impact of inserting a thin AIN layer between the GaN and AIGaN layers.

### **Current Research on Quantum Correlations and Implications for NMR Quantum** Computing

Physics 11:00 AM-12:30 PM Honors Thesis, Undergraduate Kennedy Union - Ballroom Advisor(s) - Leno M Pedrotti

Student(s) - Nicholas D Haynes

Nuclear magnetic resonance (NMR) spectroscopy has been used extensively in recent years to test the basic principles of quantum computing (QC). There has been disagreement, however, about whether NMR QC truly exhibits quantum effects or if these effects are just being simulated. The effects of quantum correlations - those that cannot be reduced to classical laws - on NMR QC were investigated in an attempt to answer this question. Further research potentially offers the promise of explaining why quantum computers seemingly can solve some problems faster than classical computers

#### **Afghanistan-Pakistan Strategic Assessment**

Political Science 11:00 AM-12:30 PM Course Project, 11\_SP\_POL\_452\_01, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Mark Ensalaco

Student(s) - Michael T Barber, Cory J Collins, Kaitlin M Foy, Jacquelyn A McTique, Chelsea S Pope, Joellen J Redlingshafer

A strategic analysis of the Afghanistan-Pakistan conflict defining the U.S national security interests, evolution of said strategy, current strategy, justifications of U.S. involvement in the region, and recommendations for further operations in the region.

#### The Cost of Justice: The International Criminal Court and the Tension between Pursuing Peace and Obtaining Justice

Political Science 11:00 AM-12:30 PM Honors Thesis, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Margaret P Karns

Student(s) - Abagail M Lawson

My thesis examines the tension between pursing peace and obtaining justice that has emerged in two particular cases before the International Criminal Court (ICC) "the case against Sudanese president Omar al-Bashir and the case against the leader of the Lord's Resistance Army in Northern Uganda, Joseph Kony. I look at the ICC as a major milestone in international justice, and how its existence and work has impacted the conflicts in Sudan and Northern Uganda. I also look at how this tension speaks to the way the Court was built. and nature of the situations in which it acts. The concepts of justice is examined, and how its various meanings dictate the work of the Court, the nature of conflict resolution processes, and therefore what the tension between justice and peace really means. My aim with this thesis paper is to assess how the relatively young justice mechanism, the ICC, that was created with hopes of bringing an end to impunity on the international stage, how these hopes and the ideals about true justice are being played out in reality through this body. I hypothesized that the tension between pursuing peace and obtaining justice impedes both the ability of the international community to facilitate ending certain conflicts, and the ability of the Court to function effectively. This hypothesis is explored through the two specific cases before the ICC: the case against Joseph Kony and the case against Omar al-Bashir.

# Advanced Spatial Audio Cueing for Large-Screen Displays

11:00 AM-12:30 PM Psvcholoav Honors Thesis, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Susan T Davis Student(s) - Courtney E Castle Psvcholoav

Honors Thesis, Undergraduate Advisor(s) - R M Montoya

Student(s) - Leah M Schumacher

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11:00 AM-12:30 PM

Kennedy Union - Ballroom

In the context of military command and control operations, operators are under an incredible amount of pressure to perform time-sensitive tasks in a rapidly changing environment. When the task involves a large screen display, it is easy to fail to recognize a critical piece of information due to other task-related constraints. An auditory cue can provide a useful and salient method of alerting operators to a change in their informational display. Additionally, if the auditory cue contains spatial information about the location of an event onscreen, it is more likely to help in detecting and responding to relevant events as they occur. Since a spatialized cue alerts the operator to the location of importance, it provides a critical advantage in areas of the screen associated with lower rates of detection.

#### Aiming High When Resources Are Low: Academic Aspirations Mediate the Effects of SES on Academic Achievement

Psychology Independent Research, Undergraduate Advisor(s) - Jackson A Goodnight Student(s) - Danvell R Lewis

The purpose of this project was to determine whether there are connections between low socioeconomic status (SES), academic and career aspirations, and academic achievement. More specifically, if low SES predicts low academic achievement, is this relationship explained by low academic aspirations? Experimenters predict 1) there is a positive correlation between low SES and low academic achievement. 2) there is a positive correlation between low SES and low aspirations, and 3) low aspirations mediate the effect of low SES on low academic achievement. The data was previously collected in the Child Development Project, a longitudinal study of child social development; with questionnaire items from ages 12 (SES reported by parents) and 16 (aspirations reported by youths), and academic records from age 17 (grades from 11th grade). A multiple regression analysis was used to test the association between variables: SES significantly predicted aspirations ([standardized coefficient]=.344, p<.05) and academic achievement ([standardized coefficient]=.210, p<.05). When aspirations were considered along with SES as predictors of academic achievement, aspirations predicted academic achievement ([standardized coefficient]=.465, p<.05), and the correlation was weakened between SES and academic achievement ([standardized coefficient]=.093, p>.05). Aspirations explained 56% of the effect between SES and academic achievement (Sobel test =4.502, p<.05). Based on the results, those with low SES and/or low aspirations are more likely to have low academic achievement. In addition, aspirations account for over half the effect of SES on academic achievement, suggesting that low SES leads to low academic achievement by first reducing academic and career aspirations. The findings suggest that the negative effects of low SES on academic achievement could be mitigated by enhancing academic and career aspirations of disadvantaged students.

#### Evolving Standards of Decency: An Exploration of the Interplay of Developmental Psychology and the Eighth Amendment

Psvcholoav 11:00 AM-12:30 PM Honors Thesis, Undergraduate Kennedy Union - Ballroom Advisor(s) - Melissa J Layman-Guadalupe

Student(s) - James R Saywell

Over the past several decades the United States Supreme Court has heard several pivotal cases involving "cruel and unusual punishment." My thesis explores these cases with the lens of developmental psychology. Specifically, I look at the Court's evolving standards of decency in judging what constitutes cruel and unusual punishment for children under the age of 18 through case study and developmental psychology research in order to hypothesize where the Court is heading into the future.

## Focusing on my appearance is exhausting: Self-exposure and self-regulation failure for individuals with low body esteem

11:00 AM-12:30 PM Kennedy Union - Ballroom

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Self-regulation, or self-control, refers to the ability of the self to manage its responses, including its thoughts, emotions, and behaviors. Self-regulation is believed to operate like a muscle-just as a muscle tires from use, when we have to "regulate" our behavior, it causes temporary impairments (i.e., ego depletion) on later tasks. I conducted two studies that examined whether having to focus on one's appearance consumes self-regulatory strength in individuals who are dissatisfied with their appearance. Participants in both studies first focused on either an image of their own face or a control image for a short period of time. Participants in Study 1 then completed a food evaluation task, which was used to assess participants' degree of ego depletion, while participants in Study 2 read and responded to several scenarios concerning sexual infidelity, which served the same purpose. The results of Study 1 provided preliminary support for the ego depletion hypothesis, while the results of Study 2 were inconclusive.

#### **Forbidden Relationships and Betrayed Trust**

Psychology 11:00 AM-12:30 PM Independent Research, Graduate Kennedy Union - Ballroom

Advisor(s) - R M Montoya

Student(s) - Hannah M Boggus, Rachel C Creedon, Michelle A Roth

Infidelity is common in society with prevalence estimates ranging from 26% to 75% (Buss, 1994). For example, in a study of 160 cultures, infidelity was the most frequently cited reason for divorce (Betzig, 1989). In the present study, we conducted a person perception study to examine men and women's beliefs about the outcomes of infidelity. We were specifically interested in how gender and attachment style affected men and women's attitudes regarding the intent and outcomes of infidelity between a single friend and a person in a committed relationship. Undergraduates (Women=90; Male=90) completed questionnaires that assessed their attachment and relationship efficacy. Next, participants imagined a situation involving infidelity between a single friend and an unknown other in a committed relationship. Participants then answered questions regarding their attitudes about the outcomes of such a relationship. Findings revealed that across the sample, men, compared to women, were more confident that the committed person would leave their partner for their friend after the affair. Further, results indicated a triple interaction, such that women with high attachment anxiety thought it was less likely the person in the committed relationship would leave their relationship to be with their friend. This pattern was reversed for men; men with high attachment anxiety, felt it was more likely the person in the committed relationship would leave their partner to be with their friend. With respect to high attachment anxiety, men with high anxiety thought it was significantly less likely a man in a committed relationship would leave his partner after an affair. A key implication of these findings is that high anxious women respond differently than high anxious men to infidelity; women are more likely to approach in a committed relationship, whereas men are more likely to avoid in a committed relationship.

#### **Gender Differences in Siblings as Supervisors**

Psychology 11:00 AM-12:30 PM Independent Research, Graduate Kennedy Union - Ballroom Advisor(s) - Keri J Kirschman

Student(s) - Laura E Stayton, Mary C Tassone, Heather M Zimmer

AbstractAnalyzing data from a larger study, "Supervising Brothers and Sisters," gender differences in amount of supervision provided by siblings were examined. Questionnaires concerning demographics, child behavior, and patterns of sibling interaction were distributed to participants. Families with a younger child aged 3-5 and an older child aged 6-12 participated. Seventy-two families participated in the study; 70% were Caucasian. An independent-samples t test was conducted to evaluate the hypothesis that parents rely on older female children to provide more supervision for their younger siblings than older male children provide for their younger siblings. Gender differences have been found in parent's perceptions of their children's risk taking behaviors and injuries (Morrongiello, Zdzieborski, & Normand, 2010) therefore we hypothesized that gender differences may be found in parent's use of boys and girls as supervisors of younger children. However, the t test provided no significant results, t(67) = .329, p = .743. Parents in the study reported no difference in the total time of supervision of young children by older brothers or sisters. These findings add to the current literature describing parental use of siblings as supervisors. Although gender differences are commonly believed to play a role in the amount of supervision provided to younger siblings, our research found no conclusive data to support this. Keywords: Gender differences, sibling supervision

# MORNING POSTERS

#### **Overconfidence in Administrative and Management Positions**

Psychology 11:00 AM-12:30 PM
Honors Thesis, Undergraduate Kennedy Union - Ballroom
Advisor(s) - Susan T Davis, Jonathan A Hentz
Student(s) - Paul W Thomas

The present study aimed to collect empirical evidence regarding overconfidence in management decisions and risk taking. Overconfidence occurs when one's perceived ability or performance does not match up with actual ability or performance. While there has been anecdotal research done on overconfidence in managerial positions, there is a lack of empirical evidence. This study investigated the connection between experience in a management position and overconfidence. The participants, consisting of students (undergraduates and MBA students) and administrative professionals, completed a survey containing questions that assess the skills needed for success in a managerial position, managerial dilemmas, a scale to measure self-efficacy and risk averseness, and some basic demographic questions. The goal of this study was to gather empirical data that will support findings from anecdotal studies or a more logical theory regarding the link between overconfidence and years in a management position. Based on anecdotal research, overconfidence could increase as experience increases due to increased feelings of invulnerability. Alternatively, overconfidence could decrease with experience as one gains a better self-awareness and understanding of the skills needed to be a successful in a management position. This study found that participants with greater than one year of experience in a management position could accurately assess their management skills. Also, years of experience positively correlated with applied knowledge in a management position. Thus, this study supports the second of the two theories previously outlined, and does not support the findings of anecdotal research.

#### Pleasingness of Faces: The Role of Handedness and Symmetry in Facial Preferences

Psychology 11:00 AM-12:30 PM Independent Research, Undergraduate Kennedy Union - Ballroom Advisor(s) - Susan T Davis, Jonathan A Hentz

Student(s) - Kathryn E McKeown, Suzanne M Thomas

Pleasingness of Faces: The Role of Handedness and Symmetry in Facial PreferencesFacial pleasingness and symmetry are two factors that contribute to the overall attractiveness of a person. This role of symmetry is consistent with research on the role of body symmetry in mate selection in other species. For example, female insects and birds have been found to prefer body symmetrical characteristics in males of their species (Perrett, 1999). The present research examines the relationship between handedness and ratings of symmetrical and non-symmetrical faces. Participants were assigned to one of two experimental conditions in which they viewed a slideshow of symmetrical and non-symmetrical faces for 100 ms or 500 ms; the control group was given no time limit for viewing the faces. Participants rated the pleasingness of individual faces and chose the most pleasing face from symmetrical and non-symmetrical versions of the same face. Results are expected to support previous research which found that symmetrical faces are preferred to and are evaluated more quickly than non-symmetrical faces. Facial symmetry is one characteristic that is indicative of evolutionary advantages; that is, symmetry can give critical information—and quickly—about the health and genetic stability of a potential mate (Rhodes, Proffitt, Grady, & Summich, 1998). An additional expectation of the present research is that both left and right-handed participants are expected to prefer symmetrical over non-symmetrical faces. If facial preference is determined by the dominant hemisphere of the brain, then it is expected that left-handers will prefer the left-left version of the face and right-handers will prefer the right-right version. The results of this research are important for identifying facial features that are taken into account when judging for attractiveness and when seeking a healthy future mate that has evolutionary advantages.

# Reducing Overconfidence: The Effects of Instruction Type and Task Difficulty on Calibration

Psychology 11:00 AM-12:30 PM Independent Research, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Susan T Davis, Jonathan A Hentz

Student(s) - Brittany L Bernard, Nicholas V Pesola, Kendra L Rutschilling

Overconfidence affects people in many facets of their lives (e.g., tests and games). The overconfidence effect states that people are often more confident than accurate in terms of their abilities. A possible reason for this effect is cognitive dissonance, a condition in which behaviors are inconsistent with attitudes (Festinger, 1957). People try to reduce their psychological discomfort by calibrating their attitudes with perceived performance (Elliot & Devine, 1994). Previous research has used general knowledge questions to study the overconfidence effect. The present study has utilized wuzzles (word puzzles) to explore confidence with unfamiliar material. This research studied the overconfidence effect by altering task difficulty and instruction type. A total of 291 participants were assigned to one of the four conditions; prior to the task, participants were either told about the task difficulty level to reduce dissonance (instruction type: cognitive dissonance reduction condition; CDR) or told nothing about the difficulty level (instruction type: control condition). Each participant was then given either easy or difficult wuzzles. Performance scores from the wuzzles were compared with confidence ratings from before and after completion of the task to determine the degree of calibration. Both conditions, the CDR and control, produced movement towards calibration; however, there was no significant difference in this movement. On the other hand, participants in the easy condition were under-confident and those in the difficult condition were overconfident. This finding suggests that people are not necessarily overconfident but rather poorly calibrated in their ability to judge both their past and future performance on cognitive tasks, regardless of task difficulty level.

#### **Rejection and Interpersonal Attraction**

Psychology Honors Thesis, Undergraduate Advisor(s) - R M Montoya Student(s) - Nicholas V Pesola 11:00 AM-12:30 PM Kennedy Union - Ballroom

Past research in social psychology shows that we tend to like people when they accept us more than when they reject us. That said, it is also known that rejection is often necessary and perhaps an inevitable consequence of human interaction. Our experiment set out to identify likeable ways to reject someone such that the rejected individual counterintuitively likes her rejecter immediately after being rejected. Over the course of the study, 80 participants were led to believe that they were preparing for a teamwork task with another participant. In reality, each participant interacted with a trained actress who first listened to the participant state her case as to why she should be selected for the team leader role and then gave the participant 1 of 8 types of feedback. Interpersonal attraction toward the actress, attitude change, and physiological arousal were measured following the interaction.

# Religiosity, Forgiveness, and Mediating Factors

Psychology 11:00 AM-12:30 PM Independent Research, Graduate Kennedy Union - Ballroom Advisor(s) - Lee J Dixon

Student(s) - Katherine A Earl, Angela M Evanko, Allison L Kolick, Leigh E Ridings

Forgiveness, "prosocial motivational change on the victim's part," (McCullough, 2001, p.194), in past research has been linked to both religious orientation and empathy. There are two primary types of religious orientation: extrinsic and intrinsic (Weibe & Fleck, 1980). These religious orientations may affect one's conceptualization of forgiveness and one's likelihood to engage in forgiving behavior (Webb, Chickering, Colburn, Heisler, & Call, 2005). Studies have indicated that individuals who are religious as opposed to non-religious tend to place a higher importance upon forgiveness (Gordon et al., 2008). According to McCullough and Worthington's (1999) findings, there is a positive association between the value people assign to forgiveness and level of religious involvement. Furthermore, people with increased intrinsic faith and greater levels of religious practice tended to report more of a likelihood of forgiving others and situations (Webb, Chickering, Colburn, Heisler, & Call, 2005). Essential aspects linked to empathy may include internal dimensions of spirituality and religiosity (Markstrom, Huey, Stiles, & Krause, 2010). Numerous authors have recognized empathy as vital to the forgiving process (Brose, Rye, Lutz-Zois, & Ross, 2005). Given that forgiveness has been linked to intrinsic religiosity and also linked to empathy, in the current study we expect to find that empathy mediates intrinsic religiosity and forgiveness. More specifically, we hypothesize that higher levels of intrinsic religiosity will correlate with higher levels of empathy, which, in turn, will lead to increased levels of forgiveness. Data is still being collected and the study is ongoing. The results will be presented at the Brother Joseph W. Stander Symposium.

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#### The Effects of Facial Attractiveness and Symmetry on Glance Behavior

Psychology 11:00 AM-12:30 PM Independent Research, Undergraduate Kennedy Union - Ballroom Advisor(s) - Susan T Davis, Jonathan A Hentz Student(s) - Daniel A Hurlburt, Kaitlin E Key

Many factors have been identified that have a bearing on how we judge attractiveness; these judgments of facial attractiveness typically occur in less than a second (Olsen & Marshuetz, 2005). Extending previous research, the present study will investigate the effects of both facial symmetry and attractiveness on a person's natural glance behavior, as a measure of pleasingness. One hypothesis is that faces with high ratings of both attractiveness and symmetry will be glanced at for a longer total period of time than those faces with lower ratings of attractiveness and symmetry. A contrasting hypothesis from an evolutionary perspective is that the relationship between symmetry and attractiveness is not as strong as that between symmetry and health. Consequently, glance behavior will be no more affected by those faces that are attractive and symmetrical than those that are less attractive while still symmetrical (Zaidel, Aarde, & Baig, 2005). Our study consists of a set of facial stimuli that have been previously rated and divided into four categories: attractive and symmetrical, not attractive and symmetrical, attractive and not symmetrical. Faces of one category will be compared with faces of each other category. Participants will view two faces at one time on the computer screen for five seconds while their eye movement is recorded using a video camera. A comparison analysis will be conducted among the four different categories of faces to see which facial category received the greatest total glance time. This study will serve as a model for further investigation of facial prototypicality, attractiveness, and symmetry. This study also has potential implications in the areas of marketing and advertising.

#### The Impact of Friend Gender on Romantic Partner Preferred Characteristics

Psychology 11:00 AM-12:30 PM Independent Research, Graduate Kennedy Union - Ballroom Advisor(s) - Carolyn R Phelps
Student(s) - Michelle A Roth

Ideals regarding romance and romantic partners come from a variety of sources. Parents' marital relationship has often been examined as a model for and influence on romantic expectations (Trotter, 2010). However, other social relationships may influence expectations for a romantic partner. Prior research has shown sibling gender has an effect on romantic expectations (Sinclair & Phelps, 2010); however, whether friendship gender also influences romantic relationships is unknown. The purpose of this study was to examine the role of best friend gender on preferred characteristics in romantic partners. The gender of both best friends and "typical" friends were examined to determine if these relationships influence preferred characteristics in romantic partners. Undergraduate women (N = 75) were asked to self-generate fifteen adjectives that best represented their preferences in 2 separate categories: "wish for" in a romantic partner, and "wish to avoid" in a romantic partner. Frequency distributions were constructed to examine preferred qualities for romantic partners between women with different relational experiences. Results suggest that women's preferred characteristics for a romantic partner varied related to previous depth of experience with men. Although there were some commonalities, women with male best friends preferred attractiveness, intelligence, and confidence; whereas, women whose best friends were female preferred communication, support, and religiosity. Women with a male best friend wished to avoid a "reckless", "angry", "emotional", and "sloppy" romantic partner; women with a female best friend wished to avoid a "dull", "egocentric" romantic partner with different interests. This study indicates what women desire in a romantic partner is influenced by the gender of their best friend and their experience in romantic relationships. Future studies are needed to understand the extent to which friendship gender impacts romantic relationships and if this may positively or negatively enhance romantic rel

# The Other Child: The Perceived Stress Level of Siblings of Individuals with Developmental Disabilities

Psychology Honors Thesis, Undergraduate Advisor(s) - Carolyn R Phelps Student(s) - Casey A Aldrich 11:00 AM-12:30 PM Kennedy Union - Ballroom

This study examines the impact having a sibling with a developmental disability has on individuals' stress levels and how sibling relationships may impact that stress. More specifically it investigates perceptions of personal and family, present and anticipated stress levels due to the responsibilities involved in caring for individuals with developmental disabilities. Previous research shows that specific stressors related to developmental disabilities includes finding support services for the child/family, dealing with the child's behavior, and altered family dynamics such as marital/partner discord and sibling relationships (Weiss, 1991). Participants ages 18-35 were recruited using an online site and through that site completed questionnaires designed to investigate sibling perceptions of stress and quality of sibling relationships. We anticipated that stronger sibling relationships would correlate positively with expectations for caregiving and negatively with perceived stress levels. Additionally, it was hypothesized that sibling relationships will moderate the relation between anticipated caregiving and anticipated stress.

#### The Prevalence and Nature of Undergraduate Stimulant Misuse

Psychology 11:00 AM-12:30 PM Honors Thesis, Undergraduate Kennedy Union - Ballroom Advisor(s) - Ronald M Katsuyama Student(s) - Abigail M Webb

Recent research indicates a growing problem of stimulant misuse among undergraduate students. One purpose of the current study was to determine the prevalence of stimulant misuse such as non-prescriptive use of medicines prescribed for ADHD. Another purpose was to examine reasons for such drug use. Some students may feel when using stimulants they produce their best work. Others may use stimulants to enable them to complete the required task under a time constraint though recognizing that it interferes with optimum task performance. The focus of the current study is to examine what sustains such use in the latter group and how this group differs from the first or from non-users. Among the measures collected 1) frequency of stimulant use, 2) extent of procrastination , 3) perceptions of the outcomes of procrastination and of using stimulants, and 4) GPA satisfaction. The findings are discussed in terms of stimulant use and its relationship to procrastination, particularly negative procrastination.

#### Using a Mental Rotation Task to Assess Overconfidence, Narcissism and Gender Biases

Psychology 11:00 AM-12:30 PM Independent Research, Undergraduate Kennedy Union - Ballroom Advisor(s) - Susan T Davis, Jonathan A Hentz

Student(s) - Casey A Aldrich, Joshua D Moran, Hannah E Nolte

This study examined the level of overconfidence on a mental rotation task and measured participants' levels of narcissism and overconfidence. A mental rotation task requires participants to mentally rotate a given image (e.g., a letter of the alphabet) back to its original orientation after being rotated on a variety of variables (degree, axis, direction). The experimental group was presented with a gender bias - "men oftentimes perform better than women on spatial tasks (such as paper folding and mazes), while women perform better than men on verbal tasks (such as the ability to recall spoken information and solving language based problems)." This bias was expected to affect their ratings of confidence, and possibly their performance. It is predicted that when this bias is presented, men will show higher rates of confidence than women, and individuals with high levels of narcissism are expected to state more overconfidence than those with lower levels of narcissism. The participants first used a computer program to complete the mental rotation task. Next, participants completed several questionnaires to assess personality traits, need for achievement, and confidence levels. Implications for male and female performance at both spatial and verbal tasks are discussed.

#### Vigilance: The Effects of Direction, Duration, and Focus of Attention on Monitoring Tasks

Psychology 11:00 AM-12:30 PM Independent Research, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Susan T Davis, Jonathan A Hentz

Student(s) - Nnimnoabasi E Essien, Anthony L Lopresti, Christian L Sutphin

Vigilance or sustained attention tasks typically require observers over extended periods to monitor displays for critical signals which are presented occasionally (Warm, 2003). Past research has proposed that the decline in vigilance is caused by "mindlessness" or withdrawal of attention from

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the monitoring task. The first experiment of this research investigates the ability to monitor auditory cues and detect critical signals within a set of stimuli. The participants will be presented with two conditions. In the first condition, participants will hear tones presented for the same duration except for critical signals which will be either shorter or longer in duration. In the second condition, participants will hear tones presented in the same auditory location except for critical signals, which will be offset to the left of the head. The second experiment of this research investigates the ability to detect visual changes in two conditions. The first condition will require participants to respond to every target stimulus as either neutral or critical. The second condition will require participants to only respond to critical stimulus signals. The study's results can be applied to further research in vigilance tasks for the United States Air Force. Pilots and technicians are required to monitor streams of visual and auditory stimuli for prolonged periods of time. The consequences of any missed critical signals could be catastrophic.

#### The Cultural Implications of Relationship Articles in Women's Magazines Online

Sociology, Anthropology, and Social Work

Honors Thesis, Undergraduate

Advisor(s) - Leslie H Picca

Student(s) - Erin M Phelps

This study focuses on relationship and sex articles found in online content for popular women's magazines in order to better understand the broader messages that readers receive over time. The magazines chosen for study include Seventeen, Cosmopolitan, Glamour, Essence, Redbook, and Ladies' Home Journal. Over a two-week time frame, sections in the magazines about love, sex, and relationship advice were periodically checked in order to collect data. Following this data collection, the articles were reviewed for broader themes about relationships and sexual practices. Themes that emerged reflected consistent sexual scripts, as well as patriarchal views on sexual practices, dating, and courtship.

# **Business Administration**

#### **Two Essays on Economic Growth**

Economics & Finance Honors Thesis, Undergraduate Advisor(s) - Marc A Poitras Student(s) - Abigayle B Conner 11:00 AM-12:30 PM Kennedy Union - Ballroom

I am looking at determinants of economicgrowth in two contexts: within a cross-section of developing countries and of U.S. states. In my discussion of developing countries, I objectively define countries that have experiencedeconomic turn-arounds and identify factors that appear to have contributed to those turn-arounds. This includes considering the impacts of democracy and diversity on economic growth as well as examining the implications of the presence of natural resources within a country. With regards to the U.S. states, I consider the effects of human capital, which I characterize in terms of levels of education. I also include a discussion of social capital, or the amount of trust that exists between individuals in a society.

# Attitudes and Behavioral Intentions toward the Adoption of Mobile Marketing: An Analysis of Gen Y across American, French and Chinese Cultures

Management & Marketing Honors Thesis, Undergraduate Advisor(s) - Terence J Lau, Rebecca M Wells Student(s) - Catherine E Glynn 11:00 AM-12:30 PM Kennedy Union - Ballroom

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rative to understand the attitudes and

As mobile marketing becomes an increasingly significant channel for marketing organizations, it is imperative to understand the attitudes and behavioral intentions toward it. According to Forrester Research, 52 percent of companies say that their top priority for mobile marketing strategy is to increase customer engagement. This is not a surprise, considering that almost 50 million people in the United States own a smartphone. As an expansion on a past study, this research centers on Generation Y (Gen Y) students, includes additional countries, and adds the variables of perception and adoption. This project analyzes the differences in attitudes and behavioral intentions of Gen Y in three cultures toward the adoption of

mobile marketing. By understanding these differences, marketing organizations can better understand how to target the segments that are most likely to adopt mobile marketing as a method of marketing communication.

# **Engineering**

### Characterization of the Microstructure and Physical Properties of Several Carbon Nanotube Yarns

Chemical & Materials Engineering Honors Thesis, Undergraduate

11:00 AM-12:30 PM

Kennedy Union - Ballroom

Advisor(s) - David P Anderson, Charles E Browning

Student(s) - Brian P McMasters

Carbon nanotubes are nanomaterials which have great potential to influence future materials and technology because of their high theoretical mechanical, thermal, and electrical properties. In order to take advantage of these properties, however, it is necessary to scale up the nanotubes into workable sizes. One method of utilizing carbon nanotubes in this fashion is to create varns composed entirely of carbon nanotubes, held together by the nanotubes' high attractive forces. Five such carbon nanotube yarns were studied, produced from three different manufacturing processes. These yarns were characterized using Raman spectroscopy and scanning electron microscopy. Both techniques shed light on the microstructure of the carbon nanotube yarn. The mechanical and electrical properties of these yarns were then measured, in an attempt to find connections between the microstructure of a yarn and its physical properties.

### Morphologic Examination of Isolated Vascular Smooth Muscle Cells Cultured Under Shear Stress Using a Novel Bioreactor System

Chemical & Materials Engineering Honors Thesis, Undergraduate Advisor(s) - Carissa M Krane, Robert J Wilkens 11:00 AM-12:30 PM

Kennedy Union - Ballroom

Student(s) - Anna C Henry

When veins are inserted into the arterial circulation in procedures like Coronary Artery Bypass Grafts, they are exposed to higher shear stresses in addition to other environmental changes that may trigger Intimal hyperplasia. This increase in the number of smooth muscle cells in the cardio vascular vessel wall, is associated with a thickening of the neointimal layer and sometimes even occlusion of the blood vessel. Shear stress is a parallel force applied by the flowing fluid to the cells that make up the vessel wall. The magnitude of the shear stress applied varies with location in the body as the blood pressure, velocity, and vessel radius change. A bioreactor system was designed for culturing cells under flow conditions and controlled levels of shear stress to examine the effects of changes in flow conditions as a possible contributor to graft failure. These failures often originate in the smooth muscle layer, thus observations focused on changes in the morphology of arterial and venous smooth muscle cells under flow as compared to static conditions. Preliminary results show a remodeling of the cytoskeleton and decrease in cell density in both cell types but more significantly in arterial cells after 28 hours. This may indicate that venous cells are better able to tolerate changes in shear stress.

#### Supercapacitors Based on Carbon Nanotube Fuzzy Fabric Technology

Chemical & Materials Engineering Honors Thesis, Undergraduate Advisor(s) - Khalid Lafdi Student(s) - Nathaniel J Hogrebe

11:00 AM-12:30 PM

Kennedy Union - Ballroom

Supercapacitors used in conjunction with batteries offer a solution to energy storage and delivery problems in systems where a high power output is required, such as in fully electric cars. This project aimed to enhance current supercapacitor technology by fabricating activated carbon on a substrate consisting of carbon nanotubes (CNTs) grown on a carbon fiber fabric. This 'fuzzy' surface of carbon nanotubes decreases the electrical resistance and increases the porosity of the activated carbon, resulting in a flexible fabric with a high specific capacitance. Experimental results

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confirm that the capacitance of activated carbon fabricated on the CNT/carbon fiber composite is significantly higher than when activated carbon is formed simply on a bare carbon fiber substrate, indicating the usefulness of fuzzy fabric in supercapacitor technology.

#### Allocation of Carbon Throughout Growth Phases of Chlorella vulgaris

Mechanical & Aerospace Engineering Honors Thesis, Undergraduate Advisor(s) - Sukhjinder S Sidhu Student(s) - Julia L Faeth

11:00 AM-12:30 PM Kennedy Union - Ballroom

Carbon dioxide, a major green house gas component, is released through human and animal activity. As the threat of global warming looms, sequestration of carbon dioxide becomes increasingly important. Microalgae require carbon dioxide to grow and already remove vast quantities of carbon dioxide from the atmosphere. Algae store this carbon as proteins, carbohydrates, and lipids, which can be converted into nutritional supplements, fertilizer, biofuels, and other valuable products. Little is known about the proportions in which algae are able to produce proteins, carbohydrates and lipids, particularly throughout different growth phases. This research utilizes biochemical assays and algal growth analysis to characterize carbon allocation of Chlorella vulgaris. This study also outlines the procedure for the characterization of additional species, the results of which would enable selection of the optimal algae species and harvest time for specific carbon seguestration needs and desired end products.

#### ETHOS: Rocket Stove Research in Pondicherry, India

Mechanical & Aerospace Engineering Course Project, 10\_FA\_EGR\_330\_P1, Undergraduate Advisor(s) - Malcolm W Daniels, Margaret F Pinnell

11:00 AM-12:30 PM

Kennedy Union - Ballroom

Student(s) - Mark A Abram

Throughout a ten-week immersion trip into the woods of south India, tests were run at Prakti Design Labs, a research-based organization located just outside the city of Pondicherry in an area called Auroville, in an effort to increase the efficiency of an already impressive double pot rocket stove by introducing a fan into the design. A few prototypes were developed, varying the direction of the airflow, the placement and size of the entry holes, the shape of the entry channel, and the voltage of the fan. Running into problems with overly moist wood, the attention of the group turned to a formerly fully functional solar wood dryer in dire need of re-paneling and a seal on the edges.

#### Solutions to Municipal Waste: A Comparison and Contrast of Disposal Methodologies of the Vienna, Austria; Chisinau, Moldova; and Dayton, Ohio, Municipalities

Mechanical & Aerospace Engineering Honors Thesis, Undergraduate Advisor(s) - Sukhjinder S Sidhu Student(s) - Daniel J Prindle

11:00 AM-12:30 PM Kennedy Union - Ballroom

The goal of this research is to compare the Montgomery County Solid Waste District (MCSWD) to two other cities'Â? waste management systems in Vienna, Austria, and Chisinau, Moldova, to see how the MCSWD performs in regards to reclaiming energy from waste and reducing environmental damage. This performance will be directly related to the methodologies currently in place for waste collection and disposal, as well as the efficiencies of currently operating disposal systems, such as the use of land-filling or incineration, methane-capturing systems, or post-incineration flue-gas treatment systems. Vienna and Chisinau were chosen as the cities for comparison for their apparent contrast in geography, city size and economic health. By comparing cities with extreme differences in population, geography and economic situation, solutions for healthy waste management practices in these areas may be much different and perhaps very novel for possible application in the MCSWD.

#### The Greenhouse Effect

Mechanical & Aerospace Engineering Honors Thesis, Undergraduate Advisor(s) - Kevin P Hallinan Student(s) - Nichole L Hanus

11:00 AM-12:30 PM Kennedy Union - Ballroom

The aim of the Greenhouse Effect project is to reduce energy use in the University of Dayton (UD) student neighborhood by 5% by the end of spring semester 2011. The project is a collaboration of students, faculty, and Facilities Management that targets the UD-owned neighborhood homes. Energy grade cards that track electricity and natural gas usage and cost engage students in this project and make them aware of their energy use each month. These grade cards include details about current energy use, carbon dioxide emissions, energy savings when compared to previous residents, and where that house's savings ranks in comparison to other houses for that month. In addition, a rebate program driven by energy savings will incentivize reduction in each home. The idea is that coupling the energy tracking with an incentive program promotes lifelong energy saving behavior in students applicable anywhere, not just on campus.

#### The Use of Elastically-Based Mechanical Energy Storage in Motor Vehicles

Mechanical & Aerospace Engineering 11:00 AM-12:30 PM Honors Thesis, Undergraduate Kennedy Union - Ballroom Advisor(s) - Andrew P Murray, David H Myszka Student(s) - Nicholas J Direnzi

One way for the United States to decrease dependency on foreign oil is through increases in automobileefficiency. Mechanical energy storage in motor vehicles, with flywheels, for example, is often dismissed as a response to this problem due to the low energy density (that is, the stored energy per unit weight) when compared to batteries orgasoline. This research project takes a new look at one form of mechanical energy storage, springs, to see if they canbe integrated into vehicle components with improved automobile efficiency as the end goal. Specifically, hyperelastics(a family of materials that includes rubber) are investigated as a means for energy storage. Typically, hyper-elasticsare utilized because of their capacity for large deformations while dissipating shocks and being corrosion resistant. In this research, a variety of experiments confirm the capacity of certain hyper-elastics as an excellent means for energystorage. Several designs are then proposed utilizing hyper-elastics to create potential advances in vehicle components.

# **Education and Allied Professions**

#### Pediatric Traumatic Brain Injury: Best Practices for Return to School and Play

Counselor Education & Human Services 11:00 AM-12:30 PM
Honors Thesis, Undergraduate Kennedy Union - Ballroom
Advisor(s) - Susan C Davies
Student(s) - Alexandria C Harris

Children experiencing traumatic brain injuries (TBI) often experience multiple behavioral, emotional, and cognitive challenges following the injury. Regardless of the severity of the TBI, the needs of these children are often overlooked. Research is beginning to increase the knowledge about pediatric TBI, signs and symptoms, treatment, and best practices in transitioning children back to their pre-injury lives. Although there is research on guidelines and procedures for returning to school or work and sports for adults, the guidelines for children returning to school and play is sparse. The purpose of this study was to investigate if being asymptomatic is a sufficient criterion for returning to school and sports. Due to limitations in testing children with TBI, a qualitative approach was used to collect narrative data in order to gain insight on pediatric TBI. By reviewing numerous studies, this thesis uses current research to report that most children are not cognitively symptom free, in a time conducive to continuing education at his or her pre-injury rate. Returning to school soon after medical discharge is important in taking advantage of the closing window of recovery. However, it has been shown that returning to sports once asymptomatic substantially reduces risk of further injury. Accepted guidelines and procedures for returning to school and sports will also be examined.

# Dietary Differences in Spanish Speaking Countries: a Review of International Fieldwork and Native Recipe Nutrient Analysis

Health and Sport Science Honors Thesis, Undergraduate Advisor(s) - Patricia E Dolan Student(s) - Sarah E Picklo 11:00 AM-12:30 PM Kennedy Union - Ballroom

# **MORNING POSTERS**

Dietary diversity exists within Spanish-speaking countries. This study evaluated the differences between the native diets of four geographically and socially diverse Spanish speaking countries (Ecuador, Mexico, Puerto Rico, and Spain). Based on international fieldwork in each country, recipes (n=133) from multi-lingual cookbooks were selected to represent the native diet of each country within the following categories: sauce, soup, entree, or dessert. Using the United States Department of Agriculture Nutrient Data Laboratory, each recipe was nutritionally analyzed for Calories (kcal), Total Fat (g), Saturated Fat (g), Cholesterol (mg), Sodium (mg), Carbohydrate (g), Fiber (g), Protein (g), Vitamin C (mg), and Calcium (mg). Recipe data was averaged by country and category and analyzed for differences via ANOVA. Results indicate no statistically significant differences (p=.05) between the selected representative recipes. Between Mexico and Puerto Rico and between Ecuador and Spain, mathematical differences were found within the nutrients commonly associated with cardiovascular disease (Calories, Total Fat, Saturated Fat, and Sodium).

# Inquiry-Based Learning in a High School Integrated Science Classroom: A Comparison to Direct Instruction

Institute for Technology-Enhanced Learning
Honors Thesis, Undergraduate
Advisor(s) - James B Rowley
Student(s) - Carly R Monfort

11:00 AM-12:30 PM
Kennedy Union - Ballroom

This study analyzes the relative engagement level and performance of 9th grade Integrated Science students using varying instructional methods. Using direct instruction as a control group, a comprehensive, inquiry-based learning unit based on the Dayton Regional STEM Center's curriculum design template is adapted and implemented. The unit, which addresses basic physics concepts, encourages student involvement and relevance to student life. It considers applicable local career connections, encourages interdisciplinary activities, and asks the students to use the Engineering Design Process to create an artifact while addressing Ohio Academic Content Standards. The results of such a comparison analyze the engagement, attention and performance using the two methods. Data analysis of individual assessment scores on teacher-made assessments from the two units, as well as qualitative data related to student response surveys following each unit, are used to compare the success of the respective curricula.

# Using the Bruininks-Oseretsky Test of Motor Proficiency, Second Edition to Assess Children 6-10 Years in a School Based Setting

Physical Therapy Doctoral Program Honors Thesis, Undergraduate Advisor(s) - Betsy K Donahoe-Fillmore Student(s) - Sara J Mrowzinski 11:00 AM-12:30 PM Kennedy Union - Ballroom

The purpose of this study was to determine if a portion of the test items in the Bruininks-Oseretsky Test of Motor Proficiency, second edition (BOT-2, Bruininks, 2005) would be able to purport a reliable subtest score. The subtests used were chosen to assess core strength, postural control, and fine motor precision and integration. The results showed that typically 3 of the items per subtest (out of the 5 to 9 total items depending on the subtest) predicted greater than 80% of the overall subtest score. This information will help direct testing procedures for school-based occupational and physical therapists in order to save time and money when testing a large group of students with high accuracy for the BOT-2. This screening tool may be beneficial in identifying children in need of additional guidance or instruction.

# Differentiated Instruction in the Middle School Mathematics Classroom: A Study on the Four-Tier Format

Teacher Education Honors Thesis, Undergraduate Advisor(s) - Janet M Herrelko Student(s) - Tierney A Stinson 11:00 AM-12:30 PM Kennedy Union - Ballroom

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This study evaluates the effectiveness of a tiering format to differentiate instruction within the mixed-ability middle school mathematics class-room. Differentiated instruction is an approach to teaching that upholds the belief that all students can effectively demonstrate their knowledge

when instruction meets their ability-level. Although there are a variety of ways to differentiate, I chose to test differentiation by ability. Using Dr. Janet Herrelko's four-tier format, I divided students in a fifth grade mathematics class into ability based tiers. Tier 0 included high-achieving students, Tier 1, average-achieving students, and Tier 2, low-achieving students. Tier 3 typically includes those students with Individual Education Plans; however, there were no Tier 3 students in my class. As a control, I taught one unit without using the tiering format, then, developed another unit with tiering to test my hypothesis. I compared the results of pre and post-tests from each unit to evaluate the effectiveness of tiering on student achievement.

#### The Utilization and Effectiveness of School Wide Positive Behavior Supports (PBS)

Teacher Education Honors Thesis, Undergraduate Advisor(s) - Stephen B Richards Student(s) - Maura H Shanahan

Positive Behavioral Supports, or PBS, is a general term that refers to the application of specific positive behavioral interventions focused on efficiently and effectively managing behaviors on a school-wide basis, especially when used on students with special needs. This approach attempts to completely eliminate problem behaviors while encouraging successful behavior as a method of classroom management. By providing functional and multiple intervention supports in a school or on an individualized basis, teachers, faculty, and families themselves should be able to deliver supports in a natural and practical setting. An abundance of evidence-based research exists that advocates the practice of PBS in schools. The purpose of my study was to determine if and how positive behavioral supports are implemented in schools as a system of classroom management, as well as how effectively or ineffectively surveyed school based professionals believe these systems are applied. Select individuals from schools in the Chicago and Dayton areas were surveyed electronically to see if variations exist between the cities.

# AFTERNOON PRESENTATIONS

#### Globalization and Its Discontents

Economics & Finance 9:00 AM-5:00 PM
Oral Presentation, Senior/Capstone Project Miriam Hall - 109

Advisor(s) - Barbara H John

Student(s) - John T Allen, Eric M Allison, Anne E Arezina, Paul M Azzi, Nicole F Baeder, Bradley J Baracz, Mallory C Barnes, Melinda N Beauchamp, Andrea M Broge, Kelly L Coakley, Andre B Crawford, Sean M Cunningham, Philip A Deboer, Benjamin J Domyancic, Joseph J Donahoe, James K Ekins, Lindsey A Engle, Anne C Estill, Luke M Fabrizius, Joseph J Fliss, Sarah B Gajos, Gina M Garred, Catherine E Glynn, Steven J Group, Max A Gucik, William C Hallinan, Keith R Hamberg, Laurel B Hanna, Megan K Hartmann, Alex M Henderson, Christopher J Higbie, Lindsay M Hill, Alison C Iovino, Julia C Keller, Eric S King, Mark R Kohrman, Emil B Kwarteng, Daniel P Lonergan, Erica M Long, Christopher K MacIno, Stephen L MacKell, Kristin V McShea, Mason S Mercy, Brittany N Myerholtz, Michael W Nelson, Brendan C Quinn, Peter J Quinttus, Christopher D Ramming, Lisa A Ramsey, Kristen J Sapyta, Marina R Schemmel, Laura L Schultz, Zhaoci Sun, Steven A Suozzi, Michael K Taulbee, Monica I Tec, Regan K Tierney, Alexandra N Tyburski, Daniel J Wilczynski, Shane X Wong Kung Fong, Laura L Wurtz, Rebecca Young, Luqing Zhang

Globalization is a process, arousing passions but also reasoned analysis of its benefits and costs. Detractors cite exacerbations in income gaps; Fans cite improvements in productivity if not standards of living. Economic repercussions aside, globalization is also a process than endangers the sovereignty of nation-states, the organizing premise of the modern political landscape. This series of 63 five minute vignettes will explore the many facets of globalization, pro and con.

#### **Trademark Design**

Visual Arts 9:00 AM-5:00 PM
Visual Arts Exhibition, Course Project, 10\_FA\_VAD\_414\_01 Kennedy Union - Torch Lounge

Advisor(s) - Fred Niles

Student(s) - Collin T Arnold, Joseph E Baucco, Matthew M Boston, Kristen E Dailey, Lucy A Debevec, Jessica M Dimartile, Kelsey E Fagan, Kelly C Fine, Judd V Hopkins, Melyssa M Kirn, Erin M Masur, Cara J Miller, Rachelle M Patsey, Alexandra A Roffey, Bethany L Saum, Adam M Vicarel, Jacqueline O Wessel

A Trademark, or the more commonly described, Logo, is a graphic design that combines a picture or symbol and typography. It is used as one element in the "branding" of an individual, service, organization, business, corporation, or institution. The designer must have an intimate understanding of the nature of the user and the audience the user intends to reach. The Trademark becomes the Visual Identity that encompasses any and all visible aspects of the user. It serves as the signal for the user's Image and hence is necessary it reflect the user's true character. Presented here are Trademark designs created by students in the Visual Communication Design Trademark Design class. They were created as possibile Trademarks for four out of class clients. Students will be available to discuss and answer questions about their projects from 1-2 PM in Torch Lounge.

## Visual Identity: Visual Personality in a Distinct Corporate Culture

Visual Arts 9:00 AM-5:00 PM
Visual Arts Exhibition, Senior/Capstone Project Kennedy Union - Torch Lounge

Advisor(s) - Jayne M Whitaker

Student(s) - David K Allison, Collin T Arnold, Matthew J Bidwell, Kaitlin C Burt, Teresa L Craze, Kristen E Dailey, Lucy A Debevec, Kelsey E Fagan, Ashley L Fithen, Chelsea J Gray, Kellaina A Grote, Jerika S Hartley, Brenda M Heitkamp, Judd V Hopkins, Kathleen M Hrovatich, Aaron M Joseph, Melyssa M Kirn, Tyler A Kowal, Bradley J Lefeld, Erin M Masur, Cara J Miller, Caroline H Morgan, Natalie A O'Connor, Donald G Rambacher, Marie D Rohlke, Kelsey L Russell, Bethany L Saum, Misty K Thomas-Trout, Andrea K Torgerson, Adam M Vicarel, Jacqueline O Wessel

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11:00 AM-12:30 PM

Kennedy Union - Ballroom

A corporate identity is the visual identity or personality of a corporation that is designed to meet business objectives. It is most often manifested by way of branding and the use of trademarks and comes into being when there is a common ownership of an organizational philosophy that is manifested in to a distinct corporate culture. Students in the senior level Graphic Design III course were assigned a semester long project where they were required to research, invent, name, and create a trademark (logo, logotype and/or mark) for a hypothetical business. Each of the companies was required to represent a fresh new innovative approach to the production of a qualitative product and/or service. The students were also required to create their fictional company within a well-rooted environmentally conscious and sustainable venue, an approach that would have to be maintained throughout the creation of the identity system. The student projects displayed each reflect a hypothetical company that is entrepreneurial in its approach to product, service and promotion. Each of the visual identity systems demonstrate a student's own developmental research regarding their company product, name, competition, copyright, materials, etc., as well as a sampling of their extensive written and visual development of the company trademark and its coordinating business collateral which together form a visual identity system. Students will be available to discuss and answer questions about their projects from 1-2 PM in Torch Lounge.

# Necrophagous Insect Community Assembly Associated with Replicate Sus scrofa Carcasses: An Exploration of Inter-Carcass Variation

Biology
Oral Presentation, Graduate Research
Advisor(s) - Mark E Benbow
Student(s) - Andrew J Lewis

During a criminal investigation involving a corpse, there are a variety of methods that can be used to determine the post-mortem interval (PMI). By knowing the PMI, investigators can determine who is and is not a suspect, so the more methods that can be utilized, the more accurate the estimation. Most PMI determination methods are medical, but there are a few that involve ecological processes, such as succession. Necrophagous insects are one group of organisms that have a pattern of succession that changes during the course of decomposition that has a successful history of use as evidence in criminal and legal cases. The objective of this study was to evaluate the extent insect species richness and diversity change over decomposition. It was hypothesized that necrophagous insect species richness and diversity would vary between replicates and across different seasons. To test this hypothesis for the insect assemblages, Sus scrofa carcasses (N=6) were placed in a forested habitat near Xenia, OH during spring (March 15th- June 8th) and summer (July 23rd - August 31st) 2009, fall (November 11th, 2009 - Â?May 1st 2010) and winter (February 2nd- May 1st 2010). Standardized insect samples involving aerial sweep nets, pitfall traps and hand collections were obtained from the start of decomposition till the carcasses entered the dry stage. Statistical analyses included one and two-way ANOVAs, non-metric multidimensional scaling (NMDS), multi-response permutation procedure (MRPP), and indicator species analysis (ISA) were used to determine significant differences variation. Necrophagous insects species richness ranged from 1-4 and 1-6, during the spring and summer months respectively. Several species were only present during certain seasons, showing seasonal fluctuation. Results match previous research that involves insect succession in PMI estimates. However, both replicate and seasonal variation in necrophagous insect species richness was noted and should be taken into considered during future investigations.

#### **Memristor Devices for Neuromorphic Computing Applications**

Electrical & Computer Engineering Oral Presentation, Graduate Research Advisor(s) - Tarek M Taha Student(s) - Christopher G Yakopcic 1:00 PM-1:30 PM Kennedy Union - 312

1:00 PM-1:20 PM

Kennedy Union - 331

The memristor is known as the fourth fundamental two-terminal passive circuit element (the others being the resistor, capacitor, and inductor). The memristor was first theorized by Dr. Leon Chua in 1971, and the first successful fabrication of the device was published by a research team led by Dr. Stanley Williams at HP Labs in 2008. It was shown by Chua that the memristor was a missing link representing the relationship between charge and flux in the symmetry of the equations governing these devices. The memristor has unique properties including the ability change resistance based the amount of charge flowing through the device, and more importantly the ability to retain its resistance state after the power is removed from the device. These properties lead researchers to believe that this device can be used to approximate the effect of a synapse in neuromorphic computing architectures. The synapse is a component of brain tissue that provides a connection with variable strength between

# AFTERNOON PRESENTATIONS

neurons. Just as the memristor can change its resistance state based on total charge through the device, the synapse has a variable connection strength based on the number of neuron spikes that have been applied to another neuron through a given synapse. This presentation will discuss work completed thus far in fabrication of memristor devices, device modeling, and electronic circuit simulation for applications in neuromorphic computing architectures. It will also be demonstrated through simulation and electronic characterization how well the memristor can model a synapse.

#### Professional vs. Collegiate: Luxury Suite Owners are they all that different?

Health and Sport Science 1:00 PM-1:30 PM
Oral Presentation, Graduate Research
Advisor(s) - Peter J Titlebaum
Student(s) - Carrie M Demange

This exploratory study investigated the perceived motivations and purchasing trends of those who sell luxury suites in college institutions, particularly the South Eastern Conference (SEC). The results are then compared to the buying tendencies assumed by sales associates of luxury suites within the professional sports arena. The survey included responses from (N=57) within the National Basketball Association (NBA), the National Football League (NFL), the National Hockey League (NHL), Major League Baseball (MLB), and the South Eastern Conference (SEC). The results indicated what sales associates perceived to be important at both the professional and collegiate levels. Colleges believe that the only way athletic departments can fund such large budgets, with a win at all costs attitude, is to appeal to commercial interests. They seek out advertising from local television stations or sponsorships from local clothing stores to provide uniforms and attire for their collegiate players. In this sense, the collegiate and professional suite purchasers are similar because they both seek commercial sponsorships (Johnston, 2003). However, according to the research, there are three significant differences that warranted further investigation among luxury suite purchasers in the SEC market when compared to the professional arena. Purchasers in the collegiate market are more likely than professional suite buyers to buy a suite for personal use, to support the community, and improved amenities in their suites. By understanding the differences between professional and collegiate luxury suite purchasing decisions, the sellers of those suites can create a better sales position or retain the owner who has already purchased a suite. While it would be easy to think the collegiate and professional markets are different markets completely, that is not the case. Both markets can qain insights from the sharing of this information.

# Who Says No? An Analysis of the Characteristics of Parents Who Decide to Opt Out of Vaccination.

Sociology, Anthropology, and Social Work
Oral Presentation, Senior/Capstone Project
Advisor(s) - H F Pestello
Student(s) - Sarah K List

BACKGROUND: Vaccines are used around the world to prevent disease through immunity. Although vaccines have been effective in preventing infectious disease outbreaks such as polio and measles, parental concerns surrounding vaccination have continued to be a challenge for public health officials. These apprehensions often lead to the decision not to vaccinate. Not only does decreased immunization endanger the child, but it also decreases protection for a community as a whole. OBJECTIVE: This study explores the characteristics of those who make the decision to opt out of childhood immunization. METHOD: Data characterizing the demographic information of the participants was taken from the National Immunization Survey (NIS) and analyzed using SPSS statistical analysis software.

# Human Trafficking: An In Depth Examination of All Forms of Labor Trafficking at Global, National, and Local Levels

Political Science 1:00 PM-1:30 PM
Panel Discussion, Course Project, 11 SP POL 300 04 St. Joseph's Hall - 013

Advisor(s) - Anthony N Talbott

Student(s) - Chanelle N Baylor, Timothy J Finnigan, Bethany A King, Sandra Vazquez Pastor

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1:00 PM-1:30 PM

St. Joseph's Hall - 025

An estimated 27 million people are enslaved in the world today. Human trafficking, or the modern day slave trade, is the second largest criminal enterprise in the world and may be the greatest human rights challenge of our time. This panel discusses one aspect of human trafficking: labor trafficking. Panelists will present an overview of labor trafficking and discuss the problem on a global, national, and local level.

#### And the Tape Goes On: Video Cameras and the Panopticon Theory

Sociology, Anthropology, and Social Work Panel Discussion, Course Project, 10 FA ANT 306 01

1:00 PM-1:30 PM LTC - TeamSpace

Advisor(s) - Simanti Dasgupta

Student(s) - Stephen Brown

My intended purpose for this paper would be to look at the both the literal and metaphorical idea of a video camera. After learning about the Panopticon Theory, video cameras seem to be like the guard in the center tower watching everyone. People do not know if there is anyone even monitoring the video cameras or if they are even being recorded for that matter, but people being recorded still obey social norm. The metaphorical purpose of cameras is found in every citizen. We are told to report crimes when we see them or even if something is suspicious, turning us into the cameras that record each others' actions. I would like to look at video cameras as a way of strengthening the state's power over the margins by zooming in on specific groups in order to alienate them.

#### Comparing Macroinvertebrate Community Composition between Riffles and Runs

Biology

1:00 PM-1:30 PM

Oral Presentation, Senior/Capstone Project

Kennedy Union - 207

Advisor(s) - Albert J Burky

Student(s) - Ryan M Andrews

Stream riffle and run habitats differ in flow velocity and depth resulting in variation in benthic community compositions. The objective of this study was to determine the difference in community structure between these two habitats in a one kilometer reach of the Little Miami River, Dayton, Ohio. In June and September of 2008 five riffle and five run sites were selected along a one kilometer stretch of the river. Invertebrates were collected using a modified surber sampling technique in six randomly selected 0.0625 m2 cells within each site. Macroinvertebrates were identified to determine if there was a statistical significant difference in density within and between habitats and dates.

## A Comparative Analysis of the Linguistic Differences between French Canadian Dialects in Quebec

Languages 1:00 PM-1:30 PM Oral Presentation, Course Project, 11\_SP\_FRN\_469\_01 LTC - Forum

Advisor(s) - Nicola C Work

Student(s) - Lauren M Epner

The French language spoken in Quebec, Canada is very different from other varieties of French spoken throughout the world and even within French Canada itself. While some words are congruent to Standard French, oftentimes Quebecois people will change the sound of a word or create a completely new one. The distinctiveness of the language can be differentiated into four dialects, including: The working-class, the middle-class, the business class, and the university class. This presentation will present linguistic data and analyze the differences between these four unique accents of le français Qubecois by looking at these linguistic aspects for each one.

#### Relative Valuation And Stock Selection: Analysis of the UD Flyer Fund 2010-2011

**Economics & Finance** 1:00 PM-2:00 PM Miriam Hall - 118 (Davis Center)

Oral Presentation, Independent Research

Advisor(s) - Robert D Dean, John E Rapp Student(s) - Joseph J Capka, Joel J Forguer, Alexandra S Lopresti, Natalie J McGregor, Joseph P Piechota,

James E Scharpf

# AFTERNOON PRESENTATIONS

On an ongoing basis, the UD Flyer Fund has 50-55 stocks in its portfolio that need to be reviewed periodically to determine if they are a buy, hold or sell. In 2010, the Security Analysis Team in the Davis Center for Portfolio Management developed a relative valuation approach to analyze these stocks. The purpose of this presentation, therefore, is to describe the relative valuation model, its key parameters, and its ongoing use in stock selections by the students who manage the fund. The primary period of analysis is 2010 through the first quarter of 2011.

#### Meals On Wheels: A Closer Look at Senior Hunger

Student(s) - Emily R Claricoates

Accounting 1:00 PM-2:00 PM Oral Presentation, Honors Thesis Miriam Hall - 101 Advisor(s) - Janet S Greenlee

Despite more than one million meals served to senior citizens each day by the five thousand Meals On Wheels (MOW) programs, senior hunger still exists in the United States. With the economy in its current state, resources available has not been meeting the rising demand of the senior population. Each local MOW program uses its own method of accounting, fundraising and distributing meals. To date, no study has been conducted that examines the methods used by the 5,000 MOW programs. A survey was developed in conjunction with Meals On Wheels Association of America (MOWAA). Information about number of employees, sources of revenue, cost allocations, fundraising techniques and meal distribution methods was collected and analyzed. The results of this study will enable MOWAA to assist its member agencies in more efficiently and effectively providing meals to senior citizens.

#### Panel Discussion with honorary degree recipient Dr. Philip Gleason: What Was Life Like at **UD 50 Years Ago?**

**Religious Studies** 1:00 PM-2:00 PM Panel Discussion Kennedy Union - 310

Advisor(s) - Una M Cadegan, Philip Gleason, David J O'Brien, William Portier

Professor Philip Gleason taught at the University of Notre Dame for nearly 40 years--AND he graduate from the University of Dayton in 1951! On the morning of the Stander Symposium he will receive an honorary degree from the University in recognition of his many achievements as a historian of American Catholicism. In this session he will have a conversation with his old friends and fellow historians Professor David J. O'Brien (University Professor of Faith and Culture) and Professor William Portier (Mary Ann Spearin Chair in Catholic Theology, Department of Religious Studies) about what undergraduate life was like at UD in the years following the Second World War, and about some of the changes they have seen in the years since.

Participants: Dr. Philip Gleason (Professor Emeritus, University of Notre Dame; University of Dayton alum, 1951) Dr. David J. O'Brien (University Professor of Faith and Culture) Dr. William Portier (Mary Ann Spearin Chair in Catholic Theology, Department of Religious Studies) Moderator: Dr. Una M. Cadegan (Department of History)

### The Procter & Gamble Marketing Challenge: Students at Work

Management & Marketing 1:00 PM-2:00 PM Oral Presentation, Independent Research Miriam Hall - 103 Advisor(s) - Irene J Dickey

Procter and Gamble is the world leader in developing and marketing Consumer Packaged Goods such as Tide, Pantene, Crest and more. With over 300 brands in over 200 countries, this Business Partner to the University of Dayton School of Business Administration invites and onboards 16 students in four teams each semester to compete in an intense program that has our best students working with P&G Brand Managers, Engineers, and more to conduct and analyze extensive research in order to develop strategic recommendations including the identification of target customers, creation of messaging that resonates with target customers and, identification of traditional and digital media strategy. These recommendations continue to rival P&G's Research and Marketing Agencies, internal and external. P&G uses strategic recommendations from each team in every competition and continues to invest in our students' development and knowledge. Learn about the real world brand problems and opportunities our students develop strategy for!

# Hero-Glyphics: Postmodern Effects on Campbell' Monomyth Through Contemporary Graphic Novels

English 1:00 PM-2:00 PM
Oral Presentation, Honors Thesis Marianist Hall Learning Space - Commons

Advisor(s) - James M Boehnlein

Student(s) - Zachary S Heck

This thesis will explore how graphic novels - in particular those which chronicle the adventures of a superhero - have effectively transformed Joseph Campbell -s conception of the archetypal hero. By depicting images and scenes of anarchy and subversion of popular culture, graphic novels have successfully challenged the mainstream with stories of individuals motivated to change society by taking the law into their own hands. Through an analysis of Neil Gaiman's Sandman, Alan Moore's Watchmen, Chris Claremont's God Loves, Man Kills, and Frank Miller's Batman: Year One, one can find the many different approaches that graphic novelists subvert popular culture through themes of deconstruction, reflexivity, chance, anarchy and most of all, existentialism. Each work will be examined for how post-modern features are employed and how the work as a whole adheres to and diverts from the concept of the mythic hero. Additionally, the artistic decisions such as use of color, panel transitions, depictions of shapes and imagery will also be analyzed to show another dimension of how the graphic novel has contributed to the archetypal hero as well as postmodern literature. Ultimately, this work concludes that the super-hero genre of graphic novels has successfully capitalized on features of post-modernity and effectively added themes of subversion and utopian conquest to Campbell's mythic hero.

#### Architecture Now History: The Caldwell Street Center at the University of Dayton

Visual Arts 1:00 PM-2:00 PM

Oral Presentation, Course Project, 10\_FA\_VAH\_350\_01

Rike Center - 206

Advisor(s) - Roger J Crum

Student(s) - Julianne C Morgan

Before working on this project, an assignment for Professor Roger Crum's History of Western Architecture class, I considered the Caldwell Street Center just another building, perhaps even a blight on an otherwise picturesque campus. However, this building's lack of recognition among UD students, faculty, and staff created in me a sense of intrigue, and I took on the task of discovering why it was so unimportant in the University's consciousness. This journey took me down many separate paths from exploring the modernist period of architecture, to researching aerospace technology, to even learning some of my own family history. To my surprise and delight, all of these seemingly disparate paths came together in this one building. While the architectural aesthetic of the Caldwell Street Center was, in my opinion, simply unattractive, my research for this project allowed me to appreciate this building and to learn from it in various ways in and beyond architecture. The building is no longer standing. Its rubble has now been removed. I am among the last people who ever thought about it.

## Operations Management Capstone Projects - Part 2 (of 3)

MIS, OM, & Decision Sciences

1:00 PM-2:00 PM

Oral Presentation, Senior/Capstone Project Miriam Hall - 104

Advisor(s) - Michael F Gorman, John J Kanet

Student(s) - Mallory C Barnes, Drew M Becker, Cory M Butcher, Sean B Caldwell, Shelby R Elking, Nicholas P Hanneken, Emily E Johnson, Alexander S Johnston, Daniel T Kahler, Allison M Lambert, Matthew B Schatzman, Emily C Sheridan

This is Part 2 of a three part set of presentations highlighting senior OPS student consulting projects with regional industry. Presentations for this part include: 1. Manufacturing Process Improvement at Elliot Tool Technologies (Butcher, Elking, Johnson); 2. Order Processing/Fulfillment at Ethicon/J&J (Sheridan, Barnes, Caldwell); 3. Streamlined Supply/Distribution Process at the VA Hospital (Kahler, Lambert, Becker); 4. Job Shop Production Scheduling at Johnson Electric (Schatzman, Johnston, Hanneken).

# AFTERNOON PRESENTATIONS

# Creating Alpha in Exchange Traded Funds (ETFs): An Empirical Analysis of the Impact of Valuation Weighting and Rebalancing on Selected ETFs Performance 2009 to 2010

Economics & Finance 1:00 PM-2:00 PM
Oral Presentation, Honors Thesis Miriam Hall - 101

Advisor(s) - Robert D Dean, John E Rapp

Student(s) - James Hankenhof

Exchange Traded Funds (ETFs) have become an investment vehicle of choice for investors seeking diversification within sectors, industry groups and as well as various investment styles (ie growth and value) in the market. There is now over a trillion dollars invested in ETFs. The purpose of this study is to determine if the index weighting based on fundamentals provides superior performance to either equal weighting or market cap weighting for growth and value ETFs for the period 3/31/09 through 12/31/10. I also want to determine if periodic rebalancing adds to the performance of the ETFs. Finally, I want to reshape the ETFs to reflect more concentrated and undervalued portfolios i.e. no more than 25-30 stocks. The critical assumptions are that undervalued stocks will do better than fairly to overvalued stocks in both falling and rising markets, and that a concentration of undervalued stocks will perform best.

# "Gangs In Cleveland: An Analysis of Present and Future Gang Activity in the American Heartland"

Criminal Justice Program 1:00 PM-2:00 PM
Oral Presentation, Senior/Capstone Project St. Joseph's Hall - 023

Advisor(s) - Dorie M Farrell, Arthur J Jipson

Student(s) - Erik J Turk

This project analyzes the current level of gangs in Cleveland, Ohio. The research was undertaken to determine which gangs are the most prominent in this area, and the activities they are involved in. Over the past few decades there has been a major problem with gangs in America, and they still continue to grow. Throughout this project, the research plan is to learn what the gangs are doing, how they are doing it, and what can be done to stop these gangs. The research project focuses on the youth involvement in gangs in the Cleveland school system, the community and society involvement with the gangs, and the models that could improve the gang resistance in Cleveland, Ohio. The methodology of the research is based on a combination of interviews, official statistics, and review of gang intervention efforts in Cleveland, Ohio. The interview plan includes various interviews with the Cleveland Police Department as well as the Cleveland Police Gang Unit on 1300 Ontario St, Cleveland Ohio. After collecting the data on the criminal activity of gang members, the project examines what the Community is doing to stop gang related crime in Cleveland.

## Uncovering Youth Truth: Influences Leading to Gang Life in Dayton, Ohio

Criminal Justice Program 1:00 PM-2:00 PM
Oral Presentation, Senior/Capstone Project St. Joseph's Hall - 023

Advisor(s) - Dorie M Farrell, Arthur J Jipson

Student(s) - Matthew H Roberts

This project seeks to determine the prevailing causal factors leading young males and females into association with gangs. Specifically, the research question is "What influences cause an individual to participate in gang life in Dayton, Ohio?" In answering this question, the researcher will examine what prevailing factors influence an individual to join a gang and actively participate in that gang. Data collection and research methods for this project will include interviews with authorities, knowledgeable faculty of the University of Dayton, and possibly interviews with gang members, in addition to data gathered from surveys and other official statistics found in literature reviews. The focus of this research project is to primarily understand what factors influence an individual to join a gang and why individuals are making the choice to participate in a gang lifestyle. By understanding why gang life is appealing to these individuals, legislative bodies can better create and implement policies that effectively reduce or limit gangs, subsequently reducing crime in the area.

## Lean Hospitals: An Examination of the Obstacles to Implementation

Accounting 1:00 PM-2:00 PM
Oral Presentation, Honors Thesis Miriam Hall - 101

Advisor(s) - Joseph F Castellano Student(s) - Elizabeth H Marsh

While many are content to wait for the government to reform the health care system and reduce costs, some hospitals have already begun to address the cost issue and reduce medical errors through Lean management. The term Lean management describes a technique that can be applied to any organization (Lean hospitals and Lean manufacturing are examples) and signifies a commitment to improving processes and reducing waste. Hospitals that have implemented Lean have benefited from millions of dollars in cost savings. Why then have more hospitals not "gone Lean?" This thesis seeks to answer that question by investigating the different obstacles to the implementation of Lean in hospitals. These obstacles include: the nature of hospital hierarchies and leadership styles, employee reticence, the structure of government reimbursement plans, and a lack of understanding among hospital administrators of what being Lean truly means.

#### Gangs in New York: Immigration and Customs Enforcements Involvement Through Gang **Prevention and Crime Control**

**Criminal Justice Program** 1:00 PM-2:00 PM Oral Presentation, Senior/Capstone Project St. Joseph's Hall - 023 Advisor(s) - Paul J Becker, Arthur J Jipson Student(s) - Ryan C McDonough

This project will investigate the history of New York gangs and the crimes that each of these gangs are perpetrate. Research will also focus on Immigration and Customs Enforcement (ICE) and the certain gang related operations that have been used in New York. The research will consist of the specific gangs throughout all of New York and the crimes that are specifically involved with each gang, taking into account where each originates, the resources available to them to commit such crimes, and the overall benefit each gang receives from the outcome of the crime committed. The operations by ICE will also be investigated throughout in this research project. The project will demonstrate how operations undertaken to decrease gang related crimes throughout New York are created. One important interdiction effort is known as Operation Community Shield (OCS) which takes place throughout the United States and currently, New York. Since its introduction in 2005, OCS has made over 15,000 arrests and, representing nearly 1,000 different gangs, ICEs background in relation to gangs will also be discussed as well as their arrests while incorporating the issues of race and ethnicity and political views. In order to understand this topic, interviews and statistics taken from both ICEs website and its own employees will be used. This project will examine the increasing number of gangs in New York, the crimes that surround these gangs specifically, and the actions that ICE is taking to decrease these ongoing crimes. It will discuss how ICE relied on old background information to locate people causing agents and officers to go to locations other than where the gang members were located. The research will also incorporate the involvement of local law enforcement and the information they provided ICE in order to track each gang and the crimes that they commit.

#### The Environment of Campus: The Past, Present and Future of Water Management and the **University of Dayton**

Biology Panel Discussion, Course Project, 11\_SP\_ASI\_345\_01 1:00 PM-2:00 PM

Advisor(s) - Donald R Geiger, Jeffrey L Kavanaugh

Science Center - 114

Student(s) - Andrew R Kowalski, Madeleine J Mullee, Nicole L Smith, Michael D Voellmecke

The value of water as an economic and environmental asset has become increasingly important throughout the world, specifically in our region and city. The potential outcomes of sustainable and innovative storm water practices would provide major economic, ecological and aesthetic benefits to the University of Dayton and its campus. Using multiple visual techniques, we will present the historical flow of water on campus compared to the current flow. We will address the present approach to water and run-off control, and present a sustainable and innovative vision of water management, citing specific methods and examples for the university's campus. We will also present our simple and practical design for immediate storm water mitigation for use in the Student Neighborhood on the Sustainability Special Interest houses for the 2011-2012 school year. The first half will involve the project presentation and the second half will be a panel discussion and forum involving students, faculty, staff and administrators about the issue of water management on campus.

# AFTERNOON PRESENTATIONS

1:00 PM-2:00 PM

#### **Water: An International Crisis**

Visual Arts Visual Arts Exhibition, Course Project, 11\_SP\_VAD\_490\_01 ArtStreet - Studio B

Advisor(s): Mary R Schoenhoff Student(s): Judd V Hopkins

Sustainable fresh water is something that many of us take for granted, but in some parts of the World, access to clean water is poses a daily struggle for many individuals. Water is a necessity for life. It is woven into our privileged society so well that we often fail to appreciate the essential vet vulnerable resource that it is. Even in the United States, we face ecological problems that threaten fresh water sources. This project will bring these issues to the forefront. Using various types of art and design, it will present statistics and visual interpretations of case studies from around the world, arguing that clean water is a fragile resource that we must protect and share equitably.

#### 9th Annual Integration Bee

Mathematics 1:00 PM-3:00 PM Interactive Competition Science Center - 255

Advisor(s) - Arthur H Busch, Maher B Qumsiyeh

The students compete in teams of 2-3 people. This is organized in a similar way to the traditional spelling bee. Teams will be evaluating integrals that are projected on a screen. If a team incorrectly evaluates an integral, the team is eliminated from the competition. After the elimination rounds, we will hold the lightning rounds. They first 'v' many teams to correctly evaluate the given integrals will proceed to the next round. We do this until there is a 1st. 2nd and 3rd place team. First, second, and third place teams will receive math t-shirts.

#### **Competition Recital for the 2011 Honors Recital**

Music 1:00 PM-3:00 PM Performance, Honors Recital Sears Recital Hall

Advisor(s) - Phillip C Magnuson

Student(s) - Jessica L Creamer, Lauren E Erhart, Anuli U Ezeuko, Kate E Hunt, Stephanie M Jabre, Mitchell A McCrady, Fiona B McGowan, Samuel J Petrick, Matthew S Schroeder, Megan A Shaughnessy, Kevin J Sylvester, Anthony M Trifiletti

The Honors Recital Audition is an annual event presented by the Department of Music. From September to March, the music faculty evaluate all student performances from our weekly Friday recital. The 12 students with the highest rankings are eliqible to compete in this audition for one of the six spots on our Honors Recital, which will be held Friday, 29 April.

#### Grazing, Flow, and Light Effects on Epilithic Stream Biofilm Succession During a Large Pulse of Organic Leaf Litter

1:20 PM-1:40 PM Biology Oral Presentation, Graduate Research Kennedy Union - 331

Advisor(s) - Mark E Benbow Student(s) - Jennifer M Lang

The study of biofilm development on natural substrates has increased over the last decade, but few field studies describe interacting abiotic and biotic factors that influence epilithic succession. We studied the combined effects of snail grazing and reduced flow and light on stream epilithic biofilm succession in a third order Ohio stream over 39 d during autumn leaf senescence. Using screen enclosures over ceramic tiles compared to open controls, we described the structural and functional changes of the communities. Tiles were sampled three times to represent temporal changes in primary production, biomass turnover and microbial community composition. There were both significant date and treatment effects on chlorophyll a, AFDM and biomass turnover. Grazing significantly increased biomass turnover in the epilithic community during later succession, although its influence was mediated by reduced flow and light conditions associated with enclosure conditions. Observations and on-going

T-RFLP analyses of algal, bacterial and fungal community structure suggest changes in epilithic community composition during succession and in response to grazing pressure. These effects could have significant influences on ecosystem processes and nutrient cycling of Midwestern streams.

# Diasporic Ecclesiology and the Agrarian Critique: John Howard Yoder, Wendell Berry, and Rural Christian Communities

Religious Studies 1:30 PM-2:00 PM
Oral Presentation, Graduate Research
Advisor(s) - Anthony B Smith
Student(s) - Scott C McDaniel

Mennonite theologian John Howard Yoder provides a dynamic critique of the modern nation-state's propensity to use the land or physical space as a means of demarcation between the privileged and the oppressed. A central component of this critique is his contention that the church must represent a diasporic (exilic) community in the world. As people dispossessed of a concrete space in the world, no longer identifiable through clear, rigid boundaries, the church embodies a non-possessive interaction with space. While Yoder's theology of diaspora is compelling, his understanding of land and community, particularly within an agrarian context where local communities are often victims of national injustice, has yet to be adequately addressed. If Yoder is correct in his criticism of the territorial possessiveness of the modern nation-state and offers an alternative vision of community in the Å?disaporic church then any theological reflection on this issue must address the character of the church's connection to the land. The temptation of Yoder's theological vision is that, while it remains connected to the particular instantiations of Christian community, the logic of non-place is essentially abstract. As such, he describes the church's stance and witness to the world, but does not offer a concrete explanation of how such a vision affects our connection to the land. If the nation-state represents a totalizing entity that seeks to subsume local communities, denying the particularity and dynamism of local, agrarian spaces, then the church, even as an diaspora community, must acknowledge its connection to the land. Drawing primarily on the agrarian philosophy of Wendell Berry, I address this inadequacy in Yoder's theological vision, therein examining the viability of the concept of diaspora when discussing the theo-political critique of agrarian communities, particularly in the mountains of Central Appalachia, of the oppressive practices of the modern nation-state.

#### **Divide: A Comparative Study of Ancient and Contemporary Walls**

Political Science 1:30 PM-2:00 PM
Oral Presentation, Honors Thesis Kennedy Union - 211
Advisor(s) - Margaret P Karns

Student(s) - Zachary T Sideras

Since the end of the Cold War, walls have been built throughout the world by governments to end a long list of problems, such as drug trafficking, illegal immigration, terrorism and ethno-religious conflict. However, in both historical and contemporary contexts, walls have largely failed as long-term policy solutions. This presentation looks at the historical and contemporary use of walls built to divide societies. Utilizing Hadrianâ??s Wall, the Berlin Wall, the Peace Lines in Northern Ireland and the Israeli Separation Barrier as case studies, this thesis explores the reasons why physical barriers are constructed between populations as means to solve conflict. Through analyzing the functions of walls and how they evolve over time, it is evident that walls have social, political and economic impacts on the dividedsociety that tend to exacerbate the underlying grievances.

#### **Techniques in Premium Seating Sales for Suites and Club Seats**

Health and Sport Science 1:30 PM-2:00 PM
Oral Presentation, Graduate Research LTC - Studio

Advisor(s) - Peter J Titlebaum

Student(s) - Kimberly L Bertovich

Professional sport is big business. Within the business of sports, significant revenue is derived from the sales of luxury suites and club seats. This revenue stream accounts for an average of \$9.8 million per professional sports venue annually in the United States (Lawrence, Contorno, Kutz, Hendrickson and Dorsey, 2007). Therefore, its important that the sales teams in these organizations understand the best practices that are in use today. A survey was completed by 49 sports teams from Major League Baseball (MLB-13), National Basketball Association (NBA-11), National

# AFTERNOON PRESENTATIONS

Football League (NFL-14), and National Hockey League (NHL-11). The results demonstrate the most effective ways to reach todays customer, from the perspective of the teams. In addition, results show what new techniques are being used by some but may not have been considered by all who sell in the premium seat market. Finally, techniques that have been determined to have little or no effect on purchase decisions might be good candidates for discontinuation. Teams might reconsider the time, energy and money expended once they are made aware of the limited value they yield. The teams provided a solid framework for evaluating techniques in premium seating sales. By gaining insights on what others are doing, they will better be able to determine what is most and least effective in todays market place. These premium customers bring in a large portion of revenue, and it is vital to maintain their support. More research is needed to better understand what the end-user really wants as it relates to the sales process.

# The problem of recidivism: financial costs, possible solutions, and its impact on Ohio correction staff.

Sociology, Anthropology, and Social Work

Oral Presentation, Senior/Capstone Project

Advisor(s) - H F Pestello

Student(s) - Tim A Devita

Qualitative data is gleaned from conducting interviews with members of the Ohio Department of Rehabilitation and Corrections. Recidivism occurs when an inmate is rearrested and reconvicted within three years of being released from prison for a different crime. This issue is prevalent in all levels of the justice system and is occurring at an alarmingly high rate nationwide. This research demonstrates the financial costs of recidivism and also proposes possible solutions to this problem affecting our countryâ??s criminal justice system. Another component of the research considers the impacts on the morale of correction staff due to high rates of recidivism.

#### An Introduction to Human Trafficking: Presentation and Guided Discusssion

Political Science 1:30 PM-2:00 PM
Panel Discussion, Course Project, 11\_SP\_POL\_300\_04 St. Joseph's Hall - 013

Advisor(s) - Anthony N Talbott

Student(s) - Anthony L Lopresti, Mary G Pollicino, Shane P Rogers, Amanda M Steve

An estimated 27 million people are enslaved in the world today. Human trafficking, or the modern day slave trade, is the second largest criminal enterprise in the world and may be the greatest human rights challenge of our time. This panel will present an introduction to the problem of human trafficking before breaking the audience into small groups for guided discussion of the issue.

# The Authority of the Law and State Through the Scope of Political Revolution and Shifting Margins

Sociology, Anthropology, and Social Work 1:30 PM-2:00 PM Panel Discussion, Course Project, 10\_FA\_ANT\_306\_01 LTC - TeamSpace Advisor(s) - Simanti Dasgupta

Student(s) - Ashley E Niemeier

In my presentation, I expand on the abstract nature of practical law and the implementation of such law as it pertains to a state during a revolutionary period. In particular, my analysis will center on the European revolutions of 1830 and 1848 and the panel will discuss what becomes a state's legitimate right to violence within the margins of these revolutions.

# Initial dispersal and upstream migration of a tropical neritid snail: Implications for restoring migratory pathways in tropical streams

Biology 1:40 PM-2:00 PM
Oral Presentation, Graduate Research Kennedy Union - 331
Advisor(s) - Mark E Benbow. Albert J Burky

Student(s) - Kathleen R Gorbach

Migratory patterns of amphidromous organisms are negatively affected by stream alterations and water diversions around the world. Ecological factors affecting upstream migration have been suggested, however the environmental drivers of this activity are not fully understood. Upstream migration is characteristic of the amphidromous lifecycle where juvenile forms migrate from the ocean to adult freshwater breeding habitats. In many Hawaiian streams, the decline or extirpation of Neritina granosa, a native freshwater gastropod, has been associated with habitat degradation. This manipulation transplant study investigated the effects of water removal and increased density on initial dispersal and upstream migration of N. granosa. Three experimental treatments were employed: 1) reduced water flow conditions, 2) natural water flow conditions, and 3) natural water flow conditions with increased snail density. Overall, snails under natural flow displayed rheotactic behavior, with only 5.5% demonstrating initial downstream movement from the release location, whereas those under reduced flow conditions exhibited 43% downstream or neutral movement. Mean upstream migration rate during the 6-day recovery period was 0.25, 0.66 and 1.16 m/d under reduced flow, natural flow and natural flow with increased density, respectively. Principal Component Analysis and Generalized Linear Models identified habitat template characteristics that strongly influenced upstream migration rate, with habitat-scale and reach-scale hydraulic variables as significant predictor covariates. The relationship between reach discharge and upstream migration rates was used to predict migratory time frame estimates necessary for neritid snails to move from the ocean to natural habitats beyond the highest diversion. By understanding upstream migration, recommendations can be made to facilitate migratory pathway and natural population restoration of not only the slowest migratory species, but also other amphidromous species in tropical streams globally.

# The Role of Sex in the Gustatory Response of the Blowfly, Lucilia sericata, to Sugars and Decomposition Related Amino Acids

Biology Oral Presentation, Graduate Research Advisor(s) - Karolyn M Hansen Student(s) - Allissa M Blystone 2:00 PM-2:20 PM Kennedy Union - 331

Blow fly members of the family Calliphoridae, specifically Lucilia sericata, often are important to forensic investigations by aiding in the determination of a post mortem interval, or the time elapsed since the expiration of a living organism. Decomposing organic material is often a source of nourishment key to the normal development of the blow fly; without a nutritive source the eggs will often fail to hatch, and the larvae will fail to pupate. Nutrition is not only vital for proper larval development, but also necessary for adults. Attracted to the volatile organic compounds (smells) released by decaying material up to a distance of twenty kilometers, L. sericata will alter its behavior to fly to and feed on the decaying source of protein. It is known that a protein meal is essential for sexual maturation in female blow flies, but the nutritional role in males has yet to be determined. Despite this fact, it is typical to find both males and females near, and in many cases on decomposing material. Seeking to understand the role gender and nutrition in the attraction of blow flies to different nutritive sources, both male and female adult blow flies were exposed to sugars common in different food sources, as well as to essential and decomposition-related amino acids to determine if a gender difference in behavior truly exists. All twenty essential amino acids and three sugars were tested for gustatory response, utilizing the proboscis extension reflex (PER) assay to determine differences in the behavior of the sexes associated with the stimulus. Results demonstrated that there is a statistically significant age- and sex-related difference associated with attraction to and gustatory interest in the amino acids and sugars tested.

# Rethinking the Catholic Christian Response to Poverty Medicine and Access to Health Care in the U.S. Through the Formation of Physicians

Religious Studies 2:00 PM-2:30 PM
Oral Presentation, Honors Thesis Kennedy Union - 312
Advisor(s) - Jana M Bennett
Student(s) - Karl W Eckberg

Through several qualitative interviews with doctors, I analyze the role of moral and spiritual formation in preparing physicians to serve the poor. This analysis comes at a time in which access to health care has been a hotly debated issue in the United States. Our health care system and the subsequent policies and politics behind it have constantly reanalyzed and readdressed the issue of how to ensure proper care for the poor. Yet the medical "safety net" for the poor continues to deteriorate, and statistics have shown that disparities continue to grow. A solution for solving the

# AFTERNOON PRESENTATIONS

uninsured poor's access to health care is desperately needed. The Catholic Christian faith is a resource for reflection on how to address this issue; however, the comprehensive formation of physicians has not been given adequate consideration as a solution to this problem. By properly addressing the role of formation for physicians, our nation can better prepare physicians to serve the growing poor population in need of health care.

#### North America Major Sports Teams is Big Business: All Cities are not Equal

Health and Sport Science 2:00 PM-2:30 PM
Oral Presentation, Graduate Research LTC - Studio
Advisor(s) - Peter J Titlebaum
Student(s) - Diane E Branca

The purpose of this study was to better understand the numbers behind North America top sports leagues and the pricing in the luxury suite market. What allows one market to charge a premium when other markets can only command a fraction of the price? When the leagues are aggregated, the National Basketball Association (NBA), National Football League (NFL), National Hockey League (NHL), and Major League Baseball (MLB), are there major distinctions between geographical marketplaces that support different pricing structures? The study limited the scope to the teams in the four most popular leagues in North America (n=122). Luxury suites in professional sport are part of the lifeblood of the sport industry. While it might be assumed that the team that wins the championship can charge the most for a premium suite, team performance is only one of many factors. Forbes assembles a list each year valuing sport franchises in each league. In many cases, higher valued teams command higher priced suites, but not always. The population of the metropolitan area, as determined by Arbitron, plays a role in pricing. But again, population is only one of many factors. The number of Fortune 1000 companies in the marketplace made a significant difference, with few exceptions. The teams geographical location, according to the U.S. Census Bureau, played a significant role in the value of a team. (i.e., Northeast, South, Midwest or West) Also, Canada has eight teams located in its borders that were part of this study. Teams in the four leagues provide a solid framework for evaluating the luxury suite market with respect to pricing. While the market is in a state of change, and the industry will need to evolve, the results reflect that all luxury suites are not the same, and more research is needed.

# The Effect of Silver Nanoparticles on the Bacteria and Plants Essential to the Global Nitrogen Cycle

Biology 2:00 PM-2:30 PM
Oral Presentation, Honors Thesis Kennedy Union - 207
Advisor(s) - Jayne B Robinson

The use of manufactured nanoparticles (NPs) in consumer products is becoming more prevalent. The nanoparticle form of a substance can have radically different properties in terms of reactivity and toxicity than the bulk material form. One area of concern is the effect nanoparticles may have on the environment, e.g., on the earth's nitrogen cycle. This study investigated the effect of silver NPs on two different bacteria, Sinorhizo-bium meliloti and Pseudomonas aeruginosa, that are key players in the global nitrogen cycle. The various types of silver NPs tested were all shown to be toxic to both types of bacteria at various population densities. We also determined that exposure of Medicago truncatula, the plant host of S. meliloti, to silver NPs stunted the formation of the symbiotic relationship of these partners, as evidenced by lower rates of nodulation. Our results suggest that accumulation of silver NPs in the soil could harm this symbiotic relationship and ultimately disrupt the nitrogen cycle.

#### Who are Modern Day Slaves: A Discussion of Vulnerabilities and Demand

Political Science 2:00 PM-2:30 PM
Panel Discussion, Course Project, 11\_SP\_POL\_300\_04 St. Joseph's Hall - 013
Advisor(s) - Anthony N Talbott

Student(s) - Jacqueline J Boyle, Paige N Charbat, Lauren E Rague, Suzanne K Sullivan

Student(s) - Brittany A Demmitt

An estimated 27 million people are enslaved in the world today. Human trafficking, or the modern day slave trade, is the second largest criminal enterprise in the world and may be the greatest human rights challenge of our time. This panel discusses the vulnerabilities and the demand that push and pull people into slavery at global, national, and local levels.

# **Ohio Prison Drug Program: How Effective is Effective?**

Sociology, Anthropology, and Social Work
Oral Presentation, Senior/Capstone Project
Advisor(s) - H F Pestello
St. Joseph's Hall - 025

Student(s) - Jessica M Lampe

This research project evaluates the opinions of inmates who are enrolled in a drug treatment program. It analyzes the programâ??s characteristics found in previous research. Then, it gathers data from the inmates of the Renaissance Program, a drug treatment program in the London Correctional Institute and found what the most significant aspects to that prison are and what the inmatesâ?? opinions were of those aspects. Lastly, there is a suggestion on what prisons should implement in their treatment programs to make them more successful, based on the results of the data from this research. This suggestion includes: isolating the dorm where they live to only program participants, making the treatment longer than 90 days, and overall the program is liked and thought of as effective but the inmates.

# Taken: An Examination of the Growth and Prevalence of Human Trafficking in the United States, With a Focus on Ohio

Criminal Justice Program

2:00 PM-3:00 PM

Oral Presentation, Senior/Capstone Project

Advisor(c) - Arthur Lliscon

Advisor(s) - Arthur J Jipson Student(s) - Vincent J Aebi

This research project will examine and analyze human trafficking in the United States, with a special focus given to Ohio. It will encompass both the trafficking of human beings as forced sex workers and as forced labor. The project will attempt to answer a two part question: First, what factors have allowed the human trafficking trade to develop in the United States? Second, how prevalent is this crime in Ohio? In order to answer these questions, this project will use a mixed methods approach by conducting interviews with law enforcement personnel who are engaged in combating human trafficking in Ohio and comparing those results with official statistics. It is important that this research be conducted, as human trafficking has become the third most profitable crime in the world, and has quickly become a growing concern for law enforcement officials in Ohio.

## The Evolution of Capital Punisment in Ohio

Criminal Justice Program
2:00 PM-3:00 PM
Oral Presentation, Senior/Capstone Project
St. Joseph's Hall - 023
Advisor(s) - Jefferson L Ingram, Arthur J Jipson

Student(s) - Jacquelyn A McTigue

This project will examine capital punishment and how it has evolved in the state of Ohio. Further, it will look at how the evolution of capital punishment has impacted the legal and political professionals that are often exposed to these interpretations. The methodology for this project will be a multifaceted approach which includes, but is not limited to; official statistics, interviews with legal professionals including defense attorneys and prosecutors in Montgomery County, interviews with sitting judges as well as those who have resigned from the bench, and finally, interviews with Ohio political officials who have experienced the evolution of capital punishment first hand through legislation. By and large this research project will inform individuals on how capital punishment went from cruel and unusual measures to what the state considers to be constitutionally acceptable today. The important issues here are the constitutional aspects of capital punishment that has directly aided its evolution and how certain individuals who are exposed to this process viewed its implementation.

## Modern Technology and it's Effects on Child Predators

Criminal Justice Program

2:00 PM-3:00 PM

Oral Presentation, Senior/Capstone Project

St. Joseph's Hall - 023

Advisor(s) - Arthur J Jipson Student(s) - Kevin C Tufts

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With this project the researcher will examine and analyze if modern technology and social media has had an impact on criminals who use the Internet to stalk youth. The research question focuses on whether or not the Internet has made it easier for child predators to prey on children. The research will determine whether or not these technologies have made it easier for minors to be solicited, and what limitations the Internet may have on child stalkers. The researcher will examine the different types of social media in contemporary culture to determine if these technologies have an influence on the problem of child predation.

#### **Magical Margins**

Sociology, Anthropology, and Social Work

Panel Discussion, Course Project, 11\_SP\_ANT\_306\_01

Advisor(s) - Simanti Dasgupta

Student(s) - Brooke A Moore

Have you ever felt threatened in an area less than 2 miles or 3 miles from your home? I can recall a moment in my life when I felt threatened in an area that was very familiar. Miamisburg Ohio is a predominantly Caucasian city outside of Dayton. Last November, I volunteered to pass out literature at the election polls in Miamisburg. I arrived at the polls very knowledgeable about the 100 meter rule, which states you are only allowed to stand within a 100 meter radius from the entrance of the election polls. While performing a civic duty, a Caucasian election worker continuously ran outside to warn me; He said,"You are standing in an illegal space inside of the 100 meter radius. The only way you can get close to the voters is if you stand on the other side of the street". When he approached me I was standing outside of the marker used to mark the 100 meter distance between the entrance and the parking lot. I was standing very close to a Caucasian guy who was also passing out literature. The election worker called the sheriff to detain me for standing in an illegal political boundary. This magical experience is parallel to margins in a state where race and social status are the determents of where you may or may not live; where you go to school, where you work, or where you are often detained and threatened. The main differences between the narrative and the margins in a state are the markers used to divide margins are often invisible. This panel will carefully examine the magic of the margins.

# Study and Service Abroad - Become a world citizen with the School of Business Administration: Summer Study Abroad, Semester Exchange, ETHOS (Engineers in Technical Humanitarian Opportunities of Service Learning), and other programs.

MIS, OM, & Decision Sciences

Oral Presentation, Independent Research

2:15 PM-3:15 PM

Miriam Hall - 119 (O'Leary)

Advisor(s) - Terence J Lau, Peter G Wagner

Student(s) - Mark A Abram, Kelsey L Chapic, Katherine G Dempsey, Charles B Edmundson, Scott R Endress, Martin G Ernst, Anne C Estill, Kevin E Fisher, Daniel P Mares, Jim E Omalley, Jonathan C Phipps, Michael F Witt

University students increasingly realize that international experience is almost a prerequisite for securing a first-rate job after graduation, and learning about and understanding diverse cultures make us all better world citizens. How can you as a student expand your horizons while still maintaining a high level of academic professionalism? SBA international programs that include Summer Study Abroad, Semester Exchange, and ETHOS (co-sponsored by the SBA and the Department of Engineering), to name a few, provide opportunities for students to become world citizens by embracing unfamiliar and diverse cultures in rigorous educational environments that can include service activities. This presentation will inform students on becoming a more educated citizen through a study abroad and/or service experience in Europe, Asia, Central or South America, and more. Students may take business and general education classes taught by University of Dayton faculty or take a foreign language. Opportunities for service activities through ETHOS engage students in life-changing experiences while giving back to the global community. Past program participants will present their stories and discuss the unique opportunities awaiting students in all majors.

## Operations Management Capstone Projcts - Part 3 (of 3)

MIS, OM, & Decision Sciences Oral Presentation, Senior/Capstone Project Advisor(s) - Michael F Gorman, John J Kanet 2:15 PM-3:15 PM Miriam Hall - 104

Student(s) - Sara L Bissmeyer, Jeffrey P Brasdovich, Nickolas C Buha, Ryan A Clark, Maryanne E Dietrich, Christopher A Gravier, Joseph R Guy, William C Hallinan, Daniel T Kahler, Bryan J Kristy, Jeffrey D Pfeiffer, Megan Redmond

This is Part 3 of a three part set of presentations highlighting senior OPS student consulting projects with regional industry. Presentations for this part include:1. Finished Goods Leveling at Amtrim (Dietrich, Clark, Gravier); 2. Sales Channel Inventory at Flowserve (Guy, Buha, Kristy); 3. Plant Layout at Industrial Fiberglass (Hallinan, Brasdovich, Pfeiffer); 4. Finished Goods Inventory Optimization at Standard Register (Kahler, Bissmeyer, Redmond).

#### The Davis Center for Portfolio Management Overview

Economics & Finance 2:15 PM-3:15 PM
Oral Presentation, Independent Research Miriam Hall - 118 (Davis Center)

Advisor(s) - Robert D Dean, John E Rapp

Student(s) - Kevin J Abels, Drew M Becker, Gregory M Hoefert

PRESENTATION: This presentation is an overview of the Davis Center for Portfolio Management. The presentation will outline the history of the center and fund within it, its four main components, the details of several different structures, and most pertinent, its recent new structure as it most closely aligns with the Center's Vision and Mission statement. VISION STATEMENT: To become the nation's premier student-managed financial think-tankMISSION STATEMENT: The Davis Center for Portfolio Management is a student-managed organization designed to provide quality market and equity research needed to effectively manage the student-run undergraduate portfolio. By integrating academic theory with experiential learning, we strive to create an environment that fosters both personal and professional development, provide opportunities to establish a comprehensive knowledge of the overall financial industry, and ultimately produce well-rounded individuals equipped with the tools to be successful in today's competitive society.

#### Flyer Enterprises: Entrepreneurship in Action

Business 2:15 PM-3:15 PM
Oral Presentation, Independent Research Miriam Hall - 103

Advisor(s) - Janet R Leonard

Student(s) - Megan E Arko, Jeffrey R Firestone, Sean O Holdmeyer, Nicole M Swidarski

Flyer Enterprises started as a student-run corporation at the University of Dayton in 2001 with two divisions, and has experienced stellar and steady growth ever since. Today, as one of the largest student-run corporations in the nation, Flyer Enterprises provides unparalleled experiential business education to employees and ethically-focused services to the University of Dayton community through chosen ventures. The reason for Flyer Enterprises success is clear. By offering students the opportunity to apply classroom lessons on business, communication and leadership to practical daily work experience, Flyer Enterprises serves the University community while acting as a learning laboratory for tomorrow's top professionals. The corporation prides itself on providing an environment for hands-on learning about enterprise and strives to become the national leader for experiential learning. Flyer Enterprises is completely comprised of undergraduate students, from the sales associates and managers to the Chief Executive Officer. Students make all the business decisions at every level of the organization, with limited advisement from a faculty advisor, and answer to a Board of Directors. Flyer Enterprises operates nine divisions, employs more than 170 students at the University of Dayton and has annual revenues of more than \$1.3 million.

#### Successional Characteristics of Calliphoridae Colonization on Sus scrofa

Biology 2:20 PM-2:40 PM
Oral Presentation, Independent Research Kennedy Union - 331

Advisor(s) - Mark E Benbow Student(s) - James M Alfieri

Blowfly (Calliphoridae) species identification is crucial to determining post-mortem interval (PMI) estimates and is important for understanding the ecology of decomposition. In this study, we tested if proximity to streams affects blowfly species succession and sex ratios attracted to swine

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carcasses in southwestern Ohio. Two Sus scrofa were placed immediately next to a stream, while two others were placed > 50 m from the stream. Sticky traps were used on the anterior and posterior end of cages that immediately covered each Sus scrofa carcass to collect the blowfly species attracted to the carcass over decomposition. Collections were made twice a day (one at night the other during the day) over a five-day period from July 28th to August 1st. Each specimen was identified to species based and sexed. The species composition and sex ratio changes over time was then analyzed to describe the successional dynamics during this process and to determine if succession differed depending on proximity to the stream. Over a period of 5 days, the sex ratios of all species changed from a female dominant population to an equal sex population. Also, the early dominant species, Lucilia coeruleiviridis, was succeeded by Phormia regina.

#### **Through Thin Film Ablation of Iron-Nickel Pixel Target**

Engineering 2:30 PM-3:00 PM
Oral Presentation, Graduate Research Kennedy Union - 211
Advisor(s) - PT Murray, Andrew M Sarangan
Student(s) - Xiaoxu Niu

A novel multi-element nanoparticle synthesis technique, noted pixel target ablation (PTA) is reported here. In the experiments described here, Iron-Nickel pixel targets were prepared on a transparent disc by sputtering and by photolithography. By irradiating the target materials from the backside, the laser energy breaks the target materials into metal atoms, which then forms nanoparticles by recombination in the gas phase. The nanoparticles were subsequently captured by a substrate. The degree of interaction between the two metals species and the plume dynamics of this method were examined. The average composition and size distribution of synthesized nanoparticles were studied using X-ray photoelectron spectroscopy (XPS) and transmission electron microscopy (TEM) respectively. The results show that this process has congruent transformation of target materials weight ratio to particle composition, and controllable particle size distribution with no agglomeration. Additionally, the structure of the particles was determined by the use of X-ray diffraction (XRD). Samples were prepared by ablation in vacuum and in the presence of a background gas. A mixture of single-metallic and alloyed nanoparticles were collected. The implications of these observations for multi-element nanoparticle synthesis are discussed.

# Modern Day Abolitionists at the University of Dayton: A Presentation of Anti-Human Trafficking Activism and Advocacy

Political Science 2:30 PM-3:00 PM
Panel Discussion, Course Project, 11\_SP\_POL\_300\_04 St. Joseph's Hall - 013

Advisor(s) - Anthony N Talbott

Student(s) - Meagan E Leach, Sean P Redmond, Sheila A Stecich, Halle A Waite

An estimated 27 million people are enslaved in the world today. Human trafficking, or the modern day slave trade, is the second largest criminal enterprise in the world and may be the greatest human rights challenge of our time. The University of Dayton has been playing a key role in fighting this terrible problem. This panel discusses the various abolitionist activities being carried out by faculty and students at the university and tells audience members how they can get involved.

## Child Abuse: A Definition through aspiring Professionals' Eyes

Sociology, Anthropology, and Social Work

Oral Presentation, Senior/Capstone Project

Advisor(s) - Shawn A Cassiman, H F Pestello

Student(s) - Margaret A Coleman

As a concept, neglect lacks the clarity and supportive information in the social work literature that supports child abuse. The greatest lack is the absence of a clear, universally accepted definition of what constitutes neglect. Without this definition it is difficult for professionals and parents to decide when it is appropriate to intervene. Research has suggested many different aspects of a larger definition of neglect and child maltreatment, but no conclusive definition has emerged. This research will explore this issue by surveying students studying child abuse in an academic class. Students will answer voluntary questionnaires given to them in their child abuse classes. Their answers will guide the researcher in developing the key elements of a definition for this important social work concept.

# Investigating Environmental Justice in a Typical American Cityscape: Geospatial Comparisons of Tree Canopy Cover and Socio-Economic Criteria in Montgomery County, Ohio.

Biology 2:30 PM-3:00 PM
Oral Presentation, Honors Thesis Kennedy Union - 310

Advisor(s) - Ryan W McEwan
Student(s) - Nolan M Nicaise

The Constitution of the United States directs the government to promote justice and the general welfare. However, in many areas marginalized populations are subjected to inferior environmental conditions. Because the environment provides important human services, inferior environmental conditions may lead to an inferior quality of life. Is such environmental injustice present in Montgomery County, Ohio? This study explores the geographic connections between tree canopy and several social/economic evaluators.

#### **Elucidating Nonsense, Philosophical or Otherwise**

Religious Studies 2:30 PM-3:30 PM
Oral Presentation, Graduate Research Kennedy Union - 311
Advisor(s) - Brad J Kallenberg

Student(s) - Brad J Kallenberg
Student(s) - Justus H Hunter

Student(s) - Allison R Gansel

This paper considers the potential implications Cora Diamond's reading of Ludwig Wittgenstein's Tractatus Logico-Philosophicus might carry for doing "Wittgensteinian theology." It accomplishes this in two stages. First, the essay elucidates what has been called the Diamond-Conant reading of the Tractatus. Second, it offers a brief reflection on the implications the aforementioned reading might carry for the task of theology.

## Hydrology Effects on Invertebrate Communities in Artificial and Natural Vernal Pools

Biology 2:40 PM-3:00 PM
Oral Presentation, Course Project, 11 SP BIO 421 P1 Kennedy Union - 331

Advisor(s) - Mark E Benbow

Allison R. Gansel, Lindsay Hellwig, Jon White, M. E. Benbow It is characteristic of vernal pools to have dynamic hydrological events, which consist of flooding and drying periods. As a result the interactions among the different components of the biological community are as diverse as the organisms found in these habitats. Invertebrate density and taxa richness were evaluated at two different sites of Ohio; Winton Woods in Hamilton County (artificial pools) and Lawrence Woods Nature Preserve in Hardin County (natural pools). The objective of this investigation was to understand how invertebrate communities change over time, reflecting natural changes in wetland hydrology over a year and in relation to other biota. The hypothesis was that abiotic and biotic interactions influence the invertebrate taxa that occupy vernal pools, and therefore may influence the variability encountered during invertebrate sampling to characterize the communities. The stability of 14 pools at Winton Woods and 7 pools at Lawrence Woods, was measured between the months of May and October 2010. Relative fluctuations in pool depth and size were measured weekly using marked perimeter and center stake measurements. In general, the size of all vernal pools in this study decreased through the summer. Due to the minimal amount of rain from July to October, a majority of the pools completely dried at various time points throughout this period of the study. In addition, monthly biological samples were taken using sweep net techniques to determine invertebrate density and taxa richness. Organisms were identified from three phyla, the most dominant being the Arthropoda (insects, crustaceans, spiders), followed by the Mollusca (snails, clams) and the Annelida (leeches, worms).

## Toxicity Effects of Native and Introduced Tree Species Leachate on Daphnia Magna

Biology 3:00 PM-3:20 PM Oral Presentation, Course Project, 11\_SP\_BIO\_421\_P1 Kennedy Union - 331

Advisor(s) - Mark E Benbow, Ryan W McEwan

Student(s) - Tiffany B Blair

# AFTERNOON PRESENTATIONS

The impact of invasive Lonicera maackii (Amur honeysuckle) in riparian forests is unknown, specifically the effects of senesced honeysuckle leaves and leaf leachate on fresh water organisms, and communities which involve ecosystem function. The objective of this study was to evaluate lethal effects of honeysuckle leaf leaching on Daphnia magna, which are principle grazers, and a primary feed of fish. The effects of four treatments of honeysuckle leaves were compared to a native treatment of sycamore and a control were incubated in a static system of lentic water (23°C) for 4 days to understand acute mortality according to EPA toxicity standard protocols. Two separate experiments were involved, two trials used senesced honeysuckle leaves to make the leachate, and two trials used fresh leaves, both collected from the same field site. At 48 hours, D. magna exposed to control and native conditions experienced no mortality in both senesced and fresh trials, while total mortality for invasive leaf treatments was higher at 12, 24, and 48 hours according to dilution of honeysuckle leachate respectively. These results indicate lethal effects of introduced L. maackii on one dominant lentic organism and suggest a potential for impacts on entire freshwater communities.

# Human Trafficking: An In Depth Examination of All Forms of Sex Trafficking at Global, National, and Local Levels

Political Science 3:00 PM-3:30 PM

Panel Discussion, Course Project, 11\_SP\_POL\_300\_04

St. Joseph's Hall - 013

Advisor(s) - Anthony N Talbott

Student(s) - Courtney A Blakley, Thomas J Nickel, Aaron P Rohrer, Diana Ruiz de los Panos

An estimated 27 million people are enslaved in the world today. Human trafficking, or the modern day slave trade, is the second largest criminal enterprise in the world and may be the greatest human rights challenge of our time. This panel discusses one aspect of human trafficking: sex trafficking. Panelists will present an overview of sex trafficking and discuss the problem on a global, national, and local level.

#### Determination of Fatigue life of a Medium scale carbon fiber Wind turbine blade

Civil & Environmental Engineering & Engineering Mechanics 3:00 PM-3:30 PM
Oral Presentation, Graduate Research Kennedy Union - 207

Advisor(s) - Steven L Donaldson Student(s) - Susmitha Appikatla

In order to satisfy fatigue requirements in designing a cost effective wind turbine, the wind turbine blade, which is an expensive key component of the wind turbine system, must achieve very long operating life of 20-30 years. In this study, the fatigue life of a medium scale (750 kW) horizontal axis wind turbine system (HAWIS), which has been developed by the present study, was estimated by using the well-known s-n damage equation, the load spectrum and SperaÂ?s empirical formulae in order to confirm more than 20 years operating life. Also Designing the wind turbine blade using carbon fiber as building lightweight blades of greater length remains a primary focus for utility-size turbine manufacturers because investment in blade technology pays off. A specific fatigue procedure was proposed with the following three steps. The allowable fatigue strengths were determined from laboratory fatigue property data for the s-n curve of carbon obtained by Mandell, empirical coefficients derived by Goodman diagram with the modified stress ratio and the required design life. The fast progress in wind energy technology and widespread usage of wind turbines require a standardization of the wind turbine main components aiming at a further cost reduction. Building lightweight blades of greater length remains a primary focus for utility-size turbine manufacturers because investment in blade technology pays off. And because the blades account for only about 10 percent of the overall capital expense for a wind turbine, spending on blade innovations is a relatively small factor in energy production costs. A lighter and/or more efficient blade decreases the demands on the hub components and tower structure, decreasing capital and operating expenses for the entire turbine. As blades have grown longer, manufacturers have pushed the limits of fiberglass-reinforced composite technology. The new geometry improves energy production and reduces dirt loading on the leading edge.

## **Gendered Micro-Aggressions in Reality Television**

Sociology, Anthropology, and Social Work Oral Presentation, Senior/Capstone Project Advisor(s) - Dan E Miller, H F Pestello, Leslie H Picca Student(s) - Latoya M Moss 3:00 PM-3:30 PM St. Joseph's Hall - 025

Micro-aggression is the subtle and hard to detect messages or actions that people use as a form of aggressive behavior. Up until now, micro-aggression has mostly been studied in racial contexts while there is little research done with a gender perspective. This research will examine male and female micro-aggression in reality television programming. Content analysis will be used looking at segments of three top-rated shows using Neilson's television show ratings. These shows will be analyzed to examine the relationship between gender and micro-aggression.

# Removal of a Bittering Agent Potentially Released to Water Supplies: Implications for Drinking Water Treatment

Civil & Environmental Engineering & Engineering Mechanics 3:00 PM-3:30 PM
Oral Presentation, Graduate Research
Advisor(s) - Kenya M Crosson
Student(s) - Bartina C Smith

The "Antifreeze Bittering Act of 2009" (H.R. 615) was introduced to the U.S. House of Representatives on January 21, 2009, and it mandates the addition of 30-50 mg/L denatonium benzoate, a bittering agent, to antifreeze and engine coolant. At 1-10 mg/L, denatonium benzoate's bitter taste can be detected, and water with 30-100 mg/L denatonium benzoate (DB) is unpalatable. This project addresses concerns related to the potential release of DB to water supplies. Rapid small scale column tests (RSSCT) established the empty bed contact time necessary for water treatment. RSSCT also determined the effective capacity of the powder activated carbon. Batch tests were conducted using the organic compound potassium hydrogen phthalate (KHP) to determine the effects of organic material on adsorption. A 3mg/L concentration of KHP mixed with 5 mg/L concentration of DB had an 86% removal rate in 24 hours. It was found that the presence of organic matter help adsorption. GIS mapping shows a visual of which Ohio counties are more susceptible to DB ground contamination then others. It has been found that clay soils are more susceptible to the adsorption of DB then sandy soils. Lucas County is one of Ohio's major counties with the highest clay content. The county is composed of 61% of soils with more than 27% clay content.

# Margins, Magic, and Power: Exploring the Community Garden as sites for expression and experimentation

Sociology, Anthropology, and Social Work

Panel Discussion, Course Project, 11\_SP\_ANT\_306\_01

Advisor(s) - Simanti Dasgupta

Student(s) - Stephanie L Koziar

The city can be described in terms of its topography and by the demographics of its residents, but this "bird's eye view" overlooks the true experience of what it means to be part of the urban collective. Just as there are different types of spaces and persons in the city, certain spaces provide experiences that are unique in function. This discussion will specifically explore the functions of the community garden park, referencing the city of Dayton's Garden Station. Topics will include how people in the city experiment with and express their daily lived experience through gardening, art and music.

# Guitar Students of Jim McCutcheon: Singer/Songwriter/Composition Recital

Music 3:00 PM-4:00 PM
Performance, Course Project, 11\_SP\_MUS\_399\_40 Kennedy Union - Boll Theatre
Advisor(s) - James R McCutcheon

Student(s) - Vicki L Bentley, Katherine A Graham

For several years, Jim McCutcheon, Artist-in-Residence in Guitar in the UD Music Department, has encouraged his guitar students to write songs and develop them to a performance level. This presentation will showcase several such student compositions. The concert always provides a glimpse into several aspects of college life here at UD.

# After-School Programs: What characteristics most positively impact youth?

Criminal Justice Program 3:00 PM-4:00 PM
Oral Presentation, Senior/Capstone Project St. Joseph's Hall - 023

# AFTERNOON PRESENTATIONS

Advisor(s) - Arthur J Jipson, H F Pestello Student(s) - Jacqueline K Sammon

The researcher will investigate what makes some after-school programs effective in deterring problem behaviors while others do not. Problem behaviors include delinquent acts such as violence and drug use, as well as misbehavior in school. The researcher will conduct a qualitative study by observing the workings of a specific after-school program in Dayton, Ohio. Information gathered from the observations will be analyzed to determine if connections are evident between the involvement in an after-school program and positive, non-delinquent attributes in the children and adolescents. Some research suggests that staff-youth interactions are the major determinate effectiveness of after-school programs(Granger 441), while others have found a number of influential factors. Police officers and juvenile probation officers will be contacted and interviewed by the researcher to collect data on their observations of what has made after-school programs beneficial in the Dayton area. By focusing on the specific city of Dayton, the researcher will be able to determine some of the programs in this area are comparable to those that are also run in other areas of the state and country. The employees and children of two after-school programs in urban areas of Dayton will also be contacted for data collection on what has positively affected them by attending the program; some of this information will be collected through the researcher's observations, while more in depth data will be collected through sit-down interviews and questionnaires. By investing this topic, the researcher will determine if after-programs result in a safer community with lower rates of problem behaviors.

# The Psycho-Ecological Systems Model for Engaged Scholarship and Service-Learning: Theory, Research, and Applications

Psychology 3:00 PM-4:00 PM
Oral Presentation, Independent Research LTC - Forum

Advisor(s) - Roger N Reeb

Student(s) - Sara E Mason, Jasmine L Smith, Laura E Stayton, Anne L Steel, Kelsey E Ufholz

The Psycho-Ecological Systems Model (PESM; Reeb and Folger, 2010, in press), which was developed to inform and guide engaged scholarship and service-learning, integrates three conceptual developments: the principle of reciprocal determinism (Bandura, 1978); the biopsychosocial model (Kiesler, 2000); and the ecological systems model (Bronfenbrenner, 1979). The current presentation will focus on a description of this model and a multidisciplinary service-learning project focused on homelessness in Montgomery County, Ohio. In order to validate PESM as a guiding model for service-learning projects, a study is being conducted in which community and faculty members will be interviewed to find out if it is feasible to match needs of the homeless with existing or potential service-learning projects. These interviews will focus on the issue of homelessness in Montgomery County, and will serve as a needs and resource assessment of the overall issue of homelessness. The results from these interviews will be used to guide an undergraduate service learning opportunity that is already in progress. Another objective of this program of research is to assess the changes in service-learning studentsâ?? beliefs about homelessness and attitudes related to community service (e.g., self-efficacy for community service, intentions for future community service) as a result of participating in a service-learning project focusing on homelessness. The initial findings in this program of research will be reviewed within the context of the presentation.

## **Comparing Presence and Criminal Activity of Gangs in Ohio**

Criminal Justice Program
Oral Presentation, Senior/Capstone Project
Advisor(s) - Paul J Becker, Arthur J Jipson
Student(s) - Daniel T Weitzel

3:00 PM-4:00 PM St. Joseph's Hall - 023

This research project aims to identify gang presence and activity within the state of Ohio. Specifically, the researcher will look to identify those gangs that have national and/or international ties. What specific gangs are present in Cincinnati, Cleveland, and Columbus, Ohio? What types of criminal activity are these gangs committing? The researcher will identify the main gangs present in these cities, and will then analyze what specific type of criminal activity these gangs participate in. This research project will use a methodology that includes interviews of law enforcement officers affiliated with gang units in both of these cities in order to gain a more complete understanding of gang presence. Supplementary peer reviewed sources will be used to describe the gangs in greater depth, and look at what crimes these specific gangs are known for. The researcher will use interviews of University of Dayton faculty who have a current understanding of gangs in the area to supplement any information gathered

from gang unit officers. The researcher will use all sources to compare the activity and presence of gangs in Cincinnati, Cleveland, and Columbus, Ohio. The researcher will then present an up to date analysis of what gangs are present and what crimes they are conducting in these two cities.

#### **Graffiti Gangs: Criminal Intent or Another Motive?**

Criminal Justice Program 3:00 PM-4:00 PM Oral Presentation, Senior/Capstone Project St. Joseph's Hall - 023 Advisor(s) - Arthur J Jipson

Student(s) - Alexander A Box

With this project I will examine and analyze the nature of graffiti gangs in regards to their demographic, crimes, and overall purpose for existing. While graffiti is a crime, do the offenders have criminal intent? I will examine why graffiti "artists" risk going to jail when graffiti (on the surface) appears to reap no physical benefits to the offender. I will determine the difference, if any, between graffiti gangs and other gangs. Do graffiti gangs commit similar crimes to race, drug, and violence based gangs? I will use surveys, statistics, and crime reports to determine the similarities and differences of these gangs and attempt to explain the causality of such groups. I will research the different types of graffiti and analyze their purpose in different scenarios. Is graffiti a message to opposing gangs? Does graffiti serve as a method of marking territory? Or is graffiti an expression of art with a dose of adventure and rebellion? When considering such questions I will research the differences and similarities between criminal gangs that do graffiti and graffiti gangs themselves. Are they the same thing? Or are they completely different entities that have completely different purposes? After defining graffiti gangs and their many factors, I will research deterrence methods and political policy that have been practiced in the past to prevent graffiti and punish those who commit such acts. I will explain the story of an infamous graffiti artist from Pittsburgh, PA known by the tag-name "Mook" and attempt to communicate with him regarding his purpose and motivation behind becoming the most notorious graffiti artist in one of the biggest cities in America. Overall, I intent to research and explain the phenomena of graffiti and how/why it exists and prevails as a continuous problem for our criminal justice system to prevent and punish.

#### **Exploring Italian Art, Culture and Spirituality**

Institute for Pastoral Initiatves

3:00 PM-4:00 PM

Oral Presentation, Course Project, 11 SP ASI 357 P1

Alumni Hall - 101

Advisor(s) - Maura S Donahue, Angela A Zukowski

Student(s) - Chelsea M Bach, Gretchen A Berkemeier, Christopher A Brackman, Peter E Deak, Christopher A Denzinger, Caroline M Drennen, Katherine A Earl, Amanda N Jones, Stephanie L Pugar, Shayn M Roeder, Andrew J Shaffer, Adam D Sitz, Samantha L Tsuleff, David C Weickert. Victoria L Wilson

Exploring Italian Art, Culture and Spirituality: During the semester the junior Chaminade Scholars Vocation and Arts class has been studying the life and work of significant artists through history. As the students are preparing for an immersion pilgrimage in Italy (May), their Stander presentation is highlighting selective aspects of Italian art, culture and spirituality (Assisi and Rome). A multimedia interactive presentation is the bases of their exhibition.

## **Exploring Bacterial Antibiotic Resistance in Terrestrial and Aquatic Insects**

Biology 3:20 PM-3:40 PM Kennedy Union - 331

Oral Presentation, Course Project, 11\_SP\_BIO\_421\_P2 Advisor(s) - Mark E Benbow, Robert J Kearns

Student(s) - Maureen C Berg, Jonathan B White

Blow flies use decaying carcasses as a food source and habitat. Microorganisms and molecules that were in the flesh are ingested by blow fly larvae. Some microbes are killed by digestion, while others persist in the gut, allowing for suitable conditions for gene transfer among bacteria. If larvae feed on a food source with microbes that have been exposed to antibiotics, there is a potential for transfer of antibiotic resistant genes in the qut.It is hypothesized that larvae that feed on a food source with intermediate concentrations of antibiotics will develop at different rates and harbor bacteria with greater antibiotic resistance then larvae that feed on a food source without or with high concentrations antibiotics. The first objective of this project was a lab study. One species of blow fly fed on blood agar with or without tetracycline. Larval development was measured for each treatment. Replicate instar larvae were homogenized and centrifuged with the supernatant plated to analyze bacteria and antibiotic

# AFTERNOON PRESENTATIONS

resistance. The study will compare different food sources, and differences in the bacteria during different larval stages. The second objective will use methods described above, but will involve aquatic invertebrates from streams in Ohio. In aquatic systems, invertebrates feed on organic material in streams. Large cattle farms commonly treat livestock with antibiotics to prevent disease and promote growth. These antibiotics sometimes aren't completely metabolized and can be found in manure, which can runoff into streams and enter the environment. It is hypothesized that insect diversity will differ downstream of large cattle farms compared with the insects found upstream. The second hypothesis is that insects downstream of such farms will also have higher frequency of antibiotic resistance. A large cattle farm near Dayton was selected for sampling. Invertebrate samples will be taken for identification and bacterial analysis using methods described above.

#### **Grasshopper based jumpers**

**Electrical & Computer Engineering** Oral Presentation, Independent Research Advisor(s) - Raul E Ordonez

3:30 PM-4:00 PM Kennedy Union - 211

Student(s) - Saiprasanth Devarakonda

Biomimetics is the abstraction of good design from nature and its aim is to mimic life or biological systems. Biomimetic robots borrow their structure, senses and behavior from animals, such as humans or insects and plants, Biomimetic design is design of a machine, robot or a system in engineering domain that mimics operational and/or behavioral model of a biological system in nature. This biomimetic form of jumping is unique because it allows micro-robots to travel over many types of rough terrain where no other walking or wheeled robot could go. This research is aimed at developing a new class of biologically inspired robots that exhibit much greater robustness in performance in unstructured environments than today's robots. This includes the study of basic kinematics behind the jumping motion and to design the leg motion of the grasshopper in SIMULINK a tool box in MATLAB.

#### Power, Margins, and Magic: The Islamic Society of Greater Dayton

Sociology, Anthropology, and Social Work Panel Discussion, Course Project, 11\_SP\_ANT\_335\_01 3:30 PM-4:00 PM

LTC - TeamSpace

Advisor(s) - Simanti Dasgupta Student(s) - Alex K Antony

The city of Dayton is a site of magic and power. As a city of diverse cultures and ethnicities, it is clear that certain groups can easily become marginalized in an atmosphere that lends itself to strong power relations taking many various forms. The Islamic Society of Greater Dayton (ISGD) has been operating within the city for many years, and has been a source of urban contestation in many ways. I seek to analyze the ISGD's relationship with the city at large, focusing on community integration, employment and the family, and Dayton's anti-Muslim sentiments, while incorporating the inherent power and magic of the city into real-world urban issues and relationships.

## Surfing the Web: Immigration in the Internet Age

Sociology, Anthropology, and Social Work Oral Presentation, Senior/Capstone Project Advisor(s) - Theophile J Majka, H F Pestello Student(s) - Rvan T Conlev

3:30 PM-4:00 PM St. Joseph's Hall - 025

This research will focus on immigration in the 21st century. The preliminary research examines how the internet is used in various aspects off immigration. This will include how Governments use websites to provide information to potential immigrants, as well as attract immigrants. Immigrants will be interviewed to learn how they use the internet to obtain information, resources and access to the host and home country.

## **ETHOS Cameroon: A Comprehensive Pre-travel Report**

Engineering Oral Presentation, Course Project, 11\_SP\_EGR\_330\_P1 Advisor(s) - Malcolm W Daniels, Margaret F Pinnell

3:30 PM-4:00 PM Kennedy Union - 310

Student(s) - Eric R Kaiser

ETHOS Cameroon: A Comprehensive Pre-travel Report, will cover the preparation Eric Kaiser and his fellow ETHOS Cameroon team members have made for their summer 2011 service trip. The following topics will be addressed: Location, geography and climate, brief history, politics, religion, economics, language and cultural considerations. In addition, the presentation will briefly discuss the host organization, RUDEC. Furthermore, the presentation will discuss what past Cameroon ETHOS teams have accomplished along with the preparations the current team has made.

#### itelligence MIS Senior Project

MIS, OM, & Decision Sciences Oral Presentation, Senior/Capstone Project 3:30 PM-4:30 PM

Miriam Hall - 104

Advisor(s) - Harvey G Enns

Student(s) - Clinton D Davis, Christopher M Luckhaupt, Kent W MacKowiak, Eric J Schroeder

The senior project team is working on implementing a resource management system for itelligence, Inc. to track the needs for resources on various projects the company is involved in. The senior project team created a gap analysis for various tools/options that could be used to solve this problem, and has chosen, in conjunction with itelligence, Inc., the Tenrox Project Management Software Solution as the product to implement. The roles of the senior project team, during the implementation of the Tenrox system, will be to migrate the data from the current system into Tenrox. create reports within Tenrox. train the end users of itelligence, and set up a reconciliation process within Tenrox.

#### Miller-Valentine Data Warehouse MIS Senior Project

MIS, OM, & Decision Sciences

3:30 PM-4:30 PM

Oral Presentation, Senior/Capstone Project

Miriam Hall - 104

Advisor(s) - Harvey G Enns

Student(s) - Jeffrey P Gast, Corey J Lamm, Christopher S Popson, Matthew R Sonnhalter

The Miller-Valentine Data Warehouse Project involves creating a data warehouse to store job cost data and provide decision makers with "one source of the truth." We used an iterative approach to develop this solution. The end goal is to allow executive level reports to be generated from the data warehouse.

#### **RUSH Transport MIS Senior Project**

MIS, OM, & Decision Sciences

3:30 PM-4:30 PM

Oral Presentation, Senior/Capstone Project

Miriam Hall - 104

Advisor(s) - Harvey G Enns

Student(s) - Mohammed H Alghazal, Robert P Plucis, Kyle L Steinnagel

The Rush MIS senior project team worked with Rush Transportation & Logistics based in Dayton, OH. Rush needed a customer application that would allow their customers to place, track, and quote orders without requiring interaction with Rush's Customer Service Representatives. The Rush team was given the task of developing an order tracking system and quick quote calculator. The order tracking system allows customers to see the exact location of their package(s) in real time on an actual map. The quick quote calculator allows new/existing customers to determine an estimated price of a future delivery. Rush Transportation implemented their online order placing with CXT, a software firm based in Denver, CO. The Rush team worked with CXT to connect both applications as one. Finally, the Rush team developed a downloadable desktop icon for Rush's customers that allows access to the system with a click of a mouse.

## Flyer Consulting: Non-Profit Business Solutions

Business 3:30 PM-4:30 PM
Oral Presentation, Independent Research Miriam Hall - 103

Oral Presentation, Independent Research Advisor(s) - Jennifer M Creech, Janet R Leonard

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Student(s) - Kelsey L Chapic

In association with Flyer Enterprises and the School of Business Administration, Flyer Consulting is a student-run consulting organization that uses knowledge learned in the classroom to provide business solutions to clients in the greater Dayton area.

# AFTERNOON PRESENTATIONS

# Evolving Standards of Decency: An Exploration of the Interplay of Developmental Psychology and the Eighth Amendment

Psychology 4:00 PM-4:30 PM
Oral Presentation, Honors Thesis Kennedy Union - 207
Advisor(s) - Melissa J Layman-Guadalupe

Student(s) - James R Saywell

Over the past several decades the United States Supreme Court has heard several pivotal cases involving a ??cruel and unusual punishment. ?? My thesis explores these cases with the lens of developmental psychology. Specifically, I look at the Court ??s evolving standards of decency in judging what constitutes cruel and unusual punishment for children under the age of 18 through case study and developmental psychology research in order to hypothesize where the Court is heading into the future.

#### Improvisation: Exploring the Sonic Now

Music 4:00 PM-5:00 PM Interactive Sears Recital Hall

Advisor(s) - Sharon D Gratto, Tremon B Kizer

In today's fast-paced world our ears are often bombarded with an overload of sonic information. It takes a conscious effort to slow down and truly listen to our environment, ourselves, and each other. When we do, the process can be meditative, revealing, and connect us to our communities in new ways. Boston-based musician and improviser Shaw Pong Liu, will invite UD students, faculty and staff to join in an improvisation workshop exploring the possibilities of communal music-making through deep-listening. Instruments, voices, and all bodies will be welcome to join! Musical experience welcome, but not necessary. A classically-trained violinist-turned-rogue-creative-artist who will be in residence with the UD Music Department this week, Shaw Pong is an advocate of deep listening and creative exploration as tools for community-building. Her experience teaching workshops at both community and collegiate levels has shown that improvisation is a mode of expression which, with a little guidance, anybody can access.

## AFTERNOON POSTERS

# **Arts and Sciences**

# A Comparison of the Effects of Pseudolysogenic and Lytic Phages on Pseudomonas aeruginosa Biofilms Biology 1:30 PM-3:00 PM

Biology Course Project, 10 FA\_BIO\_421\_P1, Undergraduate

Kennedy Union - Ballroom

Advisor(s) - Jayne B Robinson Student(s) - Mariah K Roller

Pseudomonas aeruginosa is an opportunistic pathogen that produces biofilms and causes diseases in a range of organisms from plants to humans. This bacterium is especially of concern for immunocompromised and CF patients. This bacterium forms biofilms in the lungs of CF patients who are unable to combat the bacteria in this protected state. P. aeruginosa is able to grow on most surfaces, and can be a problem in hospitals, where it can be found on and in medical equipment. Due to the resistance of these biofilms to traditional antibiotics, alternate methods have been proposed to help break down the biofilm. In this study, we tested the ability of a pseudolysogenic (UT1) and a lytic bacterial virus (PEV-2) to reduce or eradicate biofilms. These two types of bacteriophage were used individually and in combination with each other on P. aeruginosa biofilms. The greatest reduction in biofilm biomass was observed when the biofilm was first exposed to the pseudolysogenic bacteriophage, UT1, and subsequently exposed to the lytic phage, PEV2. The results of this biofilm challenge indicate that greater biofilm remediation may be achieved by using combinations of bacteriophage. This finding has important implications for the treatment of P. aeruginosa infections.

# Ecological restoration of the terrestrial environment can influence aquatic ecosystems: a test using the ubiquitous non-native invasive shrub Lonicera macackii (Amur honeysuckle)

Biology 1:30 PM-3:00 PM

Course Project, 11\_SP\_BIO\_421\_P1, Undergraduate

Kennedy Union - Ballroom

Advisor(s) - Rachel E Barker, Mark E Benbow, Ryan W McEwan

Student(s) - Joseph G Braner

Invasive plants can have detrimental effects on aquatic and terrestrial ecosystems. Using restoration to reverse these unfavorable effects may benefit the communities within these ecosystems. Invasive plants that dominate riparian areas deposit leaf materials into stream habitats which may have negative impacts on aquatic insect communities. This study is one in a series of experiments focused on understanding how a widespread and destructive invasive plant, Lonicera maackii (Amur honeysuckle), impacts stream ecosystems. Lonicera maackii was removed from a 140 5-m riparian stretch along both banks of a stream located in Black Oak Park, Centerville, OH. There were 2 treatments, control and honeysuckle removal, which contained 5 study riffles each. Each riffle had 3-0.25m2 plots in which leaf matter was collected weekly from September 2010-January 2011. On sampling day 7 the removal treatment had significantly greater leaf litter input compared to the control. There was nearly twice as much L. maackii leaf material in the control than the removal treatment on days 7 and 14. Over 43 days, total leaf accumulation rates were similar between both treatments. Native leaf litter was greater in the removal treatment and was dominated by Plantanus, Acer, Quercus and Fraxinus sp. respectively. In the control treatment, the native leaf litter community was primarily dominated by Acer, followed by Lonicera, Plantanus and Fraxinus sp. In summary, this study revealed that removal of an invasive species will increase total leaf material inputs and can also influence the species composition of the leaf litter entering the stream. These data are the first of their kind linking restoration practices involving L.maackii (removal) to impacts on aquatic communities. Further work is needed to explore how changes in leaf litter inputs may impact insects that rely on that material as a food and habitat resource.

# Elucidating the Role of Cis-regulatory Element Interactions in Development and Evolution

Biology
Course Project, 11\_SP\_BIO\_421\_P1, Graduate
Advisor(s) - Thomas M Williams
Student(s) - Eric M Camino, William A Rogers

Kennedy Union - Ballroom

1:30 PM-3:00 PM

An essential part of animal development is the spatial and temporal expression of genes. Morphological evolution can be attributed to changes in how genes are expressed during development. Cis-regulatory elements (CREs) are non-coding sequences that function to control the expression of a target gene or genes. Often a gene's composite expression pattern is specified by the activity of multiple CREs. Here it is assumed that each CRE's function is independent, and additively contributes to a composite expression pattern. It is important to determine whether CREs interact in an additive or synergistic manner and reveal how these complex interactions evolve. Our model trait is the diversity in sexually dimorphic abdominal pigmentation patterns that evolved between Drosophila (fruit fly) species. These patterns are specified by the sexually dimorphic expression of the bab genes, that encode the Bab1 and Bab2 transcription factor proteins that dominantly repress pigmentation development. This pattern of Bab expression is controlled by two CREs known as the Anterior Element and the Dimorphic Element. In order to study the individual and collective function and evolution of these CREs, we developed a transgenic reporter gene assay. Surprisingly the Anterior Element and Dimorphic Element did not conform to the additive model of CRE function, but rather display a synergistic interaction. Additionally, we have begun to investigate the individual and collective contributions of these two CREs to evolved variation in Bab expression and abdominal pigmentation pattern. Our data demonstrates that both additive and collective CRE activities have evolved during Drosophila evolution. We suggest that studies on the regulation of gene expression patterns consider the possible occurrence of similar more complex CRE relationships. Our future studies will seek to reveal the DNA mutations and molecular mechanisms of individual and collective bab CRE evolution.

## Erythrocytes from Cope's gray treefrog, Hyla chrysoscelis as a cell culture based model system to study the regulation of aquaglyceroporin, HC-3 expression

Biology 1:30 PM-3:00 PM

Kennedy Union - Ballroom

Advisor(s) - Carissa M Krane

**Graduate Research** 

Student(s) - Venkateshwar Mutyam, Matthew V Puccetti

Cope's Gray Tree Frog, Hyla chrysoscelis is a freeze tolerant anuran that accumulates glycerol during cold acclimation. Aguaporins, members of the MIP family of transmembrane water pores, may play an important role in the mechanism of freeze tolerance by mediating glycerol and water transport across cell membranes. We hypothesize that HC-3, an ortholog of the aquaglyceroporin AQP3, enhances membrane permeability to glycerol facilitating the cellular response to osmotic gradients formed when extracellular water freezes. Erythrocytes of H. chrysoscelis were used to study the regulation of HC-3 protein expression. Compared with warm-acclimated frogs, cells from cold-acclimated frogs had higher HC-3 protein expression and enhanced membrane localization. Glycerol-mediated hyperosmolarity, in vitro, induced enhanced glycosylation of HC-3 and increased membrane localization. We tested the ability to knock down HC-3 expression using morpholinos delivered via Endo-Porter. Western blot analysis showed essentially complete knockdown of HC-3 expression when using 3 uM HC-3 specific morpholino and 10 uM Endo-Porter. Taken together, these studies demonstrate the ability to induce both up- and down-regulation of the HC-3, thereby presenting a cell culture system suitable to study the regulation and functional role of this aquaglyceroporin.

#### Expression Patterns of the Aquaglyceroporin HC-3 in Erythrocyte Cultures of Cope's Gray Treefrog, Hyla chrysoscelis

1:30 PM-3:00 PM Biology Honors Thesis, Undergraduate Kennedy Union - Ballroom Advisor(s) - Carissa M Krane

Student(s) - Matthew V Puccetti

Freeze tolerance is a natural physiological phenomena characterized by the regulation of osmotic gradients and the avoidance of cellular death induced by dehydration and unrestrained ice-crystal formation during freezing and hypotonic shock upon thawing. Cope's gray treefrog, Hyla chrysoscelis, is a freeze-tolerant anuran which utilizes glycerol as a cryoprotectant to regulate intra-and extra-cellular gradients during coldacclimation and freezing. We hypothesize that HC-3, the ortholog of mammalian AQP3 and a functional glycerol transporter, plays a strategic role in Hyla chrysoscelis' freeze tolerance strategy by facilitating transmembrane water and glycerol passage. In order to determine the role of HC-3 in this process, this study sought to: I) establish an in-vitro model system to study HC-3 expression and regulation, II) characterize the suitability of erythrocytes as a cell culture model, III) determine the effects of hypertonicity and solute-specificity on HC-3 sub-cellular localization and IV)

# AFTERNOON POSTERS

illustrate the functional consequences of variances in the sub-cellular localization of HC-3. Erythrocytes showed sustained viability in culture when shaken constantly at 190 rpm and when media was replaced every 24 hours. When cultured in the presence of 0.156M glycerol, HC-3 showed enhanced expression relative to controls, indicating the ability to dynamically regulate HC-3 in-vitro through in-vivo like stresses. As compared to controls, cells cultured in the presence of 0.150M urea and glycerol showed enhanced membrane expression and aggregation, suggesting a role of solute specificity in the genetic regulation of HC-3. Furthermore, cells cultured in glycerol showed an enhanced rate of cellular swelling, as measured by morphological changes in a hypotonic challenge, indicating an enhancement of membrane permeability to water in cells cultured cold-acclimation type conditions. Thus, the successful development of an erythrocyte model system has begun to discern the role of HC-3 in freeze tolerance and how it is regulated in Hyla chrysoscelis during cold-acclimation and freezing.

#### Filter Feeding Mechanisms: Examples from the Mollusks and Arthropods

1:30 PM-3:00 PM Biology Course Project, 11 SP BIO 461 01, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Albert J Burky

Student(s) - Margaret H Browne

The filter feeding mechanisms of the bivalve (clam) mollusk, Mytilus edulis, and crustacean (brine shrimp) arthropod, Artemia sp., will be presented. These mechanisms have been observed in the invertebrate zoology laboratory by feeding suspensions of red carmine particles to these organisms. Detailed analysis of observations made on the clam, Mytilus edulis, and on the brine shrimp, Artemia sp. will be presented using annotated diagrams to illustrate distinct filter feeding mechanisms. Similarities and differences of the filter feeding mechanisms of representatives of these distinctively different phyla are compared. This is based on the different anatomical structures available to these organisms for achieving the same feeding style.

#### **Human Spatial Relations**

1:30 PM-3:00 PM Biology Course Project, 10\_FA\_BIO\_310\_01, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Patrick K Williams Student(s) - Solani T Harawa

Different situations affect our view of spatial relations. There is not a definitive space people are comfortable with. It depends on the situation, the culture, the individual, many factors go into it. There are cultures, for example, where people hug complete strangers or never touch strangers, or even look at them, a lot of the variables of spatial relations are open for change. If you think about people in elevators being so close, they all mold to a similar form, facing the same way, usually not looking around at each other, and generally being quiet. It is almost like everyone is attempting to act like it is not happening. Spatial relations would appear to be more nurture then nature in humans, meaning that it is more influenced by how they are raised then by their genetics, while most other species are most likely more genetically dependent. This probably can be attributed to the fact that other organisms are more affected by the environment then we are since we live in houses, etc.

#### The molecular mechanisms of Drosophila pigmentation gene network structure and evolution

Biology 1:30 PM-3:00 PM Course Project, 11\_SP\_BIO\_411\_01, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Thomas M Williams

Student(s) - John C Butts

Phenotypes are the culmination of the spatial and temporal expression of numerous genes that comprise a gene regulatory network (GRN). The genomic information specifying a gene's participation in a GRN, and its expression pattern are encoded in cis-regulatory element (CRE) sequences. The functional unit of a CRE is the regulatory linkage, which consists of a binding site that interacts with a transcription factor. For numerous GRNs the gene, CRE, and regulatory linkages are well studied. Lacking is knowledge of how linkages and thereby GRNs and phenotypes evolve. To trace GRN evolution we study the abdominal pigmentation of Sophophora fruit fly species, where sexually dimorphic male-specific pigmentation (e.g. Drosophila melanogaster), evolved from a sexually monomorphic ancestor. During the evolution of dimorphism this GRN was modified by

the gain of dimorphic bab gene expression. These genes encode transcription factors that repress yellow gene expression, a gene that is required for pigmentation. Our research addresses two questions. First, whether Bab forms a regulatory linkage with the Drosophila melanogaster yellow gene? Secondly, whether such a regulatory linkage was an ancestral feature of the pigmentation GRN? The Drosophila melanogaster pattern of yellow expression requires two CREs, the wing element and body element. We found: that the wing element is required to repress yellow where Bab protein is present, notably the female posterior abdominal segments; and that Bab1 directly binds to this CRE in pupae. Ongoing truncation and scanning mutagenesis studies aim to determine which sequences Bab1 directly binds. Furthermore, in comparing orthologous yellow loci sequences we found extensive divergence in non-coding sequences and CRE activity. Future investigations will determine whether this divergence included the gain of Bab binding sites in the wing element of dimorphic species or whether these binding sites were ancestral and conserved in the midst of otherwise dramatic sequence evolution.

#### A Rhetorical Analysis of the Anti-Vietnam War Movement

Communication 1:30 PM-3:00 PM
Course Project, 11\_SP\_CMM\_355\_01, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Kathleen B Watters

Student(s) - Katarina A Lucas, Adriana V White

This study of the Anti-Vietnam War Movement examines the movement from its origins through the termination stage describing the movement's struggles to bring about significant social and political change through the use of mostly primary sources to gain knowledge through experience-based articles, government documents, symbols, slogans, and other forms of rhetoric documented at the time. The focus is on the rhetoric used by various movement leaders, groups, and followers to convey the central goals of the movement. The analysis revealed that the Anti-Vietnam War movement used a range of rhetorical strategies and tactics to agitate for change.

#### Awakening a Sleeping Giant: The Second Wave of the Women's Liberation Movement

Communication 1:30 PM-3:00 PM

Course Project, 11\_SP\_CMM\_355\_01, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Kathleen B Watters

Student(s) - Aleene M Falk

This project is an analysis of rhetoric for the second wave of the women's liberation movement lasting from approximately 1960 to 1985. The second wave of women's liberation was centered around sexuality and gender roles of women. This research looks at how the movement used rhetoric, including speeches, music, leaflets, essays, etc., to change societal norms.

#### Blowing Smoke: The Rhetoric Surrounding the Social Movement to Legalize Marijuana

Communication 1:30 PM-3:00 PM

Course Project, 11\_SP\_CMM\_355\_01, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Kathleen B Watters

Student(s) - Christopher M Chambliss

The purpose of this presentation is to: provide evidence that legalizing marijuana is a legitimate social movement, and to display and sample the types of rhetoric surrounding the social movement to legalize marijuana.

## **Disability Rights Movement**

Communication 1:30 PM-3:00 PM

Course Project, 11\_SP\_CMM\_355\_01, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Kathleen B Watters Student(s) - Kristen L Keenan

Descriptive analysis of the rhetoric of the Disability Rights Movement to bring about a Social Change.

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# Fear of Extinction Ablaze: The Native American Movement and the Struggle for Social Change

Communication 1:30 PM-3:00 PM
Course Project. 11 SP CMM 355 01. Undergraduate Kennedy Union - Ballroom

Course Project, 11\_SP\_CMM\_355\_01, Undergraduate Advisor(s) - Kathleen B Watters

This class project analyzes the origins and stages of the Native American social movement. It provides a descriptive analysis of the movement's struggle and rhetoric used to bring about significant social change.

#### Global Media Almanac

Student(s) - Caryl M Nunez

Communication 1:30 PM-3:00 PM
Course Project, 11\_SP\_CMM\_446\_01, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Glenn R Walters

Student(s) - Brian B Carew, Daniel P Corcoran, William L Reinert, Alex G Tittle, Chelsea B Wilkinson

The global media landscape has become very complex. There are privately owned organizations and publicly owned ones. Some media giants own and control numerous other media firms. Some media organizations began in one specific medium - such as newspaper publishing - but now operate in other media as well - such as broadcasting, movie production, and Web publishing. Hopefully, this database - The Global Media Almanac - will help media students become more efficient in their media research and their understanding of this kaleidoscope industry. The global media almanac has evolved from a series of research projects by students in electronic media management (CMM 446) at the University of Dayton. Special assistance was provided by the training staff of the Roesch Library. This is a project assignment of CMM 446 "Electronic Media Management," taught by Professor Glenn R. Walters, Media Executive in Residence.

#### **How Social Movements Progress: The Environmental Movement**

Communication 1:30 PM-3:00 PM

Course Project, 11\_SP\_CMM\_355\_01, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Kathleen B Watters Student(s) - Elizabeth M Bowling

This projected explores the development and different stages of a social movement. The social movement being explored is the Environmental Movement.

# **Legal Issues Confronting the News Media**

Communication 1:30 PM-3:00 PM
Course Project, 11 SP CMM 432 01, Undergraduate Kennedy Union - Ballroom

Course Project, 11\_SP\_CMM\_432\_01, Undergraduate Advisor(s) - Annette M Taylor

Student(s) - Stephanie M Moon, Seetha Sankaranarayan, Randi M Sheshull, Annette M Taylor, Jeremy G Vinluan

Students in the Law and News Media course explore various legal issues that today's U.S. journalists face as they strive to fulfill their most important and valued function: providing citizens with news and information they need to be self-governing. Stephanie Moon investigates the landmark case of Branzburg v. Hayes, 408 U.S. 665 (1972), and its impact on reporters' need to keep certain sources confidential. Seetha Sankaranarayan and Jeremy G. Vinluan investigate how courts view the application of state shield laws and libel laws to online journalists. Randi Sheshull considers ridicule as a journalistic defense in libel cases.

#### Make Love, Not War: The Anti Vietnam War Movement

Communication 1:30 PM-3:00 PM
Course Project, 11\_SP\_CMM\_355\_01, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Kathleen B Watters Student(s) - Amanda M Pipik

An analysis of the rhetoric utilized during the Anti Vietnam War Movement.

#### Rhetorical Analysis of the Civil Rights Movement

Communication Course Project, 11\_SP\_CMM\_355\_01, Undergraduate

Kennedy Union - Ballroom

1:30 PM-3:00 PM

Advisor(s) - Kathleen B Watters

Student(s) - Caitlin G Rose

One of the most influential social movements in the United States was the Civil Rights Movement. This movement changed the way Americans live today and has influenced our culture for more than fifty years. In order to be characterized as a social movement, the movement must bestow the six characteristics: an organized collectivity, large in scope, promotes or opposes change in societal norms and values, encounters opposition in a moral struggle, persuasion is pervasive, and an unconstitutionalized collectivity. The Civil Rights movement undoubtedly fulfills these six essential characteristics of a social movement, and we continue to see its effects today. Beginning with the desegregation of schools in the Brown vs. Board of Education of Topeka, Kansas in May 1954, the rights of black Americans became recognized and slowly taking effect. The goal of Black Americans was to seek change in the societal norms practiced throughout centuries. Their voices were silenced for decades and the need for equality arose. The hard struggle for equality continues today as a result of the actions taken throughout the Civil Rights Movement.

#### The Disability Rights Movement in the United States

Communication 1:30 PM-3:00 PM Course Project, 11 SP CMM 355 01, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Kathleen B Watters Student(s) - Madison A Wegner

This case study of the Disability Rights Movement examines the genesis, social unrest and enthusiast mobilization stages of the movement during the second half of the 20th century. An emphasis is placed on the rhetoric used to advocate for change in the treatment of and attitudes about people with disabilities.

#### The Rhetoric of Social Movements: Animal Rights Organization

Communication 1:30 PM-3:00 PM

Course Project, 11\_SP\_CMM\_355\_01, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Cynthia T Shafer

Student(s) - Kristen E Sestrich

This semester I have been studying social movements. This poster shows the information I learned about the animal rights movement. From the beginning of the movement till today, the animal rights movement went through many changes. One thing that has stayed the same is their demand for ethical treatment of animals. They educate the public about ways that they can help stop the abuse of animals. The animal rights movements main goal is to stop animal testing, stop using animals as a main source of food, and to stop using animal skin for clothes. Throughout the years, they have had many victories in their battle to stop animal cruelty.

## A Weekend Breakout: Solidarity in Salyersville

**English** 1:30 PM-3:00 PM

Kennedy Union - Ballroom Course Project, 11\_SP\_ENG\_102\_B3, Undergraduate

Advisor(s) - Meredith L Doench, William H Johnston, Monalisa M Mullins, Lori G Phillips-Young, Ethan D Smith, Margaret M Strain, Tereza M Szeghi Dempster

Student(s) - Cameron H Legan, Thomas D Popalisky, Gregory P Reoli

# AFTERNOON POSTERS

UDSAP (University of Dayton Summer Appalachian Program) is the longest running service organization behind Christmas on Campus. This coming summer, UDSAP will travel to Salyersville, Kentucky for its 47th consecutive year. As a precursor, we travelled to Salyersville for a weekend breakout. Salversville, located in east Kentucky, is part of Magoffin County, one of the most challenged counties in the U.S. With a median family income of just over \$16,000 and a population of 1,500, Salyersville struggles with drugs, violence, and abuse. Our roles on this weekend breakout were to connect with children and teens, fostering a sense of well-being through activities such as: playing basketball with the teens, sharing life stories around the bonfire, experiencing their values and culture, singing together, and sharing meals. This trip opened our eyes to the fact that there is life beyond the cultural bubble that we experience from day to day. These children, who have so much talent, kindness, and strength, live in an underprivileged society that limits their experiences. This trip allowed us to live a life parallel to theirs, giving us a sense of how Salversyille truly lives. As positive collegiate role models, we are helping to instill the Marianist Values of learning, leading, and serving in Salyersville's youth.

#### Big Believers in Big Brothers Big Sisters: A Social Justice Learning Living Community Proiect

English 1:30 PM-3:00 PM

Course Project, 11 SP ENG 102 B3, Undergraduate

Kennedy Union - Ballroom

Advisor(s) - Meredith L Doench, Monalisa M Mullins, Lori G Phillips-Young

Student(s) - Sarah C Boehme, Kathryn M Dean, Brittany M Rajecki

Big Brothers Big Sisters (BBBS), located at St. Paul Church in Dayton, Ohio, is an organization where volunteers develop one-on-one relationships with children from the community. Since the organization began in 1904, it has been assisting local children through mentoring and education. In our weekly visits to this organization, we have assisted children with their homework and reading skills, as well as participate in games like Twister and multiple board games with the children. Everyone in this organization works together to create a warm, welcoming, and safe environment for all who attend. Dorothy Day, an American journalist, social activist and devout Catholic convert once said, "We were not a community of saints but rather a slipshod group of individuals who were trying to work out certain principles." Day's sentiment is relevant to our service because it explains that every person in society has an obligation to do something to try and improve the community they live in. Statistically, children involved with BBBS are more likely to stay motivated and complete life-long goals such as finishing school and working toward a career. Through our time at BBBS we have learned that through the Marianist ideals of lead, learn, and serve we can have a positive impact on our community.

#### Big Brothers/Big Sisters, Big Impact: A Social Justice Learning Living Community Project Enalish

1:30 PM-3:00 PM

Course Project, 11\_SP\_ENG\_102\_B2, Undergraduate Kennedy Union - Ballroom Advisor(s) - Meredith L Doench, William H Johnston, Monalisa M Mullins, Lori G Phillips-Young, Ethan D

Smith, Margaret M Strain, Tereza M Szeghi Dempster

Student(s) - Nicole M Abbate, Samuel J Bauer, Andrea Morrison, Rachel M Stydnicki, Elizabeth M Wilkens

Big Brothers/ Big Sisters (BBBS) is a service organization that provides after school programs that match caring adults with children to build significant one-on-one relationships. BBBS volunteers become role models--a big--to their young students--the littles. As volunteers, we learn to nurture those one-on-one relationships to help quide students onto paths of positive and rewarding behavior. We worked with the girls and boys to assist them with their homework and to engage them in both structured and playful activities in order to foster learning, confidence, good citizenship, and responsibility. We saw that many children do indeed need someone to look up to; and, that our role as mentors helps to promote success in academics, developing and maintaining healthy friendships, and instilling life-long civic and ethical values. Our time spent in the BBBS program has rewarded us as well: we have learned about diversity and the impact of poverty in our society. We have seen that growing up without parents available immediately after school is difficult and many children handle it differently than others. As positive collegiate role models, we believe that we are helping to pass on the Marianist ideals of learning, leading, and serving in Dayton's youth.

## Commitment to Community: A Social Justice Learning Living Community Project

**Enalish** 1:30 PM-3:00 PM

Course Project, 11\_SP\_ENG\_102\_03, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Meredith L Doench, William H Johnston, Monalisa M Mullins, Lori G Phillips-Young, Ethan D Smith, Margaret M Strain, Tereza M Szeghi Dempster

Student(s) - Derek R Fuenning, Jude A Guerra, Alex J Hamilton, Jonathan L Pangle, Emily A Pannier, Jacob A Recker

Service Saturdays are a way to make a positive difference in our Dayton community. It creates a circumstance in which UD students and Dayton residents can work in cooperation to achieve a common good not only in the city, but in the broader world itself. Service Saturdays allow students to participate in a wide variety of volunteering activities. The City of Dayton itself is challenged, with an astonishing 30.9% of residents living below the poverty level as recorded in 2009. Our Social Justice group realized the call to community, thus engaging in Service Saturdays to assist our community. Habitat for Humanity allows students in Social Justice groups to assist community members in building homes throughout the Dayton area. Another service Saturday project is located at the St. Vincent's Hotel at which group members serve food to people around the Dayton community. Through our teachings complimentary to the Marianist values of leadership service and learning, we have learned that we can help to create a better environment for all living in the Dayton area.

#### Creating a Voice for the Voiceless: a Social Justice Learning and Living Community Service Project.

Enalish

1:30 PM-3:00 PM

Course Project, 11 SP PHL 103 B1, Undergraduate

Kennedy Union - Ballroom

Advisor(s) - Meredith L Doench, William H Johnston, Monalisa M Mullins, Lori G Phillips-Young, Ethan D Smith, Margaret M Strain, Tereza M Szeghi Dempster

Student(s) - Kathleen M Gaffney, Laura K Horcher, Rebecca Lagore

The UD Students for Life group traveled to Washington D.C. for the March for Life on January 24th, 2011. The March for Life is about repealing the Roe vs. Wade Law which made abortion legal. The Students for Life mission is to end abortion by educating other students about the issue. We support the point of view that abortion is morally wrong because believe in the respect for all life. We attended the rally on the Washington mall, where many politicians from various states spoke on the matter. Until we were part of this mission, we never knew the full rewards and blessings of the First Amendment. Americans are extremely fortunate to be able to have free speech. We are extremely privileged in this country to be able to protest and speak up for issues that we feel passionate about. It is a uniquely American form of participatory government to stand with similar minded Americans to protest the Roe v. Wade decision. One of the most important things we learned on this trip was the importance of civility. We noticed that there was a noticeable absence of slander and disrespectful posters at this rally. The true beauty of the American Constitution is the right and ability to live together in a civil community. The Marianist values of Lead, Learn, and Serve was even more evident as we were able to actively participate in the right to support in an issue we strongly believe in.

#### Different Paths, Same Purpose, Our Journey To Social Justice: A Social Justice Learning **Living Community Project**

English Course Project, 11\_SP\_ENG\_102\_B2, Undergraduate 1:30 PM-3:00 PM

Kennedy Union - Ballroom

Advisor(s) - Meredith L Doench, William H Johnston, Monalisa M Mullins, Lori G Phillips-Young, Ethan D

Smith, Margaret M Strain, Tereza M Szeghi Dempster

Student(s) - Matthew R Coulson, George C Kemper, Melinda S Kettlehake

Our service learning experience was with the Boys and Girls Club of Dayton, ETHOS, and the Patterson Kennedy Grade School. The mission of the Boys and Girls Club is to inspire and enable all young people, to reach their full potential as caring, productive, responsible citizens. ETHOS was founded on the belief that engineers are more apt and capable to serve our world more appropriately when they have experienced opportunities that increase their understanding of technology's global linkage with values, culture, society, politics, and economy. Patterson Kennedy's tutoring program is part of an innovative district of champions where students are academically and culturally prepared by a team committed to developing critical thinkers and productive citizens who are ready to serve the world community. During our service learning, we helped children to run their own store inside the Boys and Girls Club building; in ETHOS, we applied appropriate engineering technologies in Nicaragua and our com-

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munity to make a difference; and we tutored Patterson Kennedy school children who hadn't yet reached their full reading potential. In performing community service, we have found it is very important to create genuine personal relationships with those we serve. We began these service opportunities believing that we would help others: but, in the end we found that they had helped us to see the world in which we live differently and for the better. Like the moral philosopher, John Rawls, we learned to focus on the needs of the individual as we realized that we can best serve by building personal relationships. We have gained valuable experience through our service learning and will continue to uphold the University of Dayton's Marianist ideals of Lead, Learn, and Serve and to apply these principles to our everyday lives and our commitment to serve the Greater Dayton Metropolitan Community.

#### **Lending A Helping Hand**

Enalish Course Project, 11\_SP\_ENG\_102\_B3, Undergraduate 1:30 PM-3:00 PM

Kennedy Union - Ballroom

Advisor(s) - Meredith L Doench, Monalisa M Mullins

Student(s) - Torrie L Caufield, Alyssa M Depaola, Katharine M Ellis, Samantha R Gibson, Jamie L St. Clair

Big Brothers, Big Sisters is a national organization that works one on one with children from the Dayton community. The organization assists children after their school day with positive role models who foster attention and education that the children may not be receive in other areas of their life. Through our weekly work at Big Brothers, Big Sisters we first pray with the kids before the daily dinner, and then proceed to assist them with their homework. Once homework has been completed, we have the opportunity to play games with the children like Knockout, Twister, and Corn Hole. This organization has helped our service learning group to have a greater appreciation for our lives and service as we grow and learn more about the city of Dayton and our role in working together as a community.

#### Planting the Seeds of Character One at a Time: A Social Justice Learning Living Community Project

Enalish Course Project, 11 SP ENG 102 03, Undergraduate

1:30 PM-3:00 PM Kennedy Union - Ballroom

Advisor(s) - Meredith L Doench, Monalisa M Mullins

Student(s) - Carissa L Hughes, Amy E Kandel, M Ryan Motz Motz

Big Brothers and Big Sisters (BBBS) is an organization that is built on forming a trusting bond between volunteers who become role models and children who learn from them. Socrates said in The Apology that everyone would want to better their neighbors in the hope of bettering themselves and the population that they live in will. BBBS is organized so that we have the opportunity to better ourselves and the children we work with when we meet at our host site. At our host site, St. Paul church, the students from UD are given the chance to see the children when they get out of school which gives us the opportunity to help them with their homework before they return home. Through our experience we have witnessed some of the children feel threatened to ask for help from adults, but since they look up to us as an older sibling they are more likely to listen to our advice. We are able to see the unadulterated youth that all children posses. We also help by serving them dinner, playing games and just spending time with them while we are at St. Paul. This constructive supervision we provide for the children helps gives them the maturity that we have gained from our years of experience. When we watch these children grow from one week to the next there is no better feeling than knowing that we were the ones who help foster that growth in their character. Through this experience we felt that our time spent with the children helped better ourselves and taught us to lead, learn and serve throughout the community.

#### Plunge Into Health Care: A Social Justice Learning and Living Community Project English

1:30 PM-3:00 PM

Course Project, 11\_SP\_PHL\_103\_B1, Undergraduate

Kennedy Union - Ballroom

Advisor(s) - Meredith L Doench, William H Johnston, Monalisa M Mullins, Lori G Phillips-Young, Ethan D Smith, Margaret M Strain, Tereza M Szeghi Dempster

Student(s) - Kerry K Brady, Lynlee R Kruse, Chelsea G Miller

Our service learning experience involved the Health Care Plunge on February 26, 2011. We began our service at Reach Out, a free medical Clinic that provides immediate medical attention to those without insurance or careers. There we went through informational stations to learn about

preventive health care. Our second experience was at the Good Neighbor House, which is an organization that helps those who are unemployed and with no health insurance. This organization provides dental, medical, and clothing needs. The recipients of these services at The Good Neighbor House are required to pay a ten-dollar co-pay to receive medical attention. The co-pay is significant because it shows that those without high paying jobs can still support themselves and receive the medical attention and services that they need. Without free clinics such as these, people without insurance would have to go to the emergency room for primary care and often pay \$800 or more for one visit. We learned that preventative health care education is an important aspect of a healthy health care system and how these two organizations provide such a valuable service to the people of the Miami Valley and the Greater Dayton Metropolitan area. Our experience with these organizations has reinforced our belief that access to quality health care is an important social justice issue.

# Serving Dayton One Saturday at a Time: A Social Justice Learning Living Community Project

English 1:30 PM-3:00 PM
Course Project, 11 SP ENG 102 B3, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Meredith L Doench

Student(s) - Jacob Malik, Michael A Noonan, Alex J Schum

St. Vincent De Paul is a service organization in Dayton that assists the homeless and impoverished by offering emergency shelter, transitional housing, food, clothing, and basic household items. St. Vincent De Paul provides round the clock shelter for all women, men and families in need. They provide clothing and laundry service and also provide food during breakfast, lunch, and dinner hours. As volunteers, we work with many of their employers and other volunteers by assisting in their kitchen serving food and assisting in the laundry room. In the laundry room, we work with the patron by working alongside them and providing support. By working at St. Vincent, we have seen that all members of our community need support and that we are all truly one. Through our work with colleagues of the Dayton community at St. Vincent, we've learned the meaning of the Marianist values to lead, learn, and serve.

# St. Vincent DePaul: Rising Above to Help Dayton: A Social Justice Learning Living Community Project

English 1:30 PM-3:00 PM

Course Project, 11\_SP\_ENG\_102\_B3, Undergraduate

Kennedy Union - Ballroom
Advisor(s) - Meredith L Doench, William H Johnston, Monalisa M Mullins, Lori G Phillips-Young, Ethan D

Smith, Margaret M Strain, Tereza M Szeghi Dempster

Student(s) - Stefon O Towler, Adam M Urick, Nathan R Vicar

St. Vincent DePaul of Dayton, Ohio, is a service organization that provides furniture, clothing, food, and meals to certain families in need. Dayton, Ohio is a population of about 300,000 people and within that population, there is an unemployment rate of 10.4%. St. Vincent DePaul is a service to the community with their volunteer work that they strive to provide for St. Paul's patrons. Every Saturday St. Vincent DePaul brings in volunteers to help sort and distribute their food pantry. As some of these volunteers on Saturday, we sorted perishable goods and distributed them into bags for the families to take home, and in addition we sorted canned goods such as mixed vegetables and tomato products. We as University of Dayton volunteers are able to see the need for volunteers in the community and how we were able to make a difference. Our time spent volunteering has been a rewarding experience for all of us as volunteers. We learned that with our volunteering we can assist our community of Dayton. It is important lead, learn and serve through our Marianist value of traditions because if there were not any volunteers helping others, items would not reach these families.

# Weekend Warriors in the Fight for Social Justice: A Social Justice Learning and Living Community Service Project

English 1:30 PM-3:00 PM

Course Project, 11\_SP\_ENG\_102\_B2, Undergraduate Kennedy Union - Ballroom Advisor(s) - Meredith L Doench, William H Johnston, Monalisa M Mullins, Lori G Phillips-Young, Ethan D

Smith, Margaret M Strain, Tereza M Szeghi Dempster

# AFTERNOON POSTERS

Student(s) - Toriana Cirino, John W Giltner, Drew M Hilgefort, Stephen A Holdmeyer

For our service learning we volunteered at Look-at-a-Book organization, St. Vincent De Paul, and The Five River MetroParks organization, all of which share the mission of fighting for a way to improve life for the Dayton metropolitan and Miami Valley community. Look-at-a-Book is located in Miamisburg and is affiliated with Project READ. Both organizations, with the help of their vounteers, have provided thousands of low-to-no-cost books and literacy tutoring to emerging readers throughout the Miami Valley. At the Look-at-a-Book warehouse, we sorted books by grade level which then would be donated to age appropriate readers in order to help to improve literacy rates. St. Vincent De Paul is a non-profit organization that is a religious organization that provides Greater Dayton area residents with food, clothing, and shelter to those may be in need of assistance. There, we and other volunteers, helped to serve a hot lunch to individuals and families. The Five Rivers Metro Parks is dedicated to protecting the Greater Dayton forests and providing outdoor activities and educational experiences to a generation that has lost touch with their natural roots. We helped this organization by planting trees and cleaning up the damage caused by the recent ice storms. Our efforts help to protect and beautify parks in the Greater Dayton area for all to enjoy at no cost. Our participation in these services helped those in need, but also aided the organizations to meet their goals. Human capital is extremely important in today's society and our service assisted many organizations in continuing their work with less financial cost. Our service was also able to provide many valuable services to people: access to books, food, and inviting visits to parks, gardens, and arboretums. Being weekend warriors has allowed us and these organizations to continue improving the Miami Valley area.

# Working with Dayton's YWCA, An Opportunity to Organize, Encourage, and Support Women: A Social Justice Learning and Living Community Project.

English 1:30 PM-3:00 PM

Course Project, 11\_SP\_ENG\_102\_B2, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Meredith L Doench, William H Johnston, Monalisa M Mullins, Lori G Phillips-Young, Ethan D Smith, Margaret M Strain, Tereza M Szeghi Dempster

Student(s) - Rvan A Hephner, Maragret A Malonev

The YWCA of Greater Dayton supports the physical and emotional needs of abused women and encourages them to become leaders and live better lives. Their goal is to eliminate racism, empower women, and promote peace, freedom, justice, and dignity for abused women. During our service at the YWCA's donated "Safe House" we helped physically by cleaning walls and carpets, and by organizing donations such as clothes, furniture, and other household supplies that have been donated for this program. We also had the opportunity to talk with women from diverse backgrounds and circumstances to offer our emotional support for their recovery from abusive relationships. By assisting these women, we helped make this Safe House more livable for the current occupants. As University of Dayton students, and members of the Social Justice LLC, our goal for this service project was to learn and to serve and to put social justice into action. In the process of serving, we not only accomplished our goals, but also discovered that leadership is best learned by being servants first. Our experience taught us that it only takes a small act of service to help a whole community.

#### A General Risk Assessment of Nuclear Waste Repositories

Course Project, 11\_SP\_GEO\_308\_01, Undergraduate

1:30 PM-3:00 PM Kennedy Union - Ballroom

Course Project, 11\_3F\_GLO\_300\_01, Officergraduate

Advisor(s) - Umesh K Haritashya

Student(s) - Sean A Cardwell, Thomas A Davis, Anthony T Parkes

Nuclear Power is an important part of global power as fossil fuel supplies begin to fade. The problem with this power generation is the waste it produces. Nuclear waste is harmful to life and needs a long period for it to become safe. Technology advancements and engineering has provided Nuclear Waste Repositories are one of mankind's most recent engineering marvels. These storage facilities are the furthest in the future we have been able to design a structure and system with current methods meant to last for over 100,000 years; at which point the radioactivity of the stored material is at a similar level as the ore mined for the fuel. However, there are nuclear half-lives with longer time intervals than the current repository designs. The goal of this project is to breakdown general geological and other risks that threaten the stability of a nuclear repository. Such risks include Earthquakes, Volcanic activity, interaction with various systems such as biological, hydrological, etc and human activity. We will use previous case studies such as Love Canal and Cold War Russia as a framework for a general assessment of the risks that could impact the

storage of nuclear waste. Our goal is to provide an analysis of the risks that could threaten the stability of a nuclear waste repository and how those risks could be minimized.

#### **Environmental Impact of Surging Glaciers**

Course Project, 11\_SP\_GEO\_308\_01, Undergraduate

1:30 PM-3:00 PM Kennedy Union - Ballroom

Advisor(s) - Umesh K Haritashya

Student(s) - Brian J Joyce, Kyle J Reinhart, Shayn M Roeder

Surging glaciers are large bodies of ice moving at extremely high velocities, relative to the typical movement of glacial bodies. Surging glaciers can move at velocities up to 100 times that of typical advancing glaciers. Glacial surge events are drastically different around the globe depending on local and regional environmental conditions. Some glacial surges have been known to be periodic and have occurred in regular patterns over geologic time, while other surge events can be largely unpredictable. The rapid advance and retreat of surging glaciers causes a wide variety of environmental impacts. One pertinent hazard is the formation and subsequent failure of glacial ice dams which leads to great flooding events which scour and change the landscape, and are often extremely hazardous to local populations. Three case studies have been examined 'two current hazards and one ancient' in an effort to gather information concerning how these processes have impacted the environment in the past and their ongoing impact in present day. Through the synthesis of research into glacial process theory as well as unique case studies, this investigation has drawn information together to examine how surging glaciers affect our current situation and how they will continue to affect society and our environment in the future.

#### The Origins and Life of the Anti-Vietnam Movement

History

1:30 PM-3:00 PM

Course Project, 11\_SP\_CMM\_355\_01, Undergraduate

Kennedy Union - Ballroom

Advisor(s) - Marybeth Carlson, Mark Ensalaco

Student(s) - Kimberly L Juhnke

This project outlines the origins and lifespan of the Anti-Vietnam Movement in the United States. The use of specific events and rhetoric will portray the different stages, genesis, social unrest, enthusiastic mobilization, and maintenance, of the social movement. I will use visual aids to clearly show the different uses of rhetoric, coactive and confrontational, throughout the different stages of the social movement. In addition, I will highlight the leaders of the social movement during each of the different stages. Finally, the project will show the institutional responses, evasion, counter persuasion, coercive persuasion, and adjustment, to the rhetoric used by leaders and followers of the Anti-Vietnam War Movement.

#### Importance of Tree Advocacy at the University of Dayton

Philosophy

1:30 PM-3:00 PM

Course Project, 10\_FA\_SEE\_401\_H1, Undergraduate

Kennedy Union - Ballroom

Advisor(s) - Daniel C Fouke, Sukhjinder S Sidhu

Student(s) - Arrick M Greene, Lisa M Shimko, Sean P Weber

Students in the SEE 401 course have spent the entire semester conducting research about sustainable land management at the University of Dayton. The groupÃc??s objective was to show the administration the importance of sustainability to UDÃc??s community. The hypothesis created was that the UD community wants to see more sustainable practices applied on campus, and by presenting this information to members of the administration and facilities management the group will be able to make implementation possible. To do this, meetings were arranged with various figures on campus as well as surveying the UD community. After conducting on-campus surveys and following up with contacts it was determined that UD should become a Tree Campus USA in order to spread awareness of the benefits of ecosystems.

#### A Case of Genocide

Political Science Course Project, 11\_SP\_POL\_334\_01, Undergraduate Advisor(s) - Mark Ensalaco 1:30 PM-3:00 PM

Kennedy Union - Ballroom

# AFTERNOON POSTERS

Student(s) - Mary E Aggazio, Patrick K Donnelly, Caroline M Drennen, Leeza E Tokar

We intend to study, in depth, one case of genocide as it pertains to the study of human rights and international law. Keeping in mind the "inherent dignity" and "the equal and inalienable rights of all members of the human family," we will explain how a particular case of genocide violates the Universal Declaration of Independence and the moral conscious of mankind.

#### **Center for Just War Studies: Strategy**

Political Science

1:30 PM-3:00 PM

Course Project, 11\_SP\_POL\_452\_01, Undergraduate

Kennedy Union - Ballroom

Advisor(s) - Mark Ensalaco

Student(s) - Anna M Beyerle, Rebecca A Pierson, Andrew M Sanko, Nina C Sykora, Adolph Walker, Cheryl Y Wood

The Center for Just War Studies is a fictional non-partisan, nongovernmental strategic organization. It's goal is to conduct periodic assessments of the U.S. and coalition strategy in the complex Afghanistan-Pakistan conflict with a view to facilitating open public debate. As the conflict enters its tenth year, making it the longest in U.S. history, the CJWS has formed the AFPAK Strategic Assessment Working Group and charged it with preparing a comprehensive report on current U.S. counter-insurgency and counter-terrorism operations and related non-military nation-building and democracy promotion activities in Afghanistan and Pakistan.

#### Modern Day Slavery in Latin America: A Study of Human Trafficking in Brazil

Political Science

1:30 PM-3:00 PM

Course Project, 11\_SP\_POL\_300\_04, Undergraduate

Kennedy Union - Ballroom

Advisor(s) - Anthony N Talbott

Student(s) - Seth D Richardson

This research will explore how the history of Latin America, and specifically Brazil, is related to the problem of human trafficking. It will discuss specific aspects of trafficking such as forced agricultural labor, forced prostitution, and all forms of child slavery. This poster will identify human trafficking in Brazil as a violation of human rights and will explore different solutions to combat the problem.

# Types of Human Trafficking: An Explanation of Bonded Labor and Debt Bondage Among Migrant Laborers

Political Science

1:30 PM-3:00 PM

Course Project, 11\_SP\_POL\_300\_04, Undergraduate

Kennedy Union - Ballroom

Advisor(s) - Anthony N Talbott

Student(s) - Kimberly D Eason, Zachary W Pitts

An estimated 27 million people are enslaved in the world today. Human trafficking, or the modern day slave trade, is the second largest criminal enterprise in the world and may be the greatest human rights challenge of our time. This poster presents an overview of modern day slavery along with an in depth look at two major types of human trafficking; bonded labor and debt bondage among migrant laborers.

## Types of Human Trafficking: An Explanation of Child Soldiers and Child Sex Trafficking

Political Science

1:30 PM-3:00 PM

Course Project, 11\_SP\_POL\_300\_04, Undergraduate

Kennedy Union - Ballroom

Advisor(s) - Anthony N Talbott

Student(s) - Annamarie P Bogusz, Diane M Clark

An estimated 27 million people are enslaved in the world today. Human trafficking, or the modern day slave trade, is the second largest criminal enterprise in the world and may be the greatest human rights challenge of our time. This poster presents an overview of modern day slavery along with an in depth look at two major types of human trafficking: child soldiers and child sex trafficking.

## Types of Human Trafficking: An Explanation of Forced Labor and Sex Trafficking

Political Science 1:30 PM-3:00 PM

Course Project, 11\_SP\_POL\_300\_04, Undergraduate

Kennedy Union - Ballroom

Advisor(s) - Anthony N Talbott

Student(s) - Jerica T Dewolfe, Patrick K Donnelly

An estimated 27 million people are enslaved in the world today. Human trafficking, or the modern day slave trade, is the second largest criminal enterprise in the world and may be the greatest human rights challenge of our time. This poster presents an overview of modern day slavery along with an in depth look at two major types of human trafficking: forced labor and sex trafficking.

# Types of Human Trafficking: An Explanation of Involuntary Domestic Servitude and Forced Child Labor

Political Science

1:30 PM-3:00 PM

Course Project, 11\_SP\_POL\_300\_04, Undergraduate

Kennedy Union - Ballroom

Advisor(s) - Anthony N Talbott

Student(s) - Mary C Horwath, Lauren H Krivich

An estimated 27 million people are enslaved in the world today. Human trafficking, or the modern day slave trade, is the second largest criminal enterprise in the world and may be the greatest human rights challenge of our time. This poster presents an overview of modern day slavery along with an in depth look at two major types of human trafficking; involuntary domestic servitude and forced child labor.

#### **College Age Grief Differentiation Scale**

Psychology

1:30 PM-3:00 PM

Course Project, 10\_FA\_PSY\_333\_01, Undergraduate

Kennedy Union - Ballroom

Advisor(s) - Joseph P Tedesco

Student(s) - Maria C Adducci, Claudia E Clark, Paul T Enlow

In the past, there has been extensive research on the grieving process. However, there has been little research specifically on how college-age students experience grief. The College-Age Grief Differentiation Scale (CAGDS) distinguishes between complicated and typical grief in college students who have experienced the death of a loved one. Using 13 subscales, this instrument accounts for the unique ways in which this population grieves while also assessing the severity of the grief. It can be given as either a pencil and paper test or an interview as a tool for counseling.

## **Inventory of Substance Dependency and Criminal Behavior**

Psychology

1:30 PM-3:00 PM

Course Project, 10 FA PSY 333 01, Undergraduate

Kennedy Union - Ballroom

Advisor(s) - Joseph P Tedesco

Student(s) - Elizabeth A Coloutes, Margaret K Glaser

Past research has shown that there is a correlation between substance use and criminal behavior (Harrison and Gfroerer, 1992). The Inventory of Substance Dependency and Criminal Behavior was developed to measure that link and the likelihood of future criminal behavior. Research also shows that there are other risk factors that predict criminal behavior. This test measures substance dependency from one subscale and predicts the likelihood of future criminal behavior from four subscales which highlight some of those risk factors. 40 college students were sampled to obtain a normative group. The normative group scored relatively low on the subscales so high scores would indicate substance dependency and the likelihood of future criminal behavior.

# Is It Worth The Risk?: Assessing the Effects of Task on Confidence

Psychology Independent Research, Undergraduate 1:30 PM-3:00 PM

Kennedy Union - Ballroom

Advisor(s) - Susan T Davis, Jonathan A Hentz

# AFTERNOON POSTERS

Student(s) - Arianna T Arnett, Andrea L Hennel, Jasmine L Smith

When estimating their ability to make correct judgments, individuals tend to be overconfident, predicting higher ability levels than indicated by their actual level of performance. In particular, people with stronger narcissistic personality traits (such as unreasonably high self-esteem, unrealistic goals and inflated self-image) tend to be overconfident and engage in high levels of risk-taking behaviors; this could include an increased willingness to gamble. The present research examines the effect of task type on confidence in quiz task performance, and also evaluates the possible interaction between overconfidence, narcissism, and risk-taking behaviors. Participants answer general knowledge questions (GKQs) based on areas such as history, science, sports, geography, and popular culture. Participants in the control group answer GKQs and then rate their confidence in their answers to the questions. Participants in the experimental group engage in a gambling task on a computer where they bet virtual money on their answers to GKQs. The amount of the bet, expressed as a percentage of the total virtual money, is used as the measure of confidence. Participants also complete questionnaires assessing narcissism and risk-taking behaviors. It is expected that participants who engage in the gambling task and bet on the accuracy of their performance will be more overconfident compared to the control group. Additionally, participants who demonstrate greater overconfidence are expected to demonstrate more narcissism and greater risk-taking-behavior. The potential interaction between overconfidence, narcissism, and risk-taking behaviors could be used in future research studying social networking websites where many people display a combination of these personality characteristics.

#### **Sports Participation and College Adjustment Questionnaire**

Psychology

1:30 PM-3:00 PM

Course Project, 10\_FA\_PSY\_333\_01, Undergraduate

Kennedy Union - Ballroom

Advisor(s) - Joseph P Tedesco

Student(s) - Sarah L Bidwell, Lauren N Flynn, Kelly J Grothouse

College adjustment is defined as the ability to adequately adapt to the changes, lifestyle, and demands of college; it can be quite overwhelming when expected to take on several new demands all at one time. Some individuals seem to adjust better to these demands, while others don't know how to adequately deal with this new and often overwhelming environment away from home. The Sports Participation and College Adjustment Questionnaire (SPCAQ) has been designed to see if sports participation and sports identity in a student's life has any role in determining how well one is expected to adjust during this time. The SPCAQ is a paper and pencil questionnaire that starts off with five demographical questions in order to determine whether a student is a non-athlete (no sports participation at the high school or college level), disengaged athlete (sports participation at the senior high school level and not college), or athlete (sports participation at both the high school and college level). Next, twenty questions are used to measure how one perceives themselves with the athletic identity, followed by 41 questions measuring college adjustment on four subscales: academic, social, personal-emotional, and institutional. One interesting finding in past research, although little has been done, was seen among the dis-engaged athletes having the hardest time with adjusting among all three groups. Thus, if similar results are obtained, programs can be set up during the freshman year for specific individuals that will be beneficial for them in their college adjustment experience.

# The Measurement Inventory of Test Anxiety for Young Adolescence

Psychology

1:30 PM-3:00 PM

Course Project, 10\_FA\_PSY\_333\_01, Undergraduate

Kennedy Union - Ballroom

Advisor(s) - Joseph P Tedesco Student(s) - Jillian P Grisafo

The Measurement Inventory of Test Anxiety for Young Adolescence is an assessment that was developed to measure test anxiety in young adolescents -- 12-14 years of age. In the past there has been little research done concerning young adolescents and test anxiety. However, there is research that show students with higher test anxiety are more at risk for poor performance and difficulty for classroom learning. In this test, test anxiety is broken down into three subscales: Cognitive, Behavioral and Physiological factors. The Measurement Inventory of Test Anxiety for Young Adolescence screens for these factors as well as for specific test-anxious pathologies such as either failure accepting or failure avoidant. The test is used to identify the presence of test anxiety so that students and educators can make appropriate efforts in treatment interventions. By identifying test anxious students, and making appropriate efforts to help the students, test performance is likely to improve.

#### The Middle School Academic Performance Intrinsic Motivation Scale

Psychology 1:30 PM-3:00 PM Course Project, 10\_FA\_PSY\_333\_01, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Joseph P Tedesco Student(s) - Anna K Giuliani

Intrinsic motivation is an important characteristic of many successful students. Current academic motivation scales focus on the idea of intrinsic versus extrinsic motivation. The most widely used test of intrinsic motivation, the Children's Academic Intrinsic Motivation Inventory (CAIMI), focuses on intrinsic motivation in regards to specific academic subjects, such as math and social studies. Our test, The Middle School Academic Performance Intrinsic Motivation Scale (The Middle School APIMS), focuses specifically on a general propensity toward intrinsic motivation in students from sixth to eighth grade, taking into consideration the following subscales: persistence, curiosity, task endogeny, mastery, and learning of challenging, difficult, and novel tasks. Participants answer thirty guestions using a Likert scale so that intrinsic motivation may be assessed. By removing specific sub-scales, The Middle School APIMS will be able to provide a better focus on students' overall motivation level. Our test hopes to identify students who may be lacking intrinsic motivation in order for teachers to attend to the specific needs of these students.

### A research design regarding students' perception of fear on college campuses in response to media depictions and administrative policy.

Sociology, Anthropology, and Social Work 1:30 PM-3:00 PM Course Project, 10\_FA\_SOC\_208\_01, Undergraduate Kennedy Union - Ballroom

Advisor(s) - H F Pestello

Student(s) - Casey J O'Connor

This research design examines a current controversial topic in today's society. Much literature and research has been done in the past few years on sexual victimization on college campuses and the changes brought about by the shootings at Virginia Tech, Northern Illinois University, Ohio State, and the University of Texas at Austin. The proposed project will develop a design to examine the perceptions of students about their safety in the face of these incidences, their media perception and adaptations made by college administrations to meet these safety concerns. It compiles current research and presents a formal design for a complete sociological study.

#### Se Habla Espa Ingl's?: The Effects of Language Brokering on Latino Youth in America

Sociology, Anthropology, and Social Work 1:30 PM-3:00 PM Kennedy Union - Ballroom

Course Project, 11\_SP\_SOC\_208\_01, Undergraduate

Advisor(s) - H F Pestello Student(s) - Erin L Gahimer

In this research project, the objective is to develop a proposal to investigate the effects of language brokering on Latino youth in America. Language brokering is when children translate between their ethnic group's native language and the new language of residence in a variety of social settings, such as medical offices, schools, banks, and social service agencies. The reason most children are called on to be language brokers is because their parents are immigrants to a country and do not have a confident command of the new language, in this case, English. In relation to the situation in America, this language brokering process is common amongst Latino populations who immigrate to the United States. Many of these individuals who immigrated from Latin America know little English and are forced to rely on their children, who have more advanced linguistic skills as a result of their American schooling.

# Adolescent Females' Body Image: Effects of a Girl's Grpup

1:30 PM-3:00 PM Sociology, Anthropology, and Social Work Course Project, 11 SP SOC 208 01, Undergraduate Kennedy Union - Ballroom

Advisor(s) - H F Pestello Student(s) - Grace M Pera

# AFTERNOON POSTERS

This poster will lay out a design of a study, which would be twofold. First to have a questionnaire, investigating for adolescent females' body image as a pretest and posttest for changes in attitude. The second aspect would be to have an awareness group for adolescent girls would address issues of drive for thinness, body satisfaction, and desire to alter their bodies in someway, with specific attention to how the media affects their feelings on the above mentioned body image issues. The informational session would serve as a treatment to alter the attitudes of girls toward their bodies. The target group for this study would be fifth, sixth, and seventh grader, ages ten through thirteen.

#### Affects of Suburbanization: Are Major Cities Affected more by Suburbanization, Compared to Minor Cities.

Sociology, Anthropology, and Social Work Course Project, 11 SP SOC 208 01, Undergraduate

Kennedy Union - Ballroom

1:30 PM-3:00 PM

Advisor(s) - H F Pestello Student(s) - Sara K Brooke

The proposed research project that will be designed will focus on suburbanization in major and minor cities. The primary research will be, What are the consequences of suburbanization in major and minor cities? The two cities that will be compared in the design are Dayton Ohio to Camden New Jersey. The study will focus on the dimensions of demographic changes, crime, and violence, as well as others.

#### An examination of juveniles being transferred into criminal court

Sociology, Anthropology, and Social Work Course Project, 11\_SP\_SOC\_208\_01, Undergraduate 1:30 PM-3:00 PM

Kennedy Union - Ballroom

Advisor(s) - H F Pestello Student(s) - Joseph A Dooley

Juveniles are being transferred into criminal courts, when there could be rehabilitation alternatives that the states could be using instead. This poster will present a research proposal to investigate the role of rehabilitation versus punitive approaches in contemporary juvenile courts. Rehabilitation was central to early juvenile courts, but has been supplanted by more punitive approaches as juvenile crime rates rose. One of these options is to transfer juveniles to criminal courts to face adult sanctions. It is time to evaluate the extent to which a punitive philosophy has taken hold in juvenile courts. The researcher could conduct interviews with: juvenile court personnel, Juvenile Judges, and juvenile offenders. The researcher could looking at data on the number of transfers to criminal courts from juvenile courts, or maybe even conduct a survey of the public on their attitudes toward punitive versus rehabilitative approaches to juvenile.

#### **Creating A Multiracial Identity**

Sociology, Anthropology, and Social Work Course Project, 11 SP SOC 208 01, Undergraduate

1:30 PM-3:00 PM Kennedy Union - Ballroom

Advisor(s) - H F Pestello

Student(s) - Lauren M Cummerlander

This poster presentation describes the method for a proposed research project on the role of family, peers and institutions in identity formation of multiracial individuals. The research question is: which factor, family, peers, and institutions plays the largest role in the identity formation of multiracial individuals? The research will be taken by the measuring which mode of socialization that multiracial individuals perceive to be the most influential in developing their multiracial identity. By better understanding the factors multiracial individuals feel best describe how they developed their racial identity perhaps society can better understand how to interact with multiracial individuals as well as how complex racial identities are constructed.

# **Creating Opportunity: Remodeling Black Male Academic Achievement**

Sociology, Anthropology, and Social Work Course Project, 11 SP SOC 208 01, Undergraduate 1:30 PM-3:00 PM

Kennedy Union - Ballroom

Advisor(s) - H F Pestello Student(s) - Frederick L Cox

Historically Black makes have been labeled one of the most disadvantaged populations. Statistics support that Black Males are over populated in systems of negative outcomes (special education, jail, etc...) and underrepresented in systems that lead to positive outcomes (college, workforces, etc...). This poster will present the development of a research project to study Black male achievement at a Midwestern university. The proposed design will have a qualitative and quantitative component.

#### Crime through the Ages

Sociology, Anthropology, and Social Work
Course Project, 11\_SP\_SOC\_208\_01, Undergraduate
Advisor(s) - H F Pestallo

1:30 PM-3:00 PM Kennedy Union - Ballroom

Advisor(s) - H F Pestello Student(s) - Tyler J Eidson

This project will develop a research proposal to examine the relationship between age and the fear of crime. Although some research has found a relationship between age and fear of crime, this research will develop a proposal to further explore this relationship. This proposal will focus on trying to find an age group range where fear of crime is most evident and relevant. This proposal will also look to try and explore ideas on how this fear comes about.

#### Desensitized to Violence: The Long Term Effects of Violent Video Games

Sociology, Anthropology, and Social Work Course Project, 11\_SP\_SOC\_208\_01, Undergraduate 1:30 PM-3:00 PM

Kennedy Union - Ballroom

Advisor(s) - H F Pestello

Student(s) - Stephen J Metzger

This project will present the design for proposed research on the long term effects of playing violent video games. Research has raised questions about the impact of long-term exposure to violent games. The central question in the research does playing violent video games desensitize players to violence. The poster will present the key elements of the proposed research. What I propose to do is take a random group of college students. I will ask them questions about their prior video game experiences. After this I will form three separate groups, one that has played a lot of violent video games, one that has played video games but no violent ones and then one that has played no video games at all. I will then proceed to show the three groups identical pictures of real world violence. While this is happening the pictures will increase in their graphic nature. During this process I will ask the people to raise their hand whenever they find the pictures disturbing. I will then count how many pictures in they are when they raise their hand. I take the responses from each group and average them out to see which group on average is more susceptible to the graphic nature of the pictures. When this process is complete I will sit down and talk to the subject and ask them their thoughts on this topic. I am interested to learn what the normal college student thinks about this controversy and it will be interesting to hear firsthand what they think on this topic. I hope that by presenting my idea for a research project at the Stander Symposium I might learn some different ways of doing the research and enhance the project as a whole.

## Do you really favor the Death Penalty? a research proposal

Sociology, Anthropology, and Social Work
Course Project, 11\_SP\_SOC\_208\_01, Undergraduate

1:30 PM-3:00 PM

Kennedy Union - Ballroom

Advisor(s) - H F Pestello

Student(s) - Larry M Dalton

The Death Penalty is one of the most controversial penalties available to the Criminal Justice System. There are varying rationales that support the use of the Death Penalty for capital offenses. There are others that oppose the use of this penalty. This poster will present a research proposal that will examine attitudes toward the death penalty, as well as the rationale for the attitudes

# Domestic Violence: A Holistic Examination of the Origins, Prevalence, Prevention Efforts, and Resources Available to Victims

Sociology, Anthropology, and Social Work Course Project, 11\_SP\_WGS\_390\_01, Undergraduate 1:30 PM-3:00 PM

Kennedy Union - Ballroom

# AFTERNOON POSTERS

Advisor(s) - Leslie H Picca Student(s) - Alec M Smidt

This poster will examine domestic violence in a holistic manner, exploring the origins, prevention efforts, prevalence, and resources available to victims of such violence. Both heterosexual and homosexual instances of domestic violence will be analyzed, with stereotypes of homosexual domestic violence addressed and explained. Anecdotal evidence from my experiences interning at the Artemis Center for Domestic Violence will also be incorporated.

#### Dropping out of High School in Appalachia: Evaluating the Problem

Sociology, Anthropology, and Social Work

1:30 PM-3:00 PM

 $Course\ Project,\ 11\_SP\_SOC\_208\_01,\ Undergraduate$ 

Kennedy Union - Ballroom

Advisor(s) - H F Pestello

Student(s) - Rebecca M Robinson

High school dropout rates are high in the Appalachia region in comparison to the rest of the United States. There has been some research on this topic. Most studies claim the reason for these dropout rates is related to teen pregnancy, low parental education completion, low parental expectations, teen's order of priorities, and criminal behavior. This poster will develop a research proposal to examine this problem.

#### **Examining The Effectiveness of Guide Dog Training Programs in Prisons**

Sociology, Anthropology, and Social Work Course Project, 11 SP SOC 208 01, Undergraduate 1:30 PM-3:00 PM Kennedy Union - Ballroom

Advisor(s) - H F Pestello

Student(s) - Lauren M Wargacki

Student(s) - Andrew C Urban

Guide dog training programs, although a relatively new phenomenon, seem to be effective for several reasons. Studies have shown that prisoners who participate in these programs have a greater sense of purpose and responsibility, feel that they are giving back to the community, and feel that the dogs are therapeutic and beneficial in their process of rehabilitation. This poster will present a proposal to investigate how institutions view the efficacy of and the possibility for these rehabilitative programs in their institutions.

## **Health Disparities and the Minority Experience**

Sociology, Anthropology, and Social Work
Course Project, 10\_FA\_SOC\_208\_01, Undergraduate
Advisor(s) - H F Pestello

1:30 PM-3:00 PM

Kennedy Union - Ballroom

Health disparities are an important issue that impacts people. The US is the only wealthy, industrialized nation that does not provide health care to all its citizens? The US government spends over two trillion dollars towards health care last year which leads me to believe it's a social issue between human beings rather than a financial issue. I understand why depending on where you live and the specific community you affiliate yourself with strongly impacts the severity of disparities. But the one question that I can't seem to get addressed is how these disparities came about. Why couldn't there be equality among citizens in the US so that everyone has the opportunity to have some form of healthcare. Can it be traced all the way back to the nineteenth century when people of color began their journey in the US disadvantaged and discriminated against? This poster will develop a research project for investigating this issue in Ohio.

# Home Life and Delinquency Among Male Adolescents: An Investigation

Sociology, Anthropology, and Social Work Course Project, 11\_SP\_SOC\_208\_01, Undergraduate Advisor(s) - H F Pestello 1:30 PM-3:00 PM

Kennedy Union - Ballroom

Student(s) - Lauren E Chase

This research project will develop an investigation that looks into the effect that divorce has on male juveniles and delinquency. There are several variables that can be studied to show what can lead to male delinquency in the home life and during divorce. The proposed research will consider the relationship between divorce, paternal involvement including presence in the home, violence, and alcohol abuse, and delinguency.

#### **Recidivism: A Need for Re-Evaluation**

Sociology, Anthropology, and Social Work Course Project, 11\_SP\_SOC\_208\_01, Undergraduate Advisor(s) - H F Pestello

1:30 PM-3:00 PM

Kennedy Union - Ballroom

Student(s) - Jamie L Stukenborg

Criminal justice systems are struggling in reducing the rate of recidivism. Recidivism is when criminal activity reoccurs after an offender is released. It results in re-incarceration for this relapse. It is important because it affects the environment, including the offender, their family, other citizens, and the government agencies themselves. This project will design research to study recidivism and its current challenges to the justice system.

#### The Interaction of Adolescent Appalachian Females and the Role of Self-Esteem: A **Proposal**

Sociology, Anthropology, and Social Work Course Project, 10 FA SOC 208 01, Undergraduate 1:30 PM-3:00 PM

Kennedy Union - Ballroom

Advisor(s) - H F Pestello

Student(s) - Keelie M Gustin

Appalachians are a disadvantaged group in contemporary society. Oftentimes, this creates self-esteem issues among Appalachian youth, particularly girls. The creation of Girl Power Hour serves as a platform for adolescent female communication and self-esteem development in the Appalachian community of East Dayton, OH. This poster will display the development of a research project to study the impact of this program on voung female participant.

#### Through the Golden Door: Exploring the Integration of Iraqi Refugees in the United States

Sociology, Anthropology, and Social Work Course Project, 11 SP SOC 208 01, Undergraduate

1:30 PM-3:00 PM Kennedy Union - Ballroom

Advisor(s) - H F Pestello

Student(s) - Amanda L Fioritto

The displacement of Iragi citizens due to the 2003-2010 War in Irag is today one of the largest and fastest growing refugee crises in the world. Millions of Iraqis have fled their homes to neighboring countries such as Jordan and Syria, but a significant number have also resettled in the United States. Unable or unwilling to return home, these refugees are left with one option: to begin a new life elsewhere. Resettlement, however, often poses a series of challenges, such as learning new languages, customs, and cultures; finding work; forming new relationships; and being accepted by locals. In broader terms, the challenge for refugees is to integrate into American society, and to do so without losing sight of their heritage. This project will develop the design for a research project to study Iraqi refugees in Dayton, Ohio using qualitative research methods. The focus of the research will be on issues surrounding the integration of this community.

# What good comes from the decriminalization of marijuana?

Sociology, Anthropology, and Social Work Course Project, 11\_SP\_SOC\_208\_01, Undergraduate Advisor(s) - H F Pestello

1:30 PM-3:00 PM Kennedy Union - Ballroom

Student(s) - Jacob M Motto

## AFTERNOON POSTERS

This poster will present a proposed research project on the impact of decriminalization of marijuana. The war on drugs has been costly to individuals and society. There may be personal health benefits as well. Some countries have seen a decrease in recreational drug use when the drugs were decriminalized. The proposed research will examine this important and costly issue.

# **Business Administration**

#### Leveraging IT to Turn Energy-Intensive Processes into Information-Intensive Processes

MIS, OM, & Decision Sciences Honors Thesis, Undergraduate Advisor(s) - William D Salisbury Student(s) - Robert P Plucis

This thesis looks at the way information technology can be leveraged to turn business processes that require lots of energy and effort into simpler and easier processes that in turn also create a wealth of data. Along with this, I am investigating the ways in how using information technology can make these processes "greener" and reduce the carbon footprint of companies. The utilities industry has been used as a case study.

# **Engineering**

#### **Bringing Water to Haiti**

Engineering Course Project, 11 SP EGR 330 P3, Undergraduate Advisor(s) - Malcolm W Daniels, Margaret F Pinnell

Student(s) - Kassandra L Stangel

Baie-du-Mesle is a coastal village in southern Haiti. For years, the village has endured living without a sufficient supply of clean water. Haitian refugee and village native, Pelege Lareus began a non-profit organization in Columbus, Ohio called Hand to Hand to improve the quality of life for citizens of Baie-du-Mesle. Hand to Hand has teamed up with ETHOS to begin solving the problem of insufficient water supply in Baie-du-Mesle. This project is a preliminary feasibility study for a water system in Baie-du-Mesle. Wells, a piping system, and a rainwater catchment system have all been considered as possible ways to bring a constant, clean supply of water to the village. Water purification systems have also been investigated to supplement a water supply system. Research has led to conceptual designs for several different types of water systems. This project also provides recommendations for determining the best type of water system to implement in Baie-du-Mesle, Haiti.

#### **Engineering and the Development of Middle School Education**

Mechanical & Aerospace Engineering

1:30 PM-3:00 PM

1:30 PM-3:00 PM

1:30 PM-3:00 PM

Kennedy Union - Ballroom

Kennedy Union - Ballroom

Course Project, 11\_SP\_MEE\_499\_01, Undergraduate

Kennedy Union - Ballroom

Advisor(s) - Margaret F Pinnell

Student(s) - Street A Barnett, Giacomo Caruso, Stephen F Escoffier, Adam J Fischer, Tyler H Hendershott, Kevin M Hoffman, James T Hunt, David L Lowe, Julie F Pouliquen, Christopher C Riccardella, Elizabeth A Whisler

The students of the MEE 499 class have been working on a project with students at the local schools to help develop scientific and engineering interest. This project is centered on Lego Mindstorm Robotics, which is a kit of Legos including parts, sensors, motors, and a miniature computer that can be programmed. By utilizing the design ideas specified in the Lego Robotics programming CD, the students in MEE 499 are able to design lesson plans incorporating build blueprints and example of a trial runs that the lego robotic should be able to complete. The MEE 499 students will then teach this lesson plan at the schools and allow the children to manipulate the Legos in teams and then program their robot to perform the specific task. The schools that are participating in these lessons are Ruskins, EJ Brown, Kiser and St. Helens, and the students being taught at these schools are from grades 6th to 8th. What is desired out of this program is that by utilizing simple robotics and programming, the teams will encourage students at each school to develop team work skills and an interest in engineering and science.

#### **ETHOS Field Water Testing in Cameroon**

Mechanical & Aerospace Engineering Course Project, 11\_SP\_EGR\_330\_P1, Undergraduate Advisor(s) - Margaret F Pinnell Student(s) - Katherine M Sipes 1:30 PM-3:00 PM Kennedy Union - Ballroom

Access to clean drinking water has become a worldwide problem. Roughly 25% of the world's population lacks the ability to have access to safe drinking water. This problem often leads to the spread of many diseases and often times even death in impoverished areas. The problem is often caused by lack of clean distribution methods or lack of environmental regulations. Clean drinking water is an issue at almost every single ETHOS placement. A rural village in Cameroon had a piping system installed along with bio-sand filtration systems designed by previous ETHOS students. In order to determine if this system was producing clean, drinkable water, a portable field test kit was needed. The necessary parameters to test along with their acceptable levels needed to be established. The final design and kit will be traveling with the group of students in the ETHOS program to Cameroon this summer. They will conduct the tests and teach the members of the community how to continue testing after the students leave. This project was completed in hopes of implementing similar kits for other ETHOS water project communities in the future.

#### **ETHOS Immersion to India: Solar Alternatives**

Mechanical & Aerospace Engineering Course Project, 11\_SP\_EGR\_330\_P1, Undergraduate Advisor(s) - Malcolm W Daniels, Margaret F Pinnell Student(s) - Mary E King 1:30 PM-3:00 PM Kennedy Union - Ballroom

With the ETHOS (Engineers in Technical Humanitarian Opportunities of Service-Learning) Immersion to India. While there, I will be working with an organization called Solar Alternatives. This organization is an NGO for harvesting renewable energy for Environment & Empowerment. It is a Non-Profit, Charitable Society run by the Jesuits, and the Provincial of Patna Jesuit Society. The organization serves the underprivileged sections of the society by providing a renewable source of energy. It is located in Patna, India making use of solar thermal energy. During this ten week trip I will be learning and working on several projects involving solar systems.

## Togo or Not To Go? A Math Major Participating in ETHOS

Mechanical & Aerospace Engineering Course Project, 11\_SP\_EGR\_330\_P1, Undergraduate Advisor(s) - Margaret F Pinnell Student(s) - Philip R Erford 1:30 PM-3:00 PM

Kennedy Union - Ballroom

What happens when a service program designed specifically for undergraduate engineering students accepts a graduating math major? They send him to Togo, Africa! ETHOS (Engineers in Technical, Humanitarian Opportunities of Service-learning), a program in the School of Engineering, provides UD students an opportunity to travel to a developing areas of the world and utilize their technical skills to work with the local population while experiencing the global links technology has to culture, values, society, politics, and economics. To prepare for this experience, participating students take a weekly course in which they work in groups on technical projects, perform research, provide status reports, and complete logistical requirements for the intended travel. The course and experience educate in the spirit of the Seven Habits of Inquiry and Reflection and teach participants how to properly view their role in the program as a co-equal servant of the local peoples. It is my goal in participating in this symposium to present the work my technical project group has been doing for this class with regards to Potters for Peace, to highlight some of the work I will be joining in during my internship in Togo, and to offer reflection and discussion on the meaning of service in community.

# AFTERNOON POSTERS

# **Education and Allied Professions**

#### A Look to the Future: The Field of Physical Therapy in Two to Five Years

Health and Sport Science 3:30 PM-5:00 PM
Course Project, 11\_SP\_HSS\_226\_01, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Marvin D Ganote

Student(s) - Paige A Basinger, Stephen P Crum

As college students it is imperative to be educated on the outlook of your future career path. In our research project we will discuss the projected outlook for the field of Physical Therapy within two to five years. We aim to include the following: demand for Physical Therapists, different specialized fields of Physical Therapy, education requirements for Physical Therapy students, the responsibilities a Physical Therapist holds, the projected salary of a Physical Therapist, the best location to practice Physical Therapy and the technological advancements within Physical Therapy. The purpose of our study is to educate fellow Physical Therapy and Health Science majors on the impact of our field within society, specifically Physical Therapy and the successful and promising opportunities the profession provides.

#### A Look to the Future: The Field of Physical Therapy in Two to Five Years.

Health and Sport Science 3:30 PM-5:00 PM
Course Project, 11\_SP\_HSS\_226\_01, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Marvin D Ganote

Student(s) - Paige A Basinger, Jordan P Boykin, Brandon P Fielding

As college students it is imperative to be educated on the outlook of your future career path. In our research project we will discuss the projected outlook for the field of Physical Therapy within two to five years. We aim to include the following: demand for Physical Therapists, different specialized fields of Physical Therapy, education requirements for Physical Therapy students, the responsibilities a Physical Therapist holds, the projected salary of a Physical Therapist, the best location to practice Physical Therapy and the technological advancements within Physical Therapy. The purpose of our study is to educate fellow Physical Therapy and Health Science majors on the impact of our field within society, specifically Physical Therapy and the successful and promising opportunities the profession provides.

## Best and Worst: Making Food Choices from Places On and Off Campus

Health and Sport Science 3:30 PM-5:00 PM
Course Project, 11 SP HSS 490 P1, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Janine T Baer, Mark A Hoying

Student(s) - Hillary T Ake, Erin M Baldinger, Erika A Thomas

Our objective is to present to viewers the best and worst food selections from various places on and off campus. After examining over 20 different locations, we have listed the amount of calories and grams of fat in the healthiest and least nutritious menu items at each food place. Viewers will gain a deeper understanding of the caloric content of some of their favorite food choices while learning to make healthier food selections.

# Career Fields of Physical Therapy and Exercise Science Projected 10 Years Into the Future

Health and Sport Science 3:30 PM-5:00 PM

Course Project, 11\_SP\_HSS\_226\_01, Undergraduate

Kennedy Union - Ballroom

Advisor(s) - Marvin D Ganote

Student(s) - Chelsea J Carpenito, Courtney L Edwards, Kaitlyn R Francis

In today's society, the career fields of Physical Therapy and Exercise Science are constantly growing and are continuously in demand. This presentation presents research on three major elements of each of these careers and how these elements will apply to our careers in the near future. Also, research on technology and how it will affect these careers, whether positively or negatively, will be conducted and concluded upon within this poster presentation.

#### Career Outlook: Future First Jobs in Health and Sport Science Careers

Health and Sport Science 3:30 PM-5:00 PM

Course Project, 11\_SP\_HSS\_226\_01, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Marvin D Ganote

Student(s) - Shayne M Brown, Teresa Dicarlo, Brandon M Pankuch

Team research project focusing on the future outlook of our prospective careers in the Health and Sport Science field. These careers are Physical Therapy and Nutrition and Fitness.

#### Career Outlook: Future First Jobs in Health and Sport Science Careers

**Health and Sport Science** 3:30 PM-5:00 PM

Course Project, 11\_SP\_HSS\_226\_01, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Marvin D Ganote

Student(s) - Jocelyn R Abron, Teresa Dicarlo, Kasi Vazquez

Team research project focusing on the future outlook of our prospective careers in the Health and Sport Science field. These careers are Physical Therapy and Nutrition and Fitness.

#### Careers in Healthcare: Dietetics, Physical Therapy, and Dentistry

Health and Sport Science 3:30 PM-5:00 PM

Course Project, 11 SP HSS 226 01, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Marvin D Ganote

Student(s) - Amanda M Edwards, Douglas J McIntyre, Erica L Stubbers

The purpose of this research is to examine healthcare careers. The three careers that will be focused on are that of a dietician, a physical therapist, and a dentist. Many aspects of these careers will be evaluated. The research will cover what these professionals are required to do on a daily basis, as well as the education and certification requirements for each job. Another aspect that will be researched will be salary that one who goes into each specific field can expect to make, as well the demand for employees in each career.

#### Future Careers: Outlook For Personal Trainers, Physical Therapists, and Exercise **Physiologists**

**Health and Sport Science** 3:30 PM-5:00 PM

Course Project, 11\_SP\_HSS\_226\_01, Undergraduate

Kennedy Union - Ballroom

Advisor(s) - Marvin D Ganote

Student(s) - Joseph J Arata, Thomas M Dugovic, Michael J Graham

Our collective project displays the future outlooks of Personal Training, Physical Therapy, and Exercise Physiology. Each area explores potential pros and cons of each field over the next five to ten years. Among the elements discussed will be the job market outlook and significant technology in each respective field.

## **Future Job Outlook for Physical Therapy and Fitness Training**

3:30 PM-5:00 PM **Health and Sport Science** Kennedy Union - Ballroom

Course Project, 11\_SP\_HSS\_226\_02, Undergraduate

Advisor(s) - Marvin D Ganote Student(s) - Toriana Cirino, Chloe J Hough, Mallory L Linderman

This presentation will give our audience an insight to the fields of Physical Therapy, and Fitness Training. It will explore the job outlooks, as well as advancements within the field. These jobs are in high demand therefore many openings are available to our upcoming generation. We will explore technologies used within the field, proposed incomes, education required, as well as day to day routines of professionals currently working in the jobs today.

# AFTERNOON POSTERS

## How the Future Looks for Consulting Dietetics and Occupational Therapy

**Health and Sport Science** 3:30 PM-5:00 PM

Course Project, 10\_S2\_HSS\_226\_T, Undergraduate

Kennedy Union - Ballroom

Advisor(s) - Marvin D Ganote

Student(s) - Julia A McCafferty, Emmeline Smith

Due to upcoming economic circumstances such as the growing elderly population, healthcare positions are becoming increasingly important. This poster will present key information and facts about what the future will look like in upcoming years within the career fields of dietetics and occupational therapy. More specifically, the job positions of Consulting Dietitian and Occupational Therapy for the elderly will be examined and the technologies required for use.

#### How the Future Looks for Physician Assistants and Occupational Therapists

**Health and Sport Science** 3:30 PM-5:00 PM

Course Project, 10\_S2\_HSS\_226\_T, Undergraduate

Kennedy Union - Ballroom

Advisor(s) - Marvin D Ganote

Student(s) - Kristen M Iannarino, Lindsay A Mayors

What is the future of the Occupational Therapy and Physician Assistant fields in todayâ??s economy and health world? Both occupations are growing in popularity and students are almost quaranteed a job after receiving a Masterâ??s Degree. Occupation Therapists are found in many branches of healthcare, however this poster will focus on adolescent occupational therapy in a hospital setting. Physician Assistants are found be more and more abundant in hospitals and doctorâ??s offices today. PA school looks fascinating to young science majors as a shorter route to the health care world than medical school. Both occupations are currently hot areas of study in universities across the country.

#### **Looking into the Future: Physical Therapy and Chiropractics**

Health and Sport Science

3:30 PM-5:00 PM Course Project, 11 SP HSS 226 02, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Marvin D Ganote

Student(s) - Toriana Cirino, Carissa L Hughes

This presentation will give our viewers an outlook about how the future will bring new jobs to the career fields of Physical Therapy and Chiropractics. It will give them more insight to how these fields are growing and developing. Even now these jobs are changing and won't stop as long as there are dedicated students who will continue down this path.

# Physical Therapy: A Growing Field In This Decade

**Health and Sport Science** 

3:30 PM-5:00 PM

Course Project, 11\_SP\_HSS\_226\_01, Undergraduate

Kennedy Union - Ballroom

Advisor(s) - Marvin D Ganote

Student(s) - Kristen M Kiefer, Megan C O'Mera, Mary C Tonner

Our topic will provide information on Physical Therapy and how the future looks for those seeking such a career. We will discuss our research on how the career has grown rapidly in recent years. We will also discuss salary and the variety of different work environments in this field. There are numerous options in the field of Physical Therapy and we want to provide you with all of the information you will need if you are interested in a career in Physical Therapy.

## Projected Health and Sport Science Job Market: Exercise Physiologists, Dieticians, and **Physical Therapists**

Health and Sport Science

3:30 PM-5:00 PM

Course Project, 11 SP HSS 226 02, Undergraduate

Kennedy Union - Ballroom

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Advisor(s) - Marvin D Ganote

Student(s) - Meghan K Malone, Amy L Rohlfing, Jeanna S Schuster

Amy: My portion of the presentation will focus on the projected job market for exercise physiologists two to five years after I graduate in May 2013. This presentation will also discuss the impact of one significant technology on the field of exercise physiology, the best and most common job offers for exercise physiologists, and the expected salary ranges during this time period. This poster presentation will also include a brochure to summarize my research on this topic. Meghan: I hope to be a physical therapist when I graduate from the University of Dayton. My research project will be based upon what the field will look like in the next 2-5 years. From scholarly sources I will gather and summarize my information in a brochure and poster. My project will include the best type of jobs for a physical therapist, the most common jobs, and the highest paying jobs. I hope there are a high percentage of physical therapist jobs available by the time I graduate. Jeanna: When I graduate from the University of Dayton, I hope to be a clinical dietitian; therefore, I will conduct my research based on what the future of this career field will look like in 2-5 years. I will gather information from scholarly sources and synthesize my findings into a brochure and poster. I hope to find the percentage of expected clinical dietitian opportunities available throughout the Midwest, as well as the specifics of what the career will include on a daily basis.

#### Review and Comparison of Blood Lipid Profile Data for Healthy, Young Adults to Current Literature.

**Health and Sport Science** Course Project, 10\_FA\_HSS\_490\_P2, Undergraduate Kennedy Union - Ballroom Advisor(s) - Janine T Baer

Student(s) - Samuel Fullen

This project consists of evaluating and comparing data from local, healthy, college-age adults and to trends found in current literature. The population was of an appropriate subject number (n>50), with roughly a 2:1 ration of females to males. The data collected was on blood lipid levels. which involved LDL, HDL, calculated VLDL, cholesterol, and triglyceride serum levels. This data was composed into an Excel spreadsheet so it could be analyzed to find averages among the population and between genders. These analyses were compared to trends in current literature. The obtained data correlated to trends examined in current literature.

### The Effectiveness of a Personalized Peer Physical Education Program (PPPEP) on the **Health Related Physical Fitness of Selected College Age Students**

**Health and Sport Science** 3:30 PM-5:00 PM Course Project, 11\_SP\_HSS\_428\_01, Graduate Kennedy Union - Ballroom

Advisor(s) - George M DeMarco

Student(s) - Hillary T Ake, Michele L Baeder, Natalie M Berra, Lauren E Bockrath, Alyssa L Buckingham, Douglas J Burke, David A Cable, Elizabeth M Coorey, Laura M Cornicelli, Moira C Cummins, Kelsey A Flanders, Kathleen E Fusco, Michelle A Gehret, Emily E Gilb, Megan

The purpose of this major course research project is to determine the effectiveness of a Personalized Peer Physical Education Program (PPPEP) intended to improve the cardiovascular endurance, muscular strength/ endurance, flexibility, and body composition of selected college age students (i.e., components of health related physical fitness, HRPF) (N=59). Over the course of the 2011 Spring Semester, students in two sections of a university level research methods course will exercise w/peers during eight (8) separate sessions. Two (2) additional sessions will be allocated for pre- and post-testing. All exercise and testing sessions will be conducted at the university's student fitness-activity center (RecPlex). Divided into 12 separate teams and 4 separate conferences assigned different PPPEP protocols corresponding to conditions of the Independent Variable (moderate- to high-intensity exercise), students will engage in an array of specialized exercises in progressive resistance training, cardiovascular endurance, and flexibility. A mixed-method research design will be utilized. Quantitative/ Dependent measures will include students' performance on the President's Challenge Adult Physical Fitness Test, reports on the Borg Scale of Perceived Exertion (CR-10), and estimates of Daily Caloric Intake (DCI) on the United States Department of Agriculture (USDA) Dietary-Nutritional Assessment, My Pryamid.Gov. Utilizing SPSS v.18, descriptive and inferential statistics will be calculated. Qualitative data, which will be gleaned from interviews focusing on students' personalfamily exercise history and students' fitness journals-logs, will be subject to content analysis. Case histories will be constructed and all measures

# AFTERNOON POSTERS

of pre- and post-test data will be compared to determine the effectiveness of the PPPEP on students' HRPF. It is hypothesized that all measures of students' HRPF will improve as a result of participation in the PPPEP. In addition, it is theorized that themes reflective of common experiences both in students' personal case histories and during their participation in the PPPEP will emerge.

### The Effectiveness of Nutrition Education on the Knowledge and Behavior of College-Level **Varsity Athletes**

3:30 PM-5:00 PM **Health and Sport Science** Course Project, 10 FA HSS 490 P1, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Janine T Baer Student(s) - Elizabeth M Coorey

The purpose of this study is to determine the effectiveness of nutrition education on the knowledge and nutrition behavior of college-level varsity athletes. Over the course of the 2010-2011 academic year, the Varsity Athletics nutrition intern distributed educational newsletters relating aspects of nutrition to athletic performance to selected sports teams. The intern also met with individual athletes (N=12) from these teams and conducted nutrition counseling and goal setting. All sessions took place in the varsity athlete weight room and were facilitated by the athletes' strength and conditioning coach. The 12 student-athletes who participated in one-on-one counseling will be the primary subjects for this study. Secondary subjects will be the members of the teams who received newsletters throughout the year. Both quantitative and qualitative data will be collected to determine the effect of the education. Comparison of written pre- and post- nutrition questionnaires distributed to all teams involved will reveal the effect of the education on both the primary and secondary subjects' nutritional knowledge. Interviews with primary subjects will provide qualitative data on the topic of behavior change in relation to food choices and eating habits. Evaluation of pre- and postmeasurements of body composition of primary subjects via skinfold calipers will show if subjects have experienced changes in muscle or fat mass throughout the course of the year. The relationship between increased nutrition knowledge and change in body composition will be explored. It is hypothesized that the subjects will have experienced improvements in each of these areas as a result of the nutrition education provided by the intern.

#### The Future of Physical Therapists

Health and Sport Science 3:30 PM-5:00 PM Course Project, 11 SP HSS 226 02, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Marvin D Ganote

Student(s) - Hayleigh E Raiff, Stephanie A Recko

The purpose of this study is to explore the future job outlook for Physical Therapists. Physical Therapy is a type of health care specialty that diagnoses and treats patients using exercise and manipulation. The study utilizes the review of literature to collect information about the job outlook and growth of the Physical Therapy profession. The compiled data is used to describe and interpret the future of a career in Physical Therapy.

### The Future of Physician Assistants

3:30 PM-5:00 PM **Health and Sport Science** Course Project, 11 SP HSS 226 02, Undergraduate Kennedy Union - Ballroom

Advisor(s) - Marvin D Ganote

Student(s) - Angela R Iannucci, Stephanie A Recko, Madeline Wright

The purpose of this study is to research the future job outlook for physician assistants. A physician assistant is a healthcare professional that is licensed to practice medicine under limited supervision of a physician. Physician assistants work to prevent, treat, and maintain human illness and injury through a comprehensive range of medical duties. The future job outlook of physicians assistant is expected to grow much faster than that of other occupations. Job opportunities will especially be in high demand in rural and inner city healthcare facilities.

### The Future Outlook of Exercise Training and Physical Therapy

**Health and Sport Science** 3:30 PM-5:00 PM Course Project, 11 SP HSS 226 02, Undergraduate Kennedy Union - Ballroom

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3:30 PM-5:00 PM

Advisor(s) - Marvin D Ganote

Student(s) - Dominique J Mosby, Patrick M Therriault

The purpose of our study is to research the future outlook of a career in physical therapy and a career in exercise training. There are many jobs available in the field of physical therapy, and becoming an exercise trainer is also a growing job in today's society. Each of these careers involves helping people to strengthen their muscles and to keep their bodies' healthy. Developing personal and professional relationships with patients/ clients is another important and rewarding aspect of being a physical therapist and exercise trainer. Thus, these careers have a bright future due to the important focus of helping others with rehabilitation and to stay strong and healthy.

#### The Future Outlook of Physical Therapy and Nutrition Careers

Health and Sport Science

3:30 PM-5:00 PM

Course Project, 11\_SP\_HSS\_226\_02, Undergraduate

Kennedy Union - Ballroom

Advisor(s) - Marvin D Ganote

Student(s) - Sam E Arnold, Benjamin D Grundtisch, Patrick M Therriault

The two jobs to be researched are in physical therapy and nutrition. The future of a physical therapist and nutritionist will be displayed along with possible effects of technology. We will get into different aspects of each career field including job market outlook, the best places of employment in the future, and expected salaries. We will also discuss the impact of certain technology on our jobs in the future.

#### The Heal and Helping Hand of Physical Therapy

**Health and Sport Science** 

3:30 PM-5:00 PM

Course Project, 11\_SP\_HSS\_226\_02, Undergraduate

Kennedy Union - Ballroom

Advisor(s) - Marvin D Ganote

Student(s) - Andrea L Grzeszczak, Wesley J Horn, Riley E McCormick

We will be examining the future of physical therapy in detail in areas such as, what the job market will look like, where the best places of emplyment will be, and the expected slary ranges. We will also provide background information on our topic and a summary of the history. We will also be discussing the impact and signigicants of our major to the community and to the human body.

### The History of Physical Education-Activity and Sport: Stories for the Ages and Lessons from the Legends of Memorable Moments, Famous Women and Men, Their Teams and Times: Semester V

**Health and Sport Science** 

3:30 PM-5:00 PM

Course Project, 11 SP HSS 275 01, Undergraduate

Kennedy Union - Ballroom

Advisor(s) - George M DeMarco

Student(s) - Jacquelyn A Adams, Lauren A Berndt, Robert J Cesario, Taylor T Custenborder, Sarah E Denk, Shannon R Donoher, Maura C Hovey, Rex H Hurlbut, Kelly K Lyons, Bridget A Neylon, David J Nocifora, Nora E O'Connell, Jena L Parish, Nicole R Peterson, Paige E Pren

The purpose of these studies was to describe and interpret major events and the lives and times of significant individuals in the history of sport and physical education-activity throughout the millenia. At once interesting, inspirational, edifying, and enlightening, the stories told by the students of the course HSS 275 - History of Physical Education/Activity and Sport - speak powerfully to the transcendent nature of sport and physical activity across all generations, cultures, and topical interests. From the Olympics to the history of the Penn Relays and the Rose Bowl; from the stories of Senda Berenson (Godmother of Women's basketball) to UD great Don Donoher, and NFL-Green Beret Patriot Pat Tillman, these original research projects utilized an array of primary and secondary sources, including interviews, personal narrative, print media, photographs, and vintage video to bring alive the past to teach anew life's lessons from which all may learn.

## AFTERNOON POSTERS

#### Attention Deficit Hyperactive Disorder Defined and How Teachers Can Manage It Within the Classroom

**Teacher Education** Course Project, 10\_FA\_EDT\_110\_P2, Undergraduate

3:30 PM-5:00 PM Kennedy Union - Ballroom

Advisor(s) - Patricia M Hart

Student(s) - Katherine M Colby

Current research shows that attention deficit hyperactive disorder is among the most commonly diagnosed behavioral disorders in children and young adults today. Although it is a disorder not strictly confined to the younger generations, this research focuses on children with ADHD as opposed to adults. There is some controversy as to the credence of the disorder, but all doubts aside, the behavior is absolute and must be addressed. The symptoms or characteristics of this behavioral disorder often include short attention span, inability to sit for any prolonged period, and speaking out of turn, among others. The coding system developed by the American Psychiatric Association commonly known as DSM-IV-TR is introduced and the validity of the system will be discussed in this research. The research explores not only the features of ADHD, but also gives advice on ways in which teachers can manage ADHD within a classroom to ensure the greatest possible learning and growth of each and every student.

#### A Follow-up Study of Chinese Students in American Joint Degree Program

Counselor Education & Human Services Graduate Research, Graduate

4:30 PM-6:30 PM

ITC - Forum

Advisor(s) - Molly A Schaller

Student(s) - Shengnan Zhang

The University of Dayton and Shanghai Normal University (SHNU) signed an agreement that students at SHNU can apply for a joint degree program leading to a Bachelor of Science in Engineering Technology in either Electronic or Manufacturing technology. This study examined the impact of the one year American university study on the students' career. The study investigated the impact of the program on students' internal factors, external factors, and job marketing reality via phone interviews. The results show the advantages and disadvantages of the joint degree program on the student' career and personal development. The students evaluated their experiences from involvement, study, living, and supports from the university.

#### **Academic Coaching and Student Academic Success**

Counselor Education & Human Services

Graduate Research, Graduate Advisor(s) - Molly A Schaller

Student(s) - Ashley B Roberts

4:30 PM-6:30 PM LTC - Forum

This program evaluation examines interview data from three Academic Renewal Course and Coaching (ARCC) program instructors as well as four student participants to explore the academic coaching experience through the Office of Student Learning Services at the University of Dayton. The Office of Student Learning Services aimed their ARCC instructors to construct a seven-week program that would renew, revitalize, and refresh knowledge construction with students at the college level. The author explores the relationship between instructor and student, and how the relationship could lead to enhanced academic success outcomes. The study examines the connection between the ARCC course and the definition of "academic success" by considering the relationship between the instructors (coaches) and the students within the learning initiatives of the program. Additionally, the author draws on the quality of the intervention service as provided by the instructors and the Office of Student Learning Services. Findings are linked to the evaluation of the students and instructors of the ARCC program. The researcher suggests recommendations for additional research and intervention initiatives.

#### Hope and Self-Efficacy: Correlation Study Focusing on Hope and Self-Efficacy Amongst First Generation Students and Traditional Students.

Counselor Education & Human Services Graduate Research, Graduate

4:30 PM-6:30 PM LTC - Forum

Advisor(s) - Molly A Schaller

Student(s) - George M White

This study will examine two types of college students, traditional and first-generation. Although different, one thing they both have in common is the ability to create hope and develop self-efficacy. The development of self-efficacy has been proven important to a student's academic, cognitive, and personal development. Hope has been proven to be important in the area of finding different routes to success and the motivation a person has to take those routes. This study will compare traditional and first-generation students' self-efficacy and hope. One of the central questions of this research is if there are different perceptions that both student groups have about confidence and how they create that perception of confidence. Using the data found, professionals will be able to create methods that will help students to use hope and self-efficacy in their favor throughout the matriculation process.

# Identifying Challenges to International Student Retention and Success: Insights for Student Affairs Professionals

4:30 PM-6:30 PM

LTC - Forum

Counselor Education & Human Services
Graduate Research, Graduate
Advisor(s) - Molly A Schaller
Student(s) - Mindy W Yiu

The international student population at the University of Dayton has increased in size in recent years. With a larger population comes greater institutional responsibility to provide for the academic needs and well being of this population. This study attempted to identify the challenges that hinder international students' ability to succeed in higher education. The study was conducted at the University of Dayton and includes interview data from current undergraduate international students and alumni graduate students (those who completed their bachelor's at UD). International students were asked to share their perspectives regarding their experiences as undergraduate students. Major challenges articulated by the international students include English speaking confidence, support of peers and professors, and acculturation. Findings indicate that the challenges international students face differ greatly from those of domestic students and is an issue that student affairs personnel must address.

#### Impact of Division III Junior Varsity Teams on First Year Experience

Counselor Education & Human Services 4:30 PM-6:30 PM
Graduate Research, Graduate LTC - Forum
Advisor(s) - Molly A Schaller
Student(s) - Sarah E Matesich

Collegiate athletics have come under heavy scrutiny in recent years, specifically related to financial aid, recruiting, academic, and student success. The National Collegiate Athletic Association (NCAA) has conducted research within all three divisions on their experiences. NCAA (2010) Division III is the largest division with 435 member institutions and close to forty percent of all participating student- athletes. Division III stresses the importance of the overall experience as a student athlete by taking advantage of the many opportunities available to them, both within and beyond athletics, so that they may develop their full potential as students, athletes, and citizens. Eighty percent of the institutions that participate in Division III athletics are private institutions (NCAA, 2010). Recent tough economic times and rising tuition have hurt enrollment atprivate institutions. Private institutions are identifying ways in which they can cover costs in revenue and fielding additional athletic teams is one way to attract more tuition dollars (Kurz, 2007). A growing trend in Division III athletics is to field a junior varsity team for non-recruited students (Tobin, 2005, p. 25). Junior varsity teams typically exist within high profile sports: men's and women's basketball, and football. Research for this project was conducted at Wittenberg University where the entire first year cohort was solicited to participate in the online survey. Results will allow the university to be able to examine the effectiveness of the first year program, the levels of engagement and experiences for both student athletes and their non-student athlete peers, and more specifically, insights regarding how first year junior varsity athletes are engaged in the community. Specifically the research question is are first-year student athletes at the Division III level engaging in effective educational practices at the same level as their peers?

### Impact of Facebook on Behavior Expectations of First-year College Students

Counselor Education & Human Services 4:30 PM-6:30 PM
Graduate Research, Graduate LTC - Forum

### AFTERNOON POSTERS

Advisor(s) - Molly A Schaller Student(s) - Jonathan R Duraj

With the emerging presence of Facebook throughout society, one population impacted is first-year college students. The social networking site allows this population, through friend and network connections, to be exposed to a college campus before they arrive for the first day of class. This scholarly project will use qualitative focus grouping and a phenomenological analysis to explore how first-year students make sense of the college environment prior to, and during, their arrival on campus. Additional results will illuminate the expectations students perceive are placed on their behavior once they arrive. Understanding how college students are oriented to a campus prior to their arrival will help professionals understand how to better position themselves to impact their student populations.

#### Injured College Athletes and the Effects on Their Psychological Development and Identity

Counselor Education & Human Services 4:30 PM-6:30 PM
Graduate Research LTC - Forum

Advisor(s) - Molly A Schaller

Student(s) - Erica L Van Der Knokke

The purpose of this study was to examine how injuries can impact the psychological development and identity of college athletes. This study focused on college athletes who attend a mid-size Catholic institution in the Midwest. In order to collect the information about the athletes and their injuries, individual interviews were conducted with athletes who were currently injured and athletes who have been injured at some point during their college career. Interview questions asked students about the significance that their sport has played in their lives, emotions associated with their injury, rehabilitation, the support they received from parents, teammates, coaches, trainers, and fans, and fears about the future. Research has suggested that "as a whole injury rates of college athletes appear to be holding steady, however specific types of injuries are still on the rise" (Childs, 2007, p.1). In addition, after an injury, "an athlete's personality and views of themselves may change due to their injury" (Granito, 2001, p.69). Participants in this study had different experiences and concerns about their future. Depending on their type of injury, how long their rehabilitation was, and the support that they received from others, these athletes' identities and psychological development were impacted in different ways.

### **Major Selection of Student-Athletes**

Counselor Education & Human Services

Graduate Research

LTC - Forum

Advisor(s) - Molly A Schaller Student(s) - Sara N Gothelf

The purpose of this research is to examine the relationship between academics and athletics, specifically the majors selected by student-athletes. "Academic clustering occurs when 25% or more of an athletic team shares a single academic major" (Fountain & Finley, 2009, p. 1). Many factors go into the decision of selecting a major for students and student-athletes alike. There are many rules a student-athlete must abide by in order to play collegiate athletics. Fortunately or unfortunately, the rules many have an effect on what types of classes the student-athlete takes. This research is a descriptive analysis of the selected majors of the athletes who play football and those who participate in track and field at the institutions in the Big 10 Conference. To gather data, rosters were examined for the of players from the 2000, 2005 and 2010 seasons and the listed majors were analyzed in order to spot trends. One key question of this study is an examination of the number of student-athletes from individualized sports involved in academic clustering in comparison to the number involved from collective sports.

#### Male Gender Identity Development over Four Years: Differences in College Men's Self-Perceived Gender Roles

Counselor Education & Human Services Graduate Research Advisor(s) - Molly A Schaller Student(s) - Gregory J Sosoka

4:30 PM-6:30 PM LTC - Forum

In America's historically male-dominated society, research on gender studies have often been synonymous with women, and the policies and programming efforts designed to target inequalities have rarely included the interests of men (Harris & Harper, 2010a). During some of their most formative years, traditionally-aged college men are exposed to a host of gender-defining scenarios and moments that prove to have meaningful impacts on the overall health of their identity development. The purpose of this study is to analyze, through causal comparative methods, the differences in self-perceived gender role identities between first-year college men and their graduating senior counterparts. The results of this research may provide insights for college administrators in designing and implementing male-centric programming and services designed to help college men in their developmental journey. Data will be collected through the distribution of a proven measurement scale developed by Dr. Jim O'Neil, called the Gender-Role Conflict Scale (GRCS). Through parametric inferential statistics, the data will analyzed to prove or disprove the study's primary hypothesis that as college men progress through and experience college, the overall health of the identity development strengthens.

#### **Predicting Student Misconduct: An Exploratory Statistical Analysis**

Counselor Education & Human Services 4:30 PM-6:30 PM
Graduate Research LTC - Forum

Advisor(s) - Molly A Schaller Student(s) - Patrick C Chenault

The purpose of this study is to examine the relationship between student misconduct and common descriptive variables that can help predict misconduct. The research and idea originated because there are no proactive models that help curb misconduct and specific student rituals on campus. Using this research, it will help determine types of violations that occur during specific times of the year, what academic disciplines have a higher propensity for misconduct, and what types of sanctions have a higher degree of effectiveness in repeated violations. This study used the university conduct software system (PAVE) to examine the relationship between the following variables: type of violation, date of incident, sanction(s), grade point average, academic discipline, location of incident, gender, and other variables that provide a more complete conclusion and relationship to student misconduct.

#### Service-Learning at the University of Dayton

Counselor Education & Human Services 4:30 PM-6:30 PM
Graduate Research LTC - Forum

Advisor(s) - Molly A Schaller

Student(s) - Christina M Hutchison

This study investigates how service-learning is utilized at the University of Dayton, a private, Catholic, Marianist institution in Dayton, Ohio. A document analysis of syllabi for courses that are self-described as service-learning courses by faculty was conducted. This study looks at the prevalence of service-learning throughout different areas of the university. Specific attention is given to how learning outcomes are defined and how these outcomes are assessed.

### **Successful African American Men: Defying the Statistics**

cessful in the areas of education, career advancement, and life in general.

Counselor Education & Human Services 4:30 PM-6:30 PM Graduate Research LTC - Forum

Advisor(s) - Molly A Schaller Student(s) - Christopher McCoy

African American men today are overrepresented in prisons, special education and a host of other categories. This qualitative study explored the life of eight successful African American men who have defied the negative and depressing statistics on African American men. The interviewees include a school board member, state legislator, NPHC alumni chapter president, retired corporate executive, Baptist pastor, two university vice presidents and a federal judge. These men tell how they were successful and give their advice to African American men on how to become suc-

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## The Contributing Factors of Success for First Generation Appalachian College Students

Counselor Education & Human Services 4:30 PM-6:30 PM
Graduate Research LTC - Forum

Advisor(s) - Molly A Schaller Student(s) - Halea A Hatten

The purpose of this study was to examine the factors that make first-generation Appalachian students successful. There is little research on the topic of Appalachian student experiences. To have a better understanding of the factors contributing to success, participants were interviewed from a middle to low socioeconomic status who attended a college in southern Ohio. Participants were asked about study habits, time management skills, services used, accessibility to a mentor, student involvement on campus and in the community, religious outlets, family life/support, friendships, teacher interaction and overall college experience. It is important to have a general understanding of all the attributes that have led to their success as a student. Based on the information collected many of the participants had a similar college experience, family life, and work ethic. All of the participants said they are successful because they have a strong support system, work hard, find a good balance, ask questions, and believe in their abilities. They also stated there is a need for additional resources for first generation Appalachian students because each of them felt unprepared entering into college. In conclusion each participant said that success is based on what makes each individual happy.

#### The Effects and Experience of Job Loss on Displaced Workers

Counselor Education & Human Services 4:30 PM-6:30 PM
Graduate Research LTC - Forum

Advisor(s) - Molly A Schaller Student(s) - Brooke C Parr

This study examined the experiences of those who have been displaced from their place of employment. Literature related to this topic emphasizes the importance American's place on their career, and how over time, career and identity resonate as a shared entity. In addition to learning about the experiences and effects of individual's undergoing job loss, this study aimed to decipher how, if at all, the loss of one's job has impacted their sense of identity. Findings have been gathered through the analysis of individual interviews of participants from the Dayton community and surrounding area. Questions allowed for participants to reflect on their past and present experiences in relation to job loss, work history, challenges, frustrations, support, and plans for the future.

### The Effects of Campus Environment on Interracial Dating

Counselor Education & Human Services 4:30 PM-6:30 PM Graduate Research LTC - Forum

Advisor(s) - Molly A Schaller Student(s) - Nicole S Benkalowycz

The purpose of this study was to acquire a better understanding of students' perceptions and comfort level with interracial dating. It is the aim of the study to isolate specific characteristics of a campus that seem to contribute to a student's comfort level with interracial dating. The literature on the topic shows that conducting research on a college campus is relevant because this environment is one of the first opportunities that young adults may have to constant exposure to peers that are different from themselves. Both students currently in an interracial relationship as well as those who are not were interviewed using a series of questions discussing dating history, perceptions of interracial dating, and what influences their perception. Both undergraduate and graduate students were interviewed. Individual and campus characteristics which seem to impact comfort with interracial dating will be presented.

# The Effects of Different Types of Service-Learning Experiences on Transformative Learning

Counselor Education & Human Services

Graduate Research

Advisor(s) - Molly A Schaller

4:30 PM-6:30 PM

LTC - Forum

Student(s) - Lisa R Elliott

More and more institutions of higher education are coming to see service-learning as an integral component of a liberal arts and whole student education. Within service-learning, there are many different types of experiences in which students can participate. The purpose of this study is to examine the impact of different forms of service learning on transformational learning of college students. Students who participated in service-learning experiences of varying length were interviewed 6 months to 1 year after the completion of their service project. The interviews were meant to get beneath the superficial benefits of participating in service and see if students experienced changes in their perspective and deeper understanding of their place in the world. Students were asked a set of questions regarding their experiences and reflections upon those experiences, in one on one interviews. A document analysis of reflections students completed while engaging in service learning was used as a source for triangulation. Participants for the study were selected from several areas at the University of Dayton completing service learning.

#### The Experiences of Supplemental Instruction Leaders

Counselor Education & Human Services 4:30 PM-6:30 PM Graduate Research ITC - Forum

Advisor(s) - Molly A Schaller Student(s) - Justin H Keen

Supplemental Instruction Leaders, undergraduate students who facilitate supplemental sections for courses with high failure rates, face an array of challenges in fostering the learning of fellow students. This study examined these challenges including being a peer leader and facilitator, constructing lesson plans that allow for emergent learning, balancing the short-term success and long-term learning of students, interpreting and acting on the requests and suggestions of bosses and mentors, and navigating busy schedules. This study synthesized Supplemental Instruction Leader's stories and reflections to describe how they applied learning theory, navigated life demands, moderated between different perspectives of their role, responded to pressures in their environment, and made meaning of their employment experience.

#### **Transfer Perceptions of the Community College Student**

Counselor Education & Human Services 4:30 PM-6:30 PM **Graduate Research** LTC - Forum

Advisor(s) - Molly A Schaller Student(s) - Emily E Moroney

Previous studies on transfer students and their experiences have examined issues relating to academic achievement, retention, degree completion, and engagement. To date, there is little focused research on the topic of transferring students perception of the transfer process and their knowledge of the support systems offered by their sending and receiving institutions. While transfer students come from differing backgrounds and experiences, they share a commonality through their experience(s) in higher education. Similarly, transfer students have consistently shown their ability to survive collegiate life and succeed academically. The field of higher education is continuously evolving and advancing. In our nations current academic climate, more colleges and universities across the United States are experiencing increases in the number of transferring students at their institutions. Sadly, many institutions are not prepared to deal with the influx of incoming transfer students and the support systems that they will need financially, academically, and emotionally. This session serves to investigate the ways that professionals, more specifically professionals at the University of Dayton, can reach this new generation of college students, by asking the question: "How do Community College students who are considering transferring perceive their options?"

### Understanding how student organization presidents view leadership and their preparation for their leadership role.

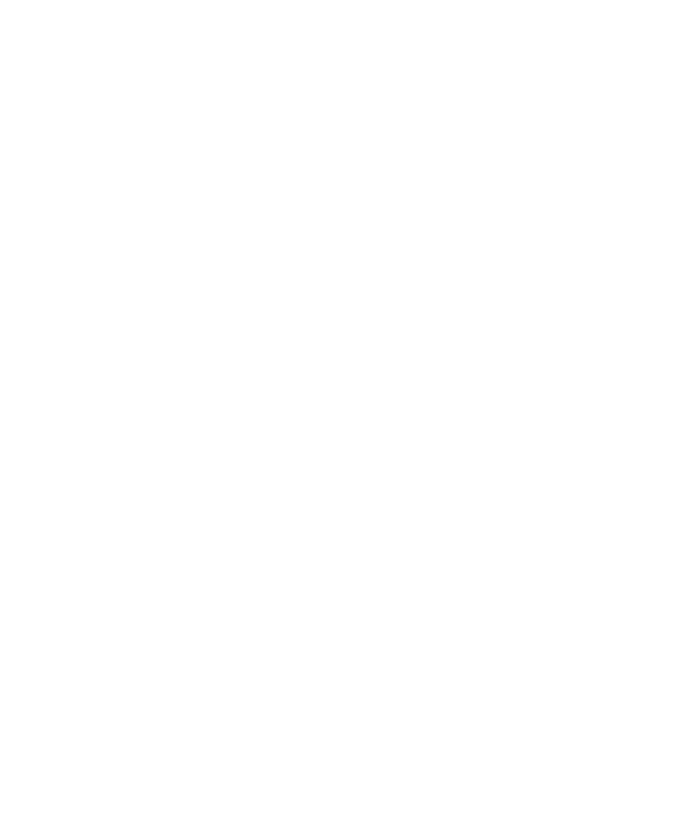
Counselor Education & Human Services 4:30 PM-6:30 PM **Graduate Research** LTC - Forum

Advisor(s) - Molly A Schaller

Student(s) - David T Mattingly

The purpose of this research is to understand how student organization presidents view leadership and to inform leadership training practices for student leaders. The research and the idea stemmed from Komives (1998) relational leadership theory, under the premise that people work better AFTERNOON POSTERS

together and in relation to each other rather than having a power struggle between a leader and a follower. Through this research, institutions will have a sense of the impact of leadership training practices and whether a diagnostic approach to training students would be a stronger model to follow. During the research, 4 students who hold leadership positions here at the University of Dayton were asked questions about their leadership practices and how they were trained. Questions included: What type of leadership training did you receive with your current leadership role?, What are your values that you practice when you lead? and what are some leadership skills you wish you would have learned?



NAME	TITLE	LOCATION/TIME
Abbate, Nicole M (MKT)	Big Brothers/Big Sisters, Big Impact: A Social Justice Learning Living Community Project	KU - Ballroom, 1:30PM-3PM
Abels, Kevin J (FIN, ENT)	The Davis Center for Portfolio Management OverviewMiriam Hal	- 118 (Davis Center), 2:15PM-3:15PM
Abram, Mark A (MEE)	ETHOS: Rocket Stove Research in Pondicherry, India	KU - Ballroom, 11AM-12:30PM
Abram, Mark A (MEE)	Study and Service Abroad - Become a world citizen with the School of Business Administration: Summer Study Abi	oad, Semester Exchange, ETHOS
	(Engineers in Technical Humanitarian Opportunities of Service Learning), and other programsMirian	n Hall - 119 (O'Leary), 2:15PM-3:15PM
Abron, Jocelyn R (EES)	Career Outlook: Future First Jobs in Health and Sport Science Careers	KU - Ballroom, 3:30PM-5PM
Abueida, Atif A	Decompositions of Complete Graphs into Cycles and Stars	KU - Ballroom, 9AM-10:30AM
	The History of Physical Education-Activity and Sport: Stories for the Ages and Lessons from the Legends of Memor Men, Their Teams and Times: Semester V	
	College Age Grief Differentiation Scale	
	Taken: An Examination of the Growth and Prevalence of Human Trafficking in the United States, With a Focus on Oh	
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	Best and Worst: Making Food Choices from Places On and Off Campus	
	The Effectiveness of a Personalized Peer Physical Education Program (PPPEP) on the Health Related Physical Fitnes	
	e Ellectiveness of a reisonalized reef rhysical Ludcation Floyfalm (FFFF) on the fleatin helated rhysical rities	
Akin, Kathryn A (HRS)	Current Topics in Global Governance #1: Human Rights Issues Today	Marianist Hall - 217, 9AM-10:30AM
	Africa Immersion and the University of Dayton Vision of Excellence	
	The Other Child: The Perceived Stress Level of Siblings of Individuals with Developmental Disabilities	
	Using a Mental Rotation Task to Assess Overconfidence, Narcissism and Gender Biases	
Alfieri, James M (BIO)	Successional Characteristics of Calliphoridae Colonization on Sus scrofa	KU - 331, 2:20PM-2:40PM
Alghazal, Mohammed H (MIS)	RUSH Transport MIS Senior Project	Miriam Hall - 104, 3:30PM-4:30PM
Alissa, Huthaifa A (ELE)	Position-Adaptive Multiplatform Control for RF Measurement Applications	KU - Ballroom, 9AM-10:30AM
Allen, John T (MEE)	Globalization and Its Discontents	Miriam Hall - 109, 9AM-5PM
Allison, David K (VCD)	Visual Identity: Visual Personality in a Distinct Corporate Culture	KU - Torch Lounge, 9AM-5PM
Allison, David K (VCD)	Visual Identity: Visual Personality in a Distinct Corporate Culture	KU - Torch Lounge, 1PM-2PM
Allison, Eric M (ACC)	Globalization and Its Discontents	Miriam Hall - 109, 9AM-5PM
Amin, Julius A	Africa Immersion and the University of Dayton Vision of Excellence	KU - 312, 9AM-10:30AM
Anderson, David P	Characterization of the Microstructure and Physical Properties of Several Carbon Nanotube Yarns	KU - Ballroom, 11AM-12:30PM
	Comparing Macroinvertebrate Community Composition between Riffles and Runs	
	Five Year Monitoring Program to Assess Development of Wetland Mitigation Sites at Hobart Urban Nature Preserve	
Antony, Alex K (GER, INS)	Power, Margins, and Magic: The Islamic Society of Greater Dayton	LTC - TeamSpace, 3:30PM-4PM
Apolito, Timothy F	Civilian Corrections and Military Corrections: What Can We Learn From Their Processes	St. Joseph's Hall - 023, 10AM-11AM
Apolito, Timothy F	Should Plea Bargaining be Abolished?	St. Joseph's Hall - 023, 11AM-12PM
Appikatla, Susmitha (MAT)	Determination of Fatique life of a Medium scale carbon fiber Wind turbine blade	KU - 207, 3PM-3:30PM
Arata, Joseph J (EES)	Future Careers: Outlook For Personal Trainers, Physical Therapists, and Exercise Physiologists	KU - Ballroom, 3:30PM-5PM
Arezina, Anne E (SPN, INS)	Globalization and Its Discontents	Miriam Hall - 109, 9AM-5PM
Arko, Megan E (INB, FIN)	Flyer Enterprises: Entrepreneurship in Action	Miriam Hall - 103, 2:15PM-3:15PM
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	The Effectiveness of Nutrition Education on the Knowledge and Behavior of College-Level Varsity Athletes	
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	Signal Quality Based Comparison Of Dem And Beet Linearization Techniques For Flash Analog-To-Digital Converter	
	Globalization and Its Discontents	
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	Colonization	
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	A Look to the Future: The Field of Physical Therapy in Two to Five Years	
	A Look to the Future: The Field of Physical Therapy in Two to Five Years	
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	Trademark Design	
	The Moral Gap: A Search for Moral Consistency	
	Big Brothers/Big Sisters, Big Impact: A Social Justice Learning Living Community Project	
	Human Trafficking: An In Depth Examination of All Forms of Labor Trafficking at Global, National, and Local Level	
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	Hydrology Effects on Invertebrate Communities in Artificial and Natural Vernal Pools	
	Initial dispersal and upstream migration of a tropical neritid snail: Implications for restoring migratory pathways	
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Benin, Vladimir A	Aromatic Boronic Acids as Flame Retardants for Polyurethane Foams: Design and Synthesis	KU - Ballroom, 9AM-10:30AM
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Benin, Vladimir A	Synthesis and Characterization of Polymer Electrolyte Material for High Temperature Fuel Cells	KU - Ballroom, 11AM-12:30PM
Benkalowycz, Nicole S (ECP)	The Effects of Campus Environment on Interracial Dating	LTC - Forum, 4:30PM-6:30PM
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Bidwell, Matthew J (VCD)	Visual Identity: Visual Personality in a Distinct Corporate Culture	KU - Torch Lounge, 1PM-2PM
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Bilocerkowycz, Sonya L (ENG)	Creative, Analytic, and Visual Engagements with Literature: Honors Theses in English	KU - 310, 10AM-11AM

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NAME	TITLE	LOCATION/TIME
Bissmeyer, Sara L (MKT, OPS)	OPERATIONS MANAGEMENT CAPSTONE PROJCTS - PART 3 (OF 3)	Miriam Hall - 104, 2:15PM-3:15PM
Black, Andrew D (THE)	John Nevin's "Eccentric" Mercersburg Theology:  Incarnational Theology in the "New Order of the Ages"	KU - 311, 11AM-11:30AM
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Blakeley, William B (HRS)	Current Topics in Global Governance #1: Human Rights Issues Today	Marianist Hall - 217, 9AM-10:30AM
Blakeley, William B (HRS)	Female Genital Cutting: A Human Rights Issue?	St. Joseph's Hall - 013, 10:30AM-11AM
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	AFPAK Strategic Assessment: Evolution of U.S. Strategy and Recommendations for Future Operations	
	Giving Birth and Colonization; A Visual Representation	
Blike, Craig J (ESM)	Hazing Policies and Prevention in High School Athletics	KU - Ballroom, 9AM-10:30AM
Blystone, Allissa M (BIO)	Influence of Diet on the Growth and Survival of the Green Bottle Fly, Lucilia sericata	KU - Ballroom, 9AM-10:30AM
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Bodart, Adeline M (ACC)	Modeling Excess Returns And Price Performance for UD Flyer Fund Stocks	KU - Ballroom, 9AM-10:30AM
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Boehnlein, James M	Hero-Glyphics: Postmodern Effects on Campbell' Monomyth Through Contemporary Graphic Novels	Marianist Hall - Commons, 1PM-2PM
Boehnlein, Thomas R (CPS)	Mobile Mumbling: Improving Voice to Text Correction for Android Devices	KU - Ballroom, 9AM-10:30AM
Boggus, Hannah M (PSY)	Forbidden Relationships and Betrayed Trust	KU - Ballroom, 11AM-12:30PM
Bogusz, Annamarie P (PHO)	Photography Capstone Projects	ArtStreet - Studio B, 10:30AM-12PM
Bogusz, Annamarie P (PHO)	Types of Human Trafficking: An Explanation of Child Soldiers and Child Sex Trafficking	KU - Ballroom, 1:30PM-3PM
Bornhorst, Zachary J (CEE)	2011 Civil Engineering Senior Capstone Project: Southwest Campus Expansion	KU - Boll Theatre, 8:30AM-12:30PM
Boston, Matthew M (VCD)	Trademark Design	KU - Torch Lounge, 9AM-5PM
Boston, Matthew M (VCD)	Trademark Design	KU - Torch Lounge, 1PM-2PM
Bowling, Elizabeth M (EIS)	How Social Movements Progress: The Environmental Movement	KU - Ballroom, 1:30PM-3PM
Box, Alexander A (CJS)	Graffiti Gangs: Criminal Intent or Another Motive?	St. Joseph's Hall - 023, 3PM-4PM
Boykin, Jordan P (EES)	A Look to the Future: The Field of Physical Therapy in Two to Five Years	KU - Ballroom, 3:30PM-5PM
Boyle, Jacqueline J (CMM, ENG)	Who are Modern Day Slaves: A Discussion of Vulnerabilities and Demand	St. Joseph's Hall - 013, 2PM-2:30PM
Brackman, Christopher A (MEE) .	Exploring Italian Art, Culture and Spirituality	Alumni Hall - 101, 3PM-4PM
Brackman, Christopher A (MEE) .	The Case for Sustainable Land Management: An Argument for Implementation of an Arboretum and Prairie	KU - Ballroom, 9AM-10:30AM
Brady, Kerry K (EPT)	Plunge Into Health Care: A Social Justice Learning and Living Community Project	KU - Ballroom, 1:30PM-3PM
	NorthAMerica Major Sports Teams is Big Business: All Cities are not Equal	
Braner, Joseph G (BIO)	Ecological restoration of the terrestrial environment can influence aquatic ecosystems: a test using the ubiqu	itous non-native invasive shrub Lonicera
	macackii (Amur honeysuckle)	KU - Ballroom, 1:30PM-3PM
Brasdovich, Jeffrey P (OPS)	OPERATIONS MANAGEMENT CAPSTONE PROJCTS - PART 3 (OF 3)	Miriam Hall - 104, 2:15PM-3:15PM
Brewer, Megan J (MUT)	The Effect of Pre-Meal, Vocal Re-Creative Music Therapy on the Nutritional Intake of Residents with Alzheime	r's Disease and Related Dementias: A
	Randomised Trial	KU - Ballroom, 9AM-10:30AM
Broge, Andrea M (INB, OPS)	Globalization and Its Discontents	Miriam Hall - 109, 9AM-5PM
Brooke, Sara K (SOC)	Affects of Suburbanization: Are Major Cities Affected more by Suburbanization, Compared to Minor Cities	KU - Ballroom, 1:30PM-3PM
Brown, Denise C (WGS)	Experiences of Incarcerated Women	KU - Ballroom, 11AM-12:30PM
Brown, Eleanore L (SOC)	Poverty and Racial Segregation in two approaches to public housing	St. Joseph's Hall - 025, 9AM-9:30AM
Brown, Shayne M (EES)	Career Outlook: Future First Jobs in Health and Sport Science Careers	KU - Ballroom, 3:30PM-5PM
Brown, Stephen (ENG)	And the Tape Goes On: Video Cameras and the Panopticon Theory	LTC - TeamSpace, 1PM-1:30PM
	Filter Feeding Mechanisms: Examples from the Mollusks and Arthropods	•
	Characterization of the Microstructure and Physical Properties of Several Carbon Nanotube Yarns	
	Single Wall Carbon Nanotube Chirality Enrichment Using DNA	
	Africa Immersion and the University of Dayton Vision of Excellence	
Buckingham, Alyssa L (EHA)	The Effectiveness of a Personalized Peer Physical Education Program (PPPEP) on the Health Related Physical I	Fitness of Selected College Age Students
	The Evolving Role of Women in the Army in the Post-9/11 World	
	Dayton's Global Immigrant History	
Buha. Nickolas C (OPS)	OPERATIONS MANAGEMENT CAPSTONE PROJCTS - PART 3 (OF 3)	Miriam Hall - 104, 2:15PM-3:15PM
Burke, Douglas J (EPT)	.The Effectiveness of a Personalized Peer Physical Education Program (PPPEP) on the Health Related Physical I	Fitness of Selected College Age Students
	Comparing Macroinvertebrate Community Composition between Riffles and Runs	
•	Filter Feeding Mechanisms: Examples from the Mollusks and Arthropods	
	Initial dispersal and upstream migration of a tropical neritid snail: Implications for restoring migratory pathy	
Burky, Albert J	The effect of stream diversions on upstream and downstream Trichoptera and Chironomidae populations in t	he West Maui Mountains, Hawaii
	Visual Identity: Visual Personality in a Distinct Corporate Culture	
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Burt, Kaitlin C (VCD)	Visual Identity: Visual Personality in a Distinct Corporate Culture	KU - Torch Lounge, 1PM-2PM
	The History and Implementation of Take Back the Night	
Busch, Arthur H	9th Annual Integration Bee	Science Center - 255, 1PM-3PM
Busch, Arthur H	Integration Bee Luncheon	Science Center - Atrium, 12PM-1PM
	Maximizing Social Welfare in a Stackelberg Duopoly Game	
Buse, Matthew J (FIN, ECB)	Weighting S&P 500 Sectors: A Relative Valuation Approach	KU - Ballroom, 9AM-10:30AM
	Coherent Imaging	
Butcher, Cory M (OPS, LDR)	OPERATIONS MANAGEMENT CAPSTONE PROJECTS - PART 2 (OF 3)	Miriam Hall - 104, 1PM-2PM
Butts, John C (BIO)	The molecular mechanisms of Drosophila pigmentation gene network structure and evolution	KU - Ballroom, 1:30PM-3PM
Cable, David A (EEP)	The Effectiveness of a Personalized Peer Physical Education Program (PPPEP) on the Health Related Physic	al Fitness of Selected College Age Students
	-	KU - Ballroom, 3:30PM-5PM
	Panel Discussion with honorary degree recipient Dr. Philip Gleason: What Was Life Like at UD 50 Years Ago	
Cain, Joshua S (MTH)	Coarser Pathwise-Connected Topologies of Metric Spaces	KU - Ballroom, 11AM-12:30PM
Caldwell, Sean B (OPS)	OPERATIONS MANAGEMENT CAPSTONE PROJECTS - PART 2 (OF 3)	Miriam Hall - 104, 1PM-2PM
Caltabiano, Scott J (CEE)	2011 Civil Engineering Senior Capstone Project: Southwest Campus Expansion	KU - Boll Theatre, 8:30AM-12:30PM
Camerota, Catherine G (ECB, FIN)	) .Weighting S&P 500 Sectors: A Relative Valuation Approach	KU - Ballroom, 9AM-10:30AM
Camino, Eric M (BIO)	Elucidating the Role of Cis-regulatory Element Interactions in Development and Evolution	KU - Ballroom, 1:30PM-3PM
Capka, Joseph J (INB, FIN)	Does Quality Matter?	KU - Ballroom, 9AM-10:30AM
Capka, Joseph J (INB, FIN)	Relative Valuation And Stock Selection: Analysis of the UD Flyer Fund 2010-2011	Miriam Hall - 118 (Davis Center), 1PM-2PM
Cardwell, Sean A (EYA)	A General Risk Assessment of Nuclear Waste Repositories	KU - Ballroom, 1:30PM-3PM
Carew, Brian B (CMM)	Global Media Almanac	KU - Ballroom, 1:30PM-3PM
Carlson, Marybeth	Liberty, Equality, Fraternity, and Secularism: French Politics and the Ban of Face-Covering Islamic Veils	KU - 207, 11:30AM-12PM
Carlson, Marybeth	The Origins and Life of the Anti-Vietnam Movement	KU - Ballroom, 1:30PM-3PM
	Career Fields of Physical Therapy and Exercise Science Projected 10 Years Into the Future	
Carter, Michael S	Church and State: The Catholic Church and Abortion Legislation in the United States and Spain	LTC - Forum, 11:30AM-12PM
	Engineering and the Development of Middle School Education	
	Child Abuse: A Definition through aspiring Professionals' Eyes	
Cassiman, Shawn A	Say Cheese: The Effect of Dental Appearance on Self Esteem, Sociability, and Employability	St. Joseph's Hall - 025, 9:30AM-10AM
Castell, Gregory J (FIN)	Do Dividends Matter?	KU - Ballroom, 9AM-10:30AM
Castellano, Joseph F	Lean Hospitals: An Examination of the Obstacles to Implementation	Miriam Hall - 101, 1PM-2PM
Castle, Courtney E (PSY)	Advanced Spatial Audio Cueing for Large-Screen Displays	KU - Ballroom, 11AM-12:30PM
Castrataro, Patrisha M (ACC, FIN)	Modeling Excess Returns And Price Performance for UD Flyer Fund Stocks	KU - Ballroom, 9AM-10:30AM
	Lending Å Helping Hand	
	Dayton's Global Immigrant History	
Cesario, Robert J (EPT)	The History of Physical Education-Activity and Sport: Stories for the Ages and Lessons from the Legends o	f Memorable Moments, Famous Women and
	Men, Their Teams and Times: Semester V	KU - Ballroom, 3:30PM-5PM
Chaffin, Christina M (CMM)	Gendered Representations through News Media	Marianist Hall - Commons, 9:30AM-10AM
Chalupa, Allison L (BIO, PSY)	The Role of Galectin-3 in Melanization	KU - Ballroom, 11AM-12:30PM
	) .Blowing Smoke: The Rhetoric Surrounding the Social Movement to Legalize Marijuana	
	Flyer Consulting: Non-Profit Business Solutions	
	Study and Service Abroad - Become a world citizen with the School of Business Administration: Summer S	
	(Engineers in Technical Humanitarian Opportunities of Service Learning), and other programs	
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,	Predicting Student Misconduct: An Exploratory Statistical Analysis	•
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	Child Abuse: A beliniuon through aspiring Professionals Eyes	
	Inventory of Substance Dependency and Criminal Behavior	
	A New Method of Generating Electricity Using Pseudomonas aeruginosa in a Microbial Fuel Cell	
	Biochemical characterization of hyperthermophilic enzymes involved in cellulose processing	
	Surfing the Web: Immigration in the Internet Age	
	Two Essays on Economic Growth	
	Creative, Analytic, and Visual Engagements with Literature: Honors Theses in English	
, , , , ,	The Effectiveness of a Personalized Peer Physical Education Program (PPPEP) on the Health Related Physic	
	The Effectiveness of Nutrition Education on the Knowledge and Behavior of College-Level Varsity Athletes	
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	Mobile Mumbling: Improving Voice to Text Correction for Android Devices	
	Are We Teaching Children to Engage in Sexual Behaviour?	
	Creating Opportunity: Remodeling Black Male Academic Achievement	
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	Flyer Consulting: Non-Profit Business Solutions	
	Forbidden Relationships and Betrayed Trust	
	Removal of a Bittering Agent Potentially Released to Water Supplies: Implications for Drinking Water Trea	
Crum, Roger J	Abstraction and Minimalism: Selected Works from the Dicke Collection and the Faculty of the Department	t of Visual Arts, University of Dayton
	, '	O'Reilly Hall - Conference Room, 9AM-10AM
Crum, Roger J	Architecture Now History: The Caldwell Street Center at the University of Dayton	Rike Center - 206, 1PM-2PM
Crum, Roger J	O'Reilly Hall: Administrative Center and Art Space	illy Hall - Conference Room, 10:30AM-11:30AM
Crum, Stephen P (EPT)	A Look to the Future: The Field of Physical Therapy in Two to Five Years	KU - Ballroom, 3:30PM-5PM
Cummerlander, Lauren M (SOC).	Creating A Multiracial Identity	KU - Ballroom, 1:30PM-3PM
Cummings, Lindsey E (INS, HST).	Dayton's Global Immigrant History	Marianist Hall - Commons, 10:30AM-12PM
Cummins, Moira C (EHA)	The Effectiveness of a Personalized Peer Physical Education Program (PPPEP) on the Health Related Physic	cal Fitness of Selected College Age Students
		KU - Ballroom, 3:30PM-5PM
Cunningham, Sean M (LDR)	Globalization and Its Discontents	Miriam Hall - 109, 9AM-5PM
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	Men, Their Teams and Times: Semester V	
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	Do you really favor the Death Penalty? a research proposal	
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,	ETHOS Cameroon: A Comprehensive Pre-travel Report	
,	ETHOS Immersion to India: Solar Alternatives	
,	ETHOS: Rocket Stove Research in Pondicherry, India	•
	Coherent Imaging	
	Hazing Policies and Prevention in High School Athletics	
	And the Tape Goes On: Video Cameras and the Panopticon Theory	
Dasgupta, Simanti	Magical Margins	LTC - TeamSpace, 2PM-3PM

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	Power, Margins, and Magic: The Islamic Society of Greater Dayton	
	The Authority of the Law and State Through the Scope of Political Revolution and Shifting Margins	
	Pediatric Traumatic Brain Injury: Best Practices for Return to School and Play	
	Teacher Knowledge of Traumatic Brain Injury	
	TRAUMATIC BRAIN INJURY: THE EFFICACY OF A TARGETED TRAINING IN OHIO	
	telligence MIS Senior Project	
	The mutational and molecular paths underlying the repeated evolution of a cis-regulatory element generating morph	
	Advanced Spatial Audio Cueing for Large-Screen Displays	
Davis, Susan T	Is It Worth The Risk? : Assessing the Effects of Task on Confidence	KU - Ballroom, 1:30PM-3PM
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	Pleasingness of Faces: The Role of Handedness and Symmetry in Facial Preferences	
	Reducing Overconfidence: The Effects of Instruction Type and Task Difficulty on Calibration	
	The Effects of Facial Attractiveness and Symmetry on Glance Behavior	
	Using a Mental Rotation Task to Assess Overconfidence, Narcissism and Gender Biases	
	Vigilance: The Effects of Direction, Duration, and Focus of Attention on Monitoring Tasks	
	A General Risk Assessment of Nuclear Waste Repositories	
	Twenty First Century Music for Saxophone Quartet Exploring Italian Art, Culture and Spirituality	
	Big Believers in Big Brothers Big Sisters: A Social Justice Learning Living Community Project	
	Creating Alpha in Exchange Traded Funds (ETFs): An Empirical Analysis of the Impact of Valuation Weighting and Reba	,
	mance 2009 to 2010	
	Creating Alpha using Valuation-Based Portfolios: An Empirical Analysis 2008-2010	
	Developing Concentrated Portfolios of S&P 500 Stocks Based on Growth and Return Metrics for 2008-2010	
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Dean, Robert D	Does Quality Matter?	KU - Ballroom, 9AM-10:30AM
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	). Twenty First Century Music for Saxophone Quartet	
	The Effect of Silver Nanoparticles on the Bacteria and Plants Essential to the Global Nitrogen Cycle	
Dempsey, Katherine G (BUS)	Study and Service Abroad - Become a world citizen with the School of Business Administration: Summer Study Abroa (Engineers in Technical Humanitarian Opportunities of Service Learning), and other programsMiriam Ha	d, Semester Exchange, ETHOS
Denk, Sarah E (EPT)	The History of Physical Education-Activity and Sport: Stories for the Ages and Lessons from the Legends of Memorabl Men, Their Teams and Times: Semester V	e Moments, Famous Women and
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	The Moral Gap: A Search for Moral Consistency	
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Dewolfe, Jerica T (INS)	Types of Human Trafficking: An Explanation of Forced Labor and Sex Trafficking	KU - Ballroom, 1:30PM-3PM
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Dicarlo, Teresa (EES)	Career Outlook: Future First Jobs in Health and Sport Science Careers	KU - Ballroom, 3:30PM-5PM

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ietrich, Maryanne E (OPS)	.OPERATIONS MANAGEMENT CAPSTONE PROJCTS - PART 3 (OF 3)	Miriam Hall - 104, 2:15PM-3:15P
imartile, Jessica M (VCD)	Trademark Design	KU - Torch Lounge, 9AM-5P
imartile, Jessica M (VCD)	Trademark Design	KU - Torch Lounge, 1PM-2P
ling, Lin (MAT)	A field electron emission study of carbon nanotubes grown on carbon fabrics	KU - 207, 10:30AM-11A
Direnzi, Nicholas J (MEE)	The Use of Elastically-Based Mechanical Energy Storage in Motor Vehicles	KU - Ballroom, 11AM-12:30P
ixon, Lee J	Relationship between Attachment and Depression; Mediating Factors	KU - Ballroom, 9AM-10:30A
ixon, Lee J	Religiosity, Forgiveness, and Mediating Factors	KU - Ballroom, 11AM-12:30P
oench, Meredith L	A Weekend Breakout: Solidarity in Salyersville	KU - Ballroom, 1:30PM-3P
oench, Meredith L	Big Believers in Big Brothers Big Sisters: A Social Justice Learning Living Community Project	KU - Ballroom, 1:30PM-3P
oench, Meredith L	Big Brothers/Big Sisters, Big Impact: A Social Justice Learning Living Community Project	KU - Ballroom, 1:30PM-3P
oench, Meredith L	Commitment to Community: A Social Justice Learning Living Community Project	KU - Ballroom, 1:30PM-3P
oench, Meredith L	Creating a Voice for the Voiceless: a Social Justice Learning and Living Community Service Project	KU - Ballroom, 1:30PM-3P
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oench, Meredith L	Lending A Helping Hand	KU - Ballroom, 1:30PM-3P
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oench, Meredith L	Planting the Seeds of Character One at a Time: A Social Justice Learning Living Community Project	KU - Ballroom, 1:30PM-3P
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	Weekend Warriors in the Fight for Social Justice: A Social Justice Learning and Living Community Service Projec	
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Oonaldson, Steven L	.Determination of Fatigue life of a Medium scale carbon fiber Wind turbine blade	KU - 207, 3PM-3:30P
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Oonnelly, Patrick K (PSY)	Types of Human Trafficking: An Explanation of Forced Labor and Sex Trafficking	KU - Ballroom, 1:30PM-3P
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	Impact of Facebook on Behavior Expectations of First-year College Students	
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	Career Fields of Physical Therapy and Exercise Science Projected 10 Years Into the Future	
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Ellis, Katharine M (PSY)	Lending A Helping Hand	KU - Ballroom, 1:30PM-3P
ndress, Scott R (ACC)	Study and Service Abroad - Become a world citizen with the School of Business Administration: Summer S	tudy Abroad, Semester Exchange, ETHOS
	(Engineers in Technical Humanitarian Opportunities of Service Learning), and other programs	Miriam Hall - 119 (O'Leary), 2:15PM-3:15P
ingle, Lindsey A (INS, POL)	Globalization and Its Discontents	Miriam Hall - 109, 9AM-5P
nlow, Paul T (PSY)	College Age Grief Differentiation Scale	KU - Ballroom, 1:30PM-3F
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ioricio, miviariua L (IIV), SUC)	intough the dolden book. Exploining the integration of fragiliteingees in the officer states	

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ischer, Adam J (MEE)	Engineering and the Development of Middle School Education	KU - Ballroom, 1:30PM-3
isher, Kevin E (RCL)	Study and Service Abroad - Become a world citizen with the School of Business Administration: Summer Stu	dy Abroad, Semester Exchange, ETHOS
	(Engineers in Technical Humanitarian Opportunities of Service Learning), and other programs	
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ithen, Ashley L (VCD)	Visual Identity: Visual Personality in a Distinct Corporate Culture	KU - Torch Lounge, 1PM-2
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lynn, Lauren N (PSY)	Sports Participation and College Adjustment Questionnaire	KU - Ballroom, 1:30PM-3
	The Impact of Conceal Carry Permits on Crime	
orbis, Jeremy S	Urban Sprawl and Public School Funding in the Dayton Region	St. Joseph's Hall - 025, 11:30AM-12
ormentini, Andrew L (EDC)	Clinton Global Initiative University (CGIU): The Future of Student Activism	LTC - Studio, 10AM-10:30
orquer, Joel J (FIN, ECB)	Relative Valuation And Stock Selection: Analysis of the UD Flyer Fund 2010-2011	Miriam Hall - 118 (Davis Center), 1PM-2
ouke, Daniel C	Importance of Tree Advocacy at the University of Dayton	KU - Ballroom, 1:30PM-3
ouke, Daniel C	The Case for Sustainable Land Management: An Argument for Implementation of an Arboretum and Prairie.	KU - Ballroom, 9AM-10:30
oy, Kaitlin M (INS)	Afghanistan-Pakistan Strategic Assessment	KU - Ballroom, 11AM-12:30
rancis, Kaitlyn R (EPT)	Career Fields of Physical Therapy and Exercise Science Projected 10 Years Into the Future	KU - Ballroom, 3:30PM-5
reeman, Ian T (HST)	Dayton's Global Immigrant History	Marianist Hall - Commons, 10:30AM-12
	Synthesis and Characterization of Polymer Electrolyte Material for High Temperature Fuel Cells	
	Commitment to Community: A Social Justice Learning Living Community Project	
	Review and Comparison of Blood Lipid Profile Data for Healthy, Young Adults to Current Literature	
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abrielli, Timothy R (THL)	The Mediating Body: Louis-Marie Chauvet and the Depths of Corporality	KU - 311, 10AM-10:30
affney, Kathleen M (CMM, VAR)	.Creating a Voice for the Voiceless: a Social Justice Learning and Living Community Service Project	KU - Ballroom, 1:30PM-3
ahimer, Erin L (SPN, SOC)	e Habla Espa Ingl's?: The Effects of Language Brokering on Latino Youth inAMerica	KU - Ballroom, 1:30PM-3
aieb, Zied (CME)	Biochemical characterization of hyperthermophilic enzymes involved in cellulose processing	KU - Ballroom, 9AM-10:30
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ianote, Marvin D	A Look to the Future: The Field of Physical Therapy in Two to Five Years	KU - Ballroom, 3:30PM-5
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eiger, vonaig K	The Environment of Campus: The Past, Present and Future of Water Management and the University of Dayto	onScience Center - 114, 11AM-12

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	Using a Genetic Algorithm to Evolve a D* Search Heuristic	
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Group, Steven J (OPS)	Globalization and Its Discontents	Miriam Hall - 109, 9AM-5PM
Gruber, Joseph K (HRS)	Current Topics in Global Governance #2: Security, Environmental, and Development Challenges Today	Marianist Hall - 217, 10:30AM-12PM
Grundtisch, Benjamin D (EES)	The Future Outlook of Physical Therapy and Nutrition Careers	KU - Ballroom, 3:30PM-5PM
Grundy, Miles T (ENT, MKT)	The Sophomore Entrepreneurship Experience	Miriam Hall - 103, 10:30AM-11:30AM
Grzeszczak, Andrea L (EES)	The Heal and Helping Hand of Physical Therapy	KU - Ballroom, 3:30PM-5PM
Gucik, Max A (INB, FIN)	Globalization and Its Discontents	Miriam Hall - 109, 9AM-5PM
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lammer, Matthew J (CJS, SOC)	American Street Gangs: Who's Joining and Why?	St. Joseph's Hall - 025, 10:30AM-11A
an, Wei (EOP)	Generation of Cylindrical Polarization with Concentric Metallic Rings Fabricated on Optical Fiber End	KU - Ballroom, 9AM-10:30A
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	Oyster Hemocyte Crystal Deposition for Development of Biocompatible Implant Coatings	
	.The Role of Sex in the Gustatory Response of the Blowfly, Lucilia sericata, to Sugars and Decomposition RelatedA	
	Hydrogeologic Investigations at the Silver Lake Wetland Site	
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arawa, Solani T (BIO)	.Human Spatial Relations	KU - Ballroom, 1:30PM-3P
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laritashya, Umesh K	.Environmental Impact of Surging Glaciers	KU - Ballroom, 1:30PM-3P
larris, Alexandria C (EPT)	Pediatric Traumatic Brain Injury: Best Practices for Return to School and Play	KU - Ballroom, 11AM-12:30P
lart, Joseph M (EES)	.The Effectiveness of a Personalized Peer Physical Education Program (PPPEP) on the Health Related Physical Fitn	ess of Selected College Age Students
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lart, Patricia M	Attention Deficit Hyperactive Disorder Defined and How Teachers Can Manage It Within the Classroom	KU - Ballroom, 3:30PM-5P
lartley, Jerika S (VCD)	.Visual Identity: Visual Personality in a Distinct Corporate Culture	KU - Torch Lounge, 9AM-5P
artley, Jerika S (VCD)	.Visual Identity: Visual Personality in a Distinct Corporate Culture	KU - Torch Lounge, 1PM-2P
artmann, Megan K (PSY)	Globalization and Its Discontents	Miriam Hall - 109, 9AM-5P
lartnett, Aubrey M (SPN, INS)	Church and State: The Catholic Church and Abortion Legislation in the United States and Spain	LTC - Forum, 11:30AM-12P
latch, Derek C (THE)	Faith and Reason: The Contemporary Significance of the 1930s Debate Concerning Christian Philosophy	KU - 311, 10:30AM-11A
latten, Halea A (ECP)	The Contributing Factors of Success for First Generation Appalachian College Students	LTC - Forum, 4:30PM-6:30P
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laynes, Nicholas D (PHL)	Current Research on Quantum Correlations and Implications for NMR Quantum Computing	KU - Ballroom, 11AM-12:30P
leck, Zachary S (PHL, ENG)	Hero-Glyphics: Postmodern Effects on Campbell' Monomyth Through Contemporary Graphic Novels	Marianist Hall - Commons, 1PM-2P
leine, Darcy C (PHO)	Photography Capstone Projects	ArtStreet - Studio B, 10:30AM-12P
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leitkamp, Brenda M (VCD)	Visual Identity: Visual Personality in a Distinct Corporate Culture	KU - Torch Lounge, 1PM-2P
lendershott, Tyler H (MEE)	Engineering and the Development of Middle School Education	KU - Ballroom, 1:30PM-3P
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lentz, Jonathan A	Overconfidence in Administrative and Management Positions	KU - Ballroom, 11AM-12:30P
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1111, LITIUSAY IVI (1143)		KU - 207, 9:30AM-10A

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Hirakawa, Keigo	Spatially Non-Uniform Blur Analysis Based on Wavelet Transform	KU - 207, 9AM-9:30AM
	Single Wall Carbon Nanotube Chirality Enrichment Using DNA	
Hobbs, Molly K (ACC)	Dayton's Global Immigrant History	Marianist Hall - Commons, 10:30AM-12PM
Hoefert, Gregory M (FIN, ENT)	The Davis Center for Portfolio Management Overview	Miriam Hall - 118 (Davis Center), 2:15PM-3:15PM
Hoffacker, Laura A (ACC)	Life Outside of the University of Dayton Bubble: A Social Justice Living Learning Community Project	Marianist Hall - 218, 11AM-12PM
Hoffman, Kevin M (MEE)	Engineering and the Development of Middle School Education	KU - Ballroom, 1:30PM-3PM
	Supercapacitors Based on Carbon Nanotube Fuzzy Fabric Technology	
Holdmeyer, Sean O (UBU)	Flyer Enterprises: Entrepreneurship in Action	Miriam Hall - 103, 2:15PM-3:15PM
Holdmeyer, Stephen A (ELE)	Weekend Warriors in the Fight for Social Justice: A Social Justice Learning and Living Community Serv	rice ProjectKU - Ballroom, 1:30PM-3PM
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	The Effect of Silver Nanoparticles on Mouse Embryonic Stem Cell Gene Expression	
, J	Vanadium (IV)/Ruthenium (II)/Cobalt (II) Complexes as Photosensitizer for Melanoma Cancer treatme	•
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	Men, Their Teams and Times: Semester V	
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oson, Arthur J	Gangs in New York: Immigration and Customs Enforcements Involvement Through Gang Prevention and Crin	ne Control St. Joseph's Hall - 023, 1PM-2PM
pson, Arthur J	Graffiti Gangs: Criminal Intent or Another Motive?	St. Joseph's Hall - 023, 3PM-4PM
pson, Arthur J	Modern Technology and it's Effects on Child Predators	St. Joseph's Hall - 023, 2PM-3PM
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ohnston, William H	Creating a Voice for the Voiceless: a Social Justice Learning and Living Community Service Project	KU - Ballroom, 1:30PM-3PN
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usepii, Koderi M	Carbon Engineered Scaffolds May Provide an Optimum Balance ofÅ Biologic and Mechanical Properties for U	ise iii ienaon kepair surgery

NAME	TITLE	LOCATION/TIME
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Kirn, Melyssa M (VCD)	•	
Kirn, Melyssa M (VCD) Kirn, Melyssa M (VCD)	Trademark Design	KU - Torch Lounge, 1PM-2PM

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	Improvisation: Exploring the Sonic Now	
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ling, Crista A (PHO)	Photography Capstone Projects	ArtStreet - Studio B, 10:30AM-12PI
	Dayton's Global Immigrant History	
Cohrman, Mark R (ECO)	Globalization and Its Discontents	Miriam Hall - 109, 9AM-5PI
olick, Allison L (PSY)	Religiosity, Forgiveness, and Mediating Factors	KU - Ballroom, 11AM-12:30P/
	The Effectiveness of a Personalized Peer Physical Education Program (PPPEP) on the Health Related Physical	
Cowal, Tyler A (VCD)	Visual Identity: Visual Personality in a Distinct Corporate Culture	KU - Torch Lounge, 9AM-5PI
Cowal, Tyler A (VCD)	Visual Identity: Visual Personality in a Distinct Corporate Culture	KU - Torch Lounge, 1PM-2P/
Cowalski, Andrew R (INS)	. The Environment of Campus: The Past, Present and Future of Water Management and the University of Da	ytonScience Center - 114, 11AM-12P/
owalski, Andrew R (INS)	.The Environment of Campus: The Past, Present and Future of Water Management and the University of Da	ytonScience Center - 114, 1PM-2PI
Coziar, Stephanie L (CMM)	Margins, Magic, and Power: Exploring the Community Garden as sites for expression and experimentatio	nLTC - TeamSpace, 3PM-3:30PI
rane, Carissa M	Assessing gene flowAMong fragmented forest patches in an agricultural landscape	KU - Ballroom, 9AM-10:30Al
Grane, Carissa M	. Effects of chemical and mechanical changes on aquaporin 1 expression in human venous and arterial end	lothelial cellsKU - Ballroom, 11AM-12:30P/
	Erythrocytes from Cope's gray treefrog, Hyla chrysoscelis as a cell culture based model system to study the .HC-3 expression	
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Krane, Carissa M	.Morphologic Examination of Isolated Vascular Smooth Muscle Cells Cultured Under Shear Stress Using a N	ovel Bioreactor System
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	Plunge Into Health Care: A Social Justice Learning and Living Community Project	
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	Lottery Pick: A Step by Step Guide to Earning the Graduate Assistantship of Your Choice	
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afdi, Khalid	Carbon Engineered Scaffolds May Provide an Optimum Balance of Biologic and Mechanical Properties fo	or Use in Tendon Repair Surgery
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.afdi, Khalid	Supercapacitors Based on Carbon Nanotube Fuzzy Fabric Technology	KU - Ballroom, 11AM-12:30Pl
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.amendola, Maura E (FRN/INS)	iberty, Equality, Fraternity, and Secularism: French Politics and the Ban of Face-Covering Islamic Veils	KU - 207, 11:30AM-12Pi
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.ang, Jennifer M (BIO)	Grazing, Flow, and Light Effects on Epilithic Stream Biofilm Succession During a Large Pulse of Organic Lea	af Litter KU - 331, 1:20PM-1:40PI
.anghorne, Anna L	Perception: Suicide Prevention Programs	LTC - Studio, 11:30AM-12PI
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awson, Abagail M (POL, INS)	The Cost of Justice: The International Criminal Court and the Tension between Pursuing Peace and Obtaini	ing JusticeKU - Ballroom, 11AM-12:30Pl
.ayman-Guadalupe, Melissa J	Evolving Standards of Decency: An Exploration of the Interplay of Developmental Psychology and the Eigl	hthAMendmentKU - Ballroom, 11AM-12:30PN
ayman-Guadalupe, Melissa J	Evolving Standards of Decency: An Exploration of the Interplay of Developmental Psychology and the Eigl	hthAMendmentKU - 207, 4PM-4:30PI
	Modern Day Abolitionists at the University of Dayton: A Presentation of Anti-Human Trafficking Activism a	
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Lewis, Andrew J (BIO)	Growth rates of the blowfly, Lucilia sericata, on different bovine body tissues	KU - Ballroom, 11AM-12:30PM
Lewis, Andrew J (BIO)	Necrophagous Insect Community Assembly Associated with Replicate Sus scrofa Carcasses: An Exploration	of Inter-Carcass Variation
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	Decompositions of Complete Graphs into Cycles and Stars	
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Lucas, Katarina A (HRS)	Examining Human Rights Violations and The Implications For Women	St. Joseph's Hall - 013, 9:30AM-10AM
Luckhaupt, Christopher M (ACC, I	MIS)itelligence MIS Senior Project	Miriam Hall - 104, 3:30PM-4:30PM
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	Current Topics in Global Governance #2: Security, Environmental, and Development Challenges Today	
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	Projected Health and Sport Science Job Market: Exercise Physiologists, Dieticians, and Physical Therapists	
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liller Dan F	Gendered Micro-Aggressions in Reality Television	St Joseph's Hall - 025 3PM-3:30F
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Puccetti, Matthew V (BIO)	. Erythrocytes from Cope's gray treefrog, Hyla chrysoscelis as a cell culture based model system to study the re	gulation of aquaglyceroporin,
	.HC-3 expression	KU - Ballroom, 1:30PM-3P
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Puli, Oorvashi Roy G (BIO)	Defective proventriculus (dve), a new member of DV patterning in the eye	KU - 211, 11AM-11:20A
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Quinn, David P (MUC)	Music as a Tactic in Video Games	KU - Ballroom, 9AM-10:30A
Quinttus, Peter J (ENT, MKT)	Globalization and Its Discontents	Miriam Hall - 109, 9AM-5P
Qumsiyeh, Maher B	9th Annual Integration Bee	Science Center - 255, 1PM-3P
Qumsiyeh, Maher B	Estimation Methods for Missing Data Points in 2^k Factorial Designs	KU - Ballroom, 9AM-10:30A
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Raiff, Hayleigh E (EEP)	The Future of Physical Therapists	KU - Ballroom, 3:30PM-5P
Rajanahalli.K, Pavan (BIO)	Effects of Silver Nanoparticles on Mouse Embryonic Stem Cells Pluripotency and Differentiation Potential	KU - Ballroom, 9AM-10:30A
Rajecki, Brittany M (UBU)	Big Believers in Big Brothers Big Sisters: A Social Justice Learning Living Community Project	KU - Ballroom, 1:30PM-3P
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Rambacher, Donald G (VCD)	Visual Identity: Visual Personality in a Distinct Corporate Culture	KU - Torch Lounge, 1PM-2P
lamming, Christopher D (ENT)	Globalization and Its Discontents	Miriam Hall - 109, 9AM-5P
lamsey, Lisa A (INS)	Globalization and Its Discontents	Miriam Hall - 109, 9AM-5P
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Redmond, Megan (MKT)	OPERATIONS MANAGEMENT CAPSTONE PROJCTS - PART 3 (OF 3)	Miriam Hall - 104, 2:15PM-3:15PM
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Reinhart, Kyle J (GEO)	Environmental Impact of Surging Glaciers	KU - Ballroom, 1:30PM-3PM
Reoli, Gregory P (UBU)	A Weekend Breakout: Solidarity in Salyersville	KU - Ballroom, 1:30PM-3PM
Repic, Katherine B (POL, HST)	Dayton's Global Immigrant History	Marianist Hall - Commons, 10:30AM-12PM
Rhoads, Elizabeth A (BIO)	Assessing gene flowAMong fragmented forest patches in an agricultural landscape	KU - Ballroom, 9AM-10:30AM
Riccardella, Christopher C (MEE).	. Engineering and the Development of Middle School Education	KU - Ballroom, 1:30PM-3PM
Richards, Stephen B	The Utilization and Effectiveness of School Wide Positive Behavior Supports (PBS)	KU - Ballroom, 11AM-12:30PM
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Schoenhoff, Mary R	Water: An International Crisis	ArtStreet - Studio B, 1:30PM-3PM
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Schultz,AMy K (CEE)	Becoming Sustainable at UD: Insights from Environmental Leaders and Interactive Discussion	KU - 331, 11AM-12PM
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Sitz, Adam D (PSY)	. Exploring Italian Art, Culture and Spirituality	Alumni Hall - 101, 3PM-4PM
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	Role of an E3 ubiquitin ligase in ventral eye development in Drosophila melanogaster	
	Gender Differences in Siblings as Supervisors	
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, ,	Legal Issues Confronting the News Media	
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	Inventory of Substance Dependency and Criminal Behavior	
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, , , ,	Growth rates of the blowfly, Lucilia sericata, on different bovine body tissues	•
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	The Future Outlook of Physical Therapy and Nutrition Careers	
, , ,	Best and Worst: Making Food Choices from Places On and Off Campus	•
	Modeling Excess Returns And Price Performance for UD Flyer Fund Stocks	
	Overconfidence in Administrative and Management Positions	
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	Visual Identity: Visual Personality in a Distinct Corporate Culture	
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	Hazing Policies and Prevention in High School Athletics	
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	NorthAMerica Major Sports Teams is Big Business: All Cities are not Equal	
itlebaum, Peter J	Professional vs. Collegiate: Luxury Suite Owners are they all that different?	LTC - Studio, 1PM-1:30PM
itlebaum, Peter J	Techniques in Premium Seating Sales for Suites and Club Seats	LTC - Studio, 1:30PM-2PM
ittle, Alex G (CMM)	Global Media Almanac	KU - Ballroom, 1:30PM-3PM
okar, Leeza E (HRS)	A Case of Genocide	KU - Ballroom, 1:30PM-3PM
okar, Leeza E (HRS)	Current Topics in Global Governance #1: Human Rights Issues Today	Marianist Hall - 217, 9AM-10:30AN
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	Competition Recital for the 2011 Honors Recital	
	The Effects of Age, Sex, Heat Stress, and Finish Time on Pacing in the Marathon	
	Carbon Engineered Scaffolds May Provide an Optimum Balance of A Biologic and Mechanical Properties for U	
	Oct-4 Over Expression in Cultured Newt Iris Pigmented Epithelial Cells	
	Examining Human Rights Violations and The Implications For Women	
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rbanowski, Taylor M (EES)	The History of Physical Education-Activity and Sport: Stories for the Ages and Lessons from the Legends of M	Memorable Moments, Famous Women and
	Men, Their Teams and Times: Semester V	KU - Ballroom, 3:30PM-5PM
Irick, Adam M (EPT)	St. Vincent DePaul: Rising Above to Help Dayton: A Social Justice Learning Living Community Project	
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an Der Knokke, Erica L (ECP) an Leeuwen, Emily (NON) anDerburgh, Ellen M (EPT) anDerburgh, Ellen M (EPT)	Injured College Athletes and the Effects on Their Psychological Development and Identity	LTC - Forum, 4:30PM-6:30PM Marianist Hall - 217, 10:30AM-12PM helial cellsKU - Ballroom, 11AM-12:30PM Fitness of Selected College Age Students KU - Ballroom, 3:30PM-5PM
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an Der Knokke, Erica L (ECP) an Leeuwen, Emily (NON) anDerburgh, Ellen M (EPT) anDerburgh, Ellen M (EPT) anderburgh, Paul M argas, Marco A (FIN, MKT)	Injured College Athletes and the Effects on Their Psychological Development and Identity	LTC - Forum, 4:30PM-6:30PM
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	The Environment of Campus: The Past, Present and Future of Water Management and the University of Dayton	
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	motphotogic Examination of isolated vascular smooth muscle cens cultured officer shear stress using a novel blote	
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	Gender Issues and the Collective Experience of Women in the Sport of Boxing	
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	Human Spatial Relations	
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	The molecular mechanisms of Drosophila pigmentation gene network structure and evolution	
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	(Engineers in Technical Humanitarian Opportunities of Service Learning), and other programs	
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Wolferding, Megan L (EHN)	The Effectiveness of a Personalized Peer Physical Education Program (PPPEP) on the Health Related Physical Fitness	of Selected College Age Students
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,,	AFPAK Strategic Assessment: Evolution of U.S. Strategy and Recommendations for Future Operations	,
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